

# **Proceedings of the 9th World Congress of Behavioural & Cognitive Therapies**

**Berlin, July 17th - 20th 2019**

**Volume II**  
Posters

Thomas Heidenreich, Philip Tata  
& Simon Blackwell (Eds.)



## **WCBCT 2019 Abstracts**

The 9th World Congress of Behavioural and Cognitive Therapies, held at the City Cube, Berlin, Germany (17th to 20th July 2019) is the largest global CBT Meeting ever held.

This second volume of the Proceedings contains the abstracts of the Posters presented at the World Congress.

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**Thomas Heidenreich,  
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Behavioural & Cognitive Therapies**

**Berlin, July 17<sup>th</sup>–20<sup>th</sup> 2019**

**Vol. II  
Posters**



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*Kontaktadressen*

Prof. Dr. Thomas Heidenreich | Chair Scientific Committee  
Hochschule Esslingen  
Flandernstraße 101  
73732 Esslingen

*E-Mail:* thomas.heidenreich@hs-esslingen.de

Dr. Philip Tata | Chair Scientific Committee  
British Association of Behavioural and Cognitive Psychotherapies  
London UK

*E-Mail:* wcbt@philiptata.com

Dr. Simon Blackwell | Chair Scientific Committee Open Papers and Posters  
Ruhr-Universität Bochum  
Universitätsstraße 150  
44801 Bochum

*E-Mail:* simon.blackwell@ruhr-uni-bochum.de

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## FOREWORD

This second volume contains the abstracts from the nine poster sessions at WCBCT2019. With around 1,000 poster presentations, this was clearly the format that attracted the largest number of abstracts. We were very glad to see a large number of colleagues from across the globe, including both emerging and non-European countries, as well as clinicians, early-career researchers, and well-established senior researchers presenting their work. Poster presentations are a unique opportunity to share one's research and clinical data in a highly interactive way to a very broad range of colleagues. To facilitate this, posters were presented according to each of the 18 main streams of WCBCT2019, with up to four streams in each poster session. To conveniently locate a specific poster in this abstract book, the lists for each poster session, as shown in the final programme, have been added before each respective section of abstracts.

Poster submissions – as is typical for research abstracts – very often include a large number of authors. For the majority of these abstracts, the first listed author was designated as the presenter of the poster at the World Congress. In cases where someone other than the first listed author was designated as the presenter, the designated presenter is indicated via an asterisk (\*). Finally, please note, as per the World Congress submission guidelines, that for space and production reasons a maximum of 7 authors is listed in this book. If there were more than 7 authors then presenters were asked to acknowledge this within their poster.

We hope you enjoy reading these abstracts as much as we have, reflecting as they do the scope of contemporary CBT across the globe.

June 2019,

Thomas Heidenreich, Esslingen  
Philip Tata, London  
Simon Blackwell, Bochum

## Poster Session 1 (9.00-11.30)

### Anxiety - English Programme

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- 3 **A Systematic Review of the Effects of Acute Stress on Extinction/Exposure-Procedures: Implications for Treatment and Relapse Prevention**  
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- 4 **False Safety Behavior Elimination Therapy for Social Anxiety Disorder and Comorbid Conditions in a Clinical Setting: A Pilot Study**  
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- 7 **Effectiveness of eHealth Interventions to Reduce Perinatal Anxiety: A Systematic Review and Meta-Analysis**  
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- 8 **Between a Rock and a Hard Place – Network Structure of some Anxiety and Dysphoria Indicators**  
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- 9 **Neurobiological Correlates of Successful Cognitive Behavior Therapy in Patients with Panic Disorder**  
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- 14 **Coping with Stress: Effectiveness of iCBT for the Self-Management of Psychological Distress**  
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- 15 **Efficacy of Cognitive Behavior in Phobic Disorders of Different Presentations and Types**  
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- 18 **Bivalent Fear of Evaluation in Social Anxiety: A Systematic Review and Meta-Analysis**  
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- Meng Yu, Beijing Normal University, China
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- Ann Marie Huet, Ohio University, USA

## Poster Session 1: Anxiety

### Examining the Effectiveness of Unified Group Cognitive Behaviour Therapy for Patients with Heterogeneous Anxiety Disorders in Malaysia: A Randomized Control Trial

Jamilah Hanum Abdul Khaiyom, International Islamic University, Malaysia

Firdaus Mukhtar, Universiti Putra Malaysia, Malaysia

Tian Po Oei, University of Queensland, Australia

#### Introduction

The number of patients with anxiety disorders in Malaysia is increasing. However, many patients remain under-treated or untreated. Based on the literature review, the problems were rooted in poor treatment delivery on this disorder (i.e., poor dissemination of treatments to the clinicians and limited availability of treatments for patients). Therefore, current study intend to examine the effectiveness of Unified Group Cognitive Behaviour Therapy+Treatment-As-Usual (GCBT+TAU) in comparison to Group Applied Relaxation Therapy+TAU (GART+TAU) and TAU alone among patients with anxiety disorders in reducing the symptoms of anxiety, decreasing catastrophic cognitions, increasing the quality of life, and reducing comorbid depressive symptom.

#### Method

Patients (N=242) diagnosed with heterogeneous anxiety disorders (i.e., generalized anxiety disorder, panic disorder, and social anxiety disorder) were randomly allocated to receive either GCBT+TAU (n=81), or GART+TAU (n=81), or TAU (n=80). The GCBT+TAU and GART+TAU consisted of 8 sessions and 7 sessions respectively. The primary outcome measure was the Beck Anxiety Inventory-Malay. The secondary outcome measures consisted of other symptom measures of anxiety, catastrophic cognition measures, a quality of life measure, and a symptom measure of depression. All the participants completed the questionnaire battery at pre-treatment (week 0), midway through treatment (week 4), and post-treatment (week 8).

#### Results

An intention-to-treat was used for data analyses. Participants receiving GCBT+TAU improved more significantly and at a faster rate than the GART+TAU group and TAU group. The effect size (Cohen's d) of the GCBT+TAU group for the primary outcome measure was 1.61, ranging from 0.98 to 1.30 for the other secondary outcome measures. Meanwhile, the effect size of the GART+TAU group for the primary outcome measure was 0.70, ranging from 0.12 to 0.54 for the other secondary outcome measures. On the other hand, the effect size of the TAU group for the primary outcome measure was 0.09, ranging from 0.02 to -0.28 for the other secondary outcome measures. Furthermore, 70.1% and 36.7% of the participants receiving GCBT+TAU and GART+TAU, respectively, experienced either reliable or clinically significant change. Meanwhile, none of the participants in the TAU group experienced any reliable or clinically significant change from pre-treatment to post-treatment.

#### Discussion

The findings suggest that GCBT, when used in addition to TAU, is faster and more effective in reducing symptoms of anxiety disorders, decreasing catastrophic cognitions, increasing quality of life, and reducing comorbid symptoms of depression among the patients with anxiety disorders in Malaysia, when compared to GART+TAU and TAU alone.

### Efficacy of Technology-Based Psychological Interventions for Social Anxiety Disorder

Abbas Al-Kamel, University of Bergamo, Italy

#### Introduction

Efficacy of technology-based psychological intervention for social anxiety disorder

#### Method

Meta-analysis methods will be used. By utilising electronic scholarly databases (Scopus, Medline, PsycInfo, web of Science). Relevant keywords and terminology were used. Assessing risks of bias will be part of this study. Statistical models (Fisher, Z score, Fixed Effect Model, Heterogeneity and Random effect model) are required.

#### Results

This study is an ongoing work. We are going to identify all previous studies that match our criteria. We will do an in-depth analysis to understand the heterogeneous and homogeneous among findings. The risk of bias will be assessed, Then we will draw the efficacy by calculating the mean effect size. The result must be available within few weeks.

#### Discussion

The study is currently in progress. Upon arriving at the results, then we will be able to discuss our finding.

### A Systematic Review of the Effects of Acute Stress on Extinction/Exposure-Procedures: Implications for Treatment and Relapse Prevention

Elpiniki Andrew, Mark Dadds & Justin Harris, University of Sydney, Australia

Richard Bryant, University of New South Wales

#### Introduction

Anxiety and fear-based disorders are among the most prevalent and debilitating mental health conditions in the world. Research has shown that exposure-based treatments are the most effective in reducing symptoms of distress through habituation and new learning. The current laboratory model used to understand these behavioural treatments is the Pavlovian fear extinction paradigm. This paradigm defines extinction as the form of new learning that underlies exposure therapy, where a new safe association with the feared stimulus is made. However, there remains an urgent need to augment these treatments as more than one third of patients fail to respond to treatment or later experience a relapse of symptoms. Evidence from human and animal studies has shown that an individual's level of stress can alter these treatments by either hindering or facilitating the learning (extinction) process. Studies have shown that stress has the potential to improve the effectiveness of exposure-based treatment

#### Method

A comprehensive literature search was conducted among published articles indexed in electronic databases (Medline, PsycInfo, PubMed, and Web of Science). Articles assessing the effect of pre-extinction/ exposure stress on fear reduction and clinical symptoms were included in

this review. Published papers were initially selected by their titles, followed by their abstracts and full-text screening. The overall search yielded 1106 articles, of which 11 studies were identified as eligible for inclusion, including 6 treatment studies and 5 experimental studies.

### **Results**

The findings indicate that studies using the socially evaluated cold pressor task and Hydrocortisone tablets as stress enhancers are more effective in reducing fear symptoms than placebo. These benefits require specific timing depending on the stressor used and are not observed immediately, but in the long term (i.e. at follow up). There appear to be methodological concerns with the existing evidence and there are limited clinical studies investigating the effect of pre-exposure stress on relapse phenomena.

### **Discussion**

Such findings indicate that stress augmentation of exposure therapy is a promising approach to treating fear-related disorders. However, larger randomised controlled clinical trials are required to determine the circumstances in which stress-related adjuncts to therapy are most efficacious in preventing relapse

## **False Safety Behavior Elimination Therapy for Social Anxiety Disorder and Comorbid Conditions in a Clinical Setting: A Pilot Study**

**Honami Arai, Yoichi Seki & Sho Okawa, Chiba University, Japan**

**Sho Takahashi, The Jikei University School of Medicine, Japan**

**Eiji Shimizu, Chiba University, Japan**

**Kristina J. Korte, Massachusetts General Hospital, Harvard School of Public Health and Harvard Medical School, USA**

**Norman B. Schmidt, Florida State University, USA**

### **Introduction**

Introduction: A brief transdiagnostic treatment approach for anxiety disorders, called the False Safety Behavior Elimination Treatment (F-SET), was designed to treat multiple anxiety disorders through the identification and elimination of safety behaviors (i.e., coping behaviors related to threat). Several controlled trials and case studies of F-SET have yielded promising preliminary evidence. Epidemiological studies have indicated that among anxiety disorders, Social Anxiety Disorder (SAD) is frequently comorbid with other psychiatric disorders. In an outpatient psychiatry setting, most individuals desire treatment not only for their SAD but their comorbid condition (Zimmerman & Chelminski, 2003). However, no previous studies have examined the efficacy of a transdiagnostic treatment in a clinical setting for those with comorbid SAD. In this pilot study, we conducted an open trial of patients with SAD comorbid with other mental disorders. Our study aimed to provide a preliminary estimate

### **Method**

Methods: The F-SET manual was translated and backtranslated with the help of the original study authors. Six male patients meeting DSM-V criteria for SAD (mean age of  $28.3 \pm 11.6$  years, mean Liebowitz Social Anxiety Scale [LSAS] score of  $84.17$  SD  $20.31$ ) participated in five individual F-SET sessions (60 minute sessions). All participants were primary diagnosed with SAD. Three participants had SAD comorbid with major depression, and one participant had comorbid with autistic spectrum disorder. All of the participants were evaluated by a psychiatrist using the Mini-International Neuropsychiatric Interview (M.I.N.I.) and Autism Spectrum Quotient. All of the participants provided written informed consent. The study was approved by the Research Ethics Board of Chiba University Hospital/the university to which the first author belongs. We used the following instruments at pre, post and 1 month follow-up: LSAS, to measure social anxiety symptoms; Beck Depression Inventory-II (BDI-II), to measure

### **Results**

Results: From pre- to post, mean social anxiety symptoms ( $84.17$  to  $63.67$ ,  $d = 0.83$ ), depressive symptoms ( $26.17$  to  $18.17$ ,  $d = 0.54$ ), disability/functional impairment ( $17.00$  to  $12.83$ ,  $d = 0.49$ ), and clinician impression of severity of illness ( $4.00$  to  $3.00$ ,  $d = 1.30$ ) were improved. From pre-treatment to the one-month follow-up, social anxiety symptoms ( $84.17$  to  $61.33$ ,  $d = 1.18$ ), depressive symptoms ( $26.17$  to  $11.50$ ,  $d = 1.07$ ), disability/functional impairment ( $17.00$  to  $9.33$ ,  $d = 0.99$ ), and clinician impression of severity of illness ( $4.00$  to  $2.33$ ,  $d = 2.29$ ) were improved.

### **Discussion**

Conclusions: The present study was a pilot trial of a newly developed treatment targeting false safety behavior in a sample of psychiatric outpatients with social anxiety and comorbid mental disorders. Our results suggest that F-SET is promising for both social anxiety and co-occurring depressive symptoms. Further research using controlled, randomized clinical trials are needed to more thoroughly investigate the efficacy of F-SET within this comorbid population. In addition, future research with female populations is needed

## **Gaming Against Anxiety: User-Feedback in the Development of a Therapeutic Game for Adolescent Anxiety Disorders**

**Steven Barnes & Julie Prescott, University of Bolton, United Kingdom**

### **Introduction**

Anxiety Disorders (AD) are a major mental-health issue in adolescents. While psychological interventions (e.g. cognitive-behavioural therapy (CBT)) are effective in symptom-reduction, practical and social barriers (including cost, availability, and stigma) and AD-symptomatology (e.g. avoidance-behaviours) mean under 50% of UK-adolescents with ADs seek treatment, with under 20% ultimately receiving scientifically-validated interventions.

Therapeutic games (TGs) address accessibility of, and engagement with, therapeutic processes, demonstrate good acceptability, and reduce AD-symptoms (Scholten et al., 2016; Schoneveld et al., 2016). However, authors report disengagement e.g. when play is perceived overly repetitive, and the short nature of interventions means longitudinal viability is unclear. Exploring user-preferences in TG-development can assist in improving/maintaining adherence, enabling examination of their longitudinal capabilities.

### **Method**

A two-stage study is currently underway. Stage-one concludes shortly, and used a number of existing games for anxiety and depression, across various platforms, to assess adolescent preferences towards, and efficacy of, a range of game-mechanics and styles. These findings are informing development of a new TG for adolescent AD incorporating elements of CBT and attention-bias modification (ABM), with an early-development version assessed in stage-two. Both stages combine open- and closed-ended self-report questionnaires relating to aspects of perceived game-quality (e.g. engagement, functionality, impact on health-behaviour) and anxiety-levels pre- vs. post-play.

### **Results**

Final data collection will end by April 2019.

Preliminary stage-one analysis confirms TG acceptability. Participants reported clear preferences towards in-game task-variety ( $p=0.16$ ). Moderate to strong correlations emerged between games' engagement ratings and their perceived impact ( $r=.53$ ), aesthetics ( $r=.63$ ), and subjective game-quality ( $r=.79$ ). Perceived functionality also correlated moderately with subjective game-quality ( $r=.47$ ), and perceived quality of health-information correlated moderately with perceived impact ( $r=.43$ ). Preliminary regression analysis indicated perceptions of aspects of game-quality can predict perception of impact on health-behaviour  $F(5, 26)=4.141, P=.007, R^2=.443$ , with engagement-value ( $p=.010$ ), and information-quality ( $p=.022$ ) adding significantly to the model. Qualitative feedback also revealed recurring preferences for attractive aesthetics (esp. colour) and accessibility of mobile games. Full results will be presented at the conference.

#### **Discussion**

While this research is ongoing, preliminary findings indicate the importance to adolescents of specific aspects of game-design. The development and evaluation of engaging TGs, incorporating aspects of user-centred design, has the potential to longitudinally assess efficacy of, and engagement with, games for AD-reduction, therefore determining the economic viability of this protocol. The data will assist in finalising a TG for adolescent AD. The resulting game will then be evaluated longitudinally to assess its immediate and enduring efficacy in reducing AD-symptoms, and to establish the long-term economic viability of TGs for AD in a population which, to date, has proven difficult to treat.

### **Italian Validation of the Self-Report Liebowitz Social Anxiety Scale**

**Duccio Baroni, Laura Caccico, Elena Grassi, Francesco Lauretta, Nicola Marsigli & Martina Rosadoni, Institute for Behavioral and Cognitive Psychology and Psychotherapy, Italy**

**Carlo Chiorri, University of Genova, Italy**

#### **Introduction**

The Self-Report Liebowitz Social Anxiety Scale (SR-LSAS; Liebowitz, 1987) is a commonly used rating scale for the assessment of social anxiety (SA). It provides an adequate trade-off between brevity (24 items) and coverage of the main situations feared by a patient with SA, allowing scores in both the level of fear and avoidance of such situations. While some other Italian versions of the SR-LSAS have been developed, none has undergone a thorough investigation of its psychometric properties, specifically, its measurement invariance across patient and non-patient populations.

#### **Method**

A newly developed Italian version of SR-LSAS, along with other measures of SA and measures of anxiety, depression, worry, and obsessive-compulsive symptoms, was administered to 257 participants with social anxiety (Mean age 27.10 years,  $SD = 10.7$ ) and 351 participants from general population (Mean age 33.07,  $SD = 11.94$ ). We tested the measurement model of the SR-LSAS items using the Graded Response Model (GRM) and its measurement invariance between the two samples. Then, a Receiver Operating Characteristic (ROC) analysis was performed in order to determine an optimal cut-off point that maximized sensitivity and specificity for the Fear and Avoidance scales. In order to test the construct validity of the SR-LSAS scales, we computed the Pearson correlations of the scores on the SR-LSAS with the other measures. Finally, in a subsample of non-clinical participants, the temporal stability at a 4-week interval of the LSAS scores was assessed through the intraclass correlation coefficient.

#### **Results**

Goodness of fit indices showed that unidimensional GRM models had an acceptable fit to the data. The estimated parameters showed that all items had a substantial loading on the single social anxiety factor, as suggested by the factor loadings larger than .30. The expected a-posteriori reliabilities were: .91 and .92 for the Fear and Avoidance scales, respectively, in the clinical sample; .92 and .91 for the Fear and Avoidance scales, respectively, in the general population sample. The unidimensional model showed adequate measurement invariance across the two samples, allowing valid comparisons of latent and observed mean scores, with large effect sizes (2.01 and 1.57 for the Fear and Avoidance subscales, respectively) that suggested excellent criterion validity. The optimal cut-off values were 30 and 28 for the Fear and Avoidance scale, respectively. The convergent correlations (i.e., correlations with other measures of SA) were statistically stronger than the discriminant correlations.

#### **Discussion**

Results suggested that this Italian version of the SR-LSAS is a valid and reliable measure to assess social anxiety in Italian patient and non-patient populations and that the scale can be confidently used in both research and clinical contexts.

### **Effectiveness of eHealth Interventions to Reduce Perinatal Anxiety: A Systematic Review and Meta-Analysis**

**Hamideh Bayrampour, Jeffrey Trieu & Thayanthini Tharmaratnam, University of British Columbia, Canada**

#### **Introduction**

eHealth interventions have been shown to be effective in improving anxiety among the general population. Despite the effectiveness of eHealth interventions for perinatal depression, a recent review reported mixed results for perinatal anxiety. The review, however, was not focused on anxiety, and studies with various designs were included. The aim of this systematic review is to summarize the evidence specific to anxiety and to conduct a meta-analysis to examine the effectiveness of eHealth interventions in reducing perinatal anxiety.

#### **Method**

The following databases were searched, beginning with the date that the databases were available through March 2018: MEDLINE, CINAHL, EMBASE, and PsycINFO. We included randomized controlled trials that were conducted during the perinatal period, examined the effectiveness of an eHealth mental health intervention, measured anxiety symptoms or disorders as a primary or secondary outcome, provided data on anxiety levels both pre- and postintervention, had a comparison group, and were published in English.

#### **Results**

Five studies met the inclusion criteria, four of which fulfilled the quality criteria and were included in the meta-analysis. The test for heterogeneity ( $I^2=0\%$ ;  $p$ -value=0.80) suggested a homogeneous sample. The meta-analysis for the total effect size showed that at postintervention, the eHealth group had significantly lower anxiety scores than the control group, with a standardized mean difference (SMD) of -0.41 [95% CI=-0.71 to -0.11;  $P=0.007$ ].

#### **Discussion**

eHealth interventions are promising in improving perinatal anxiety. The content of these interventions should account for common comorbid conditions during the perinatal period and provide opportunities to tailor further treatment if necessary.

## **Between a Rock and a Hard Place – Network Structure of some Anxiety and Dysphoria Indicators**

**Radomir Belopavlović, Ana Mirkajlović, Ana Gligorijević, Jovana Obradović & Snežana Tovilović, University of Novi Sad, Serbia**

### **Introduction**

Network theory, which has emerged in the last several years, conceptualizes mental disorders as systems of symptoms which have direct relations, and thus can reinforce each other (Borsboom, 2008). For example, Borsboom et al. 2011 demonstrated that symptoms of disorders do cluster rather well in the space of the DSM 5, and that this approach “elegantly solves” a significant problem of comorbidity. Namely, high co-occurrence of anxiety and depression can partially be explained by “bridge symptoms”, indicators which are connected to different disorder clusters, mainly because they belong to those different clusters (Borsboom et al. 2011). Aim of this study is to examine the pattern of indicator connectivity within these two highly concordant conditions and establish their inter-connectivity within a student sample.

### **Method**

1437, (Mage= 19.69, SDage= 1.23, 471 male) students from the University of Serbia have filled out the Depression, Anxiety, and Stress Scale-21 (DASS- 21, Lovibond & Lovibond, 1995) ( $\alpha = .92$ ). For the purpose of clarity, we have excluded the Stress scale from further analyses. A Graphical Gaussian Model was fitted to construct a network of symptoms using the Extended Bayesian Information Criterion as a network estimator. Indices of centrality and stability were also plotted.

### **Results**

Results suggest that both depression and anxiety clusters are demarcated well, but there are several “bridge” symptoms to connect the two, namely sense of panic from the anxiety cluster, and worthlessness and meaninglessness from the depression cluster. As for centrality, it would seem that sense of panic and increased heart rate are connected to most indicators in the anxiety network. Pessimism, worthlessness and meaninglessness are most connected in the depression cluster. Analyses of centrality and edge stability yielded satisfactory indexes.

### **Discussion**

Results suggest a high connectivity in both Anxiety and Depression clusters, and a strong demarcation between them. These findings are in line with previous studies (Borsboom et al. 2011) supporting both pluralistic perspective of depression and anxiety conditions, as well as mechanistic perspectives. However, it would seem that there are non-spurious connections between the clusters, which can partly explain, and reflect the intertwining, and comorbid nature of these phenomena. It is interesting to note that dysphoria and anhedonia, which are the hallmark symptoms of depression do not have high centrality, while cognitive factors such as pessimism, worthlessness and sense of meaninglessness do. This can potentially elucidate different symptom patterns across populations, potentially as a function of different risk factors and stress impact. These findings have practical implications for prevention and treatment in student populations and will be discussed in depth.

## **Neurobiological Correlates of Successful Cognitive Behavior Therapy in Patients with Panic Disorder**

**Christoph Benke, Alfons O. Hamm & Christiane A. Pané-Farré, University of Greifswald, Germany**

### **Introduction**

Cognitive behavior therapy (CBT) has been demonstrated to be effective in the treatment of panic disorder (PD). However, a substantial number of patients with PD fail to respond to CBT. Little is known about neurobiological correlates of treatment response. PD is associated with an altered, i.e., exaggerated, defensive responding to potentially dangerous body symptoms. This heightened defensive activation while experiencing feared body symptoms contributes to the maintenance and chronicity of PD. The present study is aimed at investigating whether treatment response is associated with changes in this dysfunctional defensive activation to body symptoms.

### **Method**

In the present study, patients with a primary diagnosis of PD with or without agoraphobia were either treated with a manualized exposure-based CBT ( $n = 38$ ) or allocated to a wait-list control condition ( $n = 20$ ). Changes in defensive activation to body symptoms pre vs. post CBT were investigated by applying a highly standardized hyperventilation task prior to and after treatment or a waiting period. Defensive activation during exposure to body symptoms was indexed by the potentiation of the amygdala-dependent startle eyeblink response. Patients of the treatment group who demonstrated clinically significant improvement during CBT were classified as responder (47.4%), while those patients who did not meet criteria for a clinically significant improvement were classified as non-responder.

### **Results**

All Patients showed a pronounced defensive activation to body symptoms at baseline. After treatment, no defensive activation was found in patients who showed a clinically significant improvement. However, wait-list controls and treatment non-responders continued to exhibit a dysfunctional activation to body symptoms after the treatment/waiting period. Importantly, in all patients hyperventilation reliably led to a surge in autonomic arousal and reported panic symptoms in both assessment sessions.

### **Discussion**

The present results indicate that treatment response is accompanied by a normalization of altered activation of defensive brain networks to feared body symptoms, while persistent dysfunctional defensive activation is associated with persistent psychopathology. Targeting dysfunctional defensive responding to body symptoms via optimized exposure strategies might help to maximize the effectiveness of exposure-based therapies of PD.

## **Online Health Information Seeking: Associations with Cognitive Styles and Psychological Symptoms**

**David Berle, University of Technology Sydney, Australia**

**Vladan Starcevic, University of Sydney, Australia**

**Yasser Khazaal, Geneva University Hospitals, Switzerland**

**Kirupamani Viswasam, Nepean Hospital, Australia**

**Hede Vincent, Geneva University Hospitals, Switzerland**

### **Introduction**

Many people search for health-related information online. However, the characteristics of such searches and the relationship of online health information-seeking to symptoms of psychological disorder remain unclear.

### **Method**

An international online sample of 992 adults (50.2% female, median age=34) completed a questionnaire pertaining to recent online searches for health information, as well as measures of health anxiety, intolerance of uncertainty, somatic symptoms, anxiety, depression and obsessive-compulsive symptoms.

## **Results**

While elevated levels of health anxiety, anxiety, depression, obsessive-compulsive symptoms and intolerance of uncertainty were each associated with online searches for health information, only somatic symptoms were a unique predictor of these searches after other psychiatric symptoms were controlled for. Participants reported that their online searches were generally effective, and that they at least sometimes found information that they could trust.

## **Discussion**

Although people may at times feel anxious and uncertain whilst conducting online health-related searches, they may find helpful information and believe that they can readily recognise trustworthy information.

## **Multi-Family Group Treatment for Anxiety Disorders in Youth: An Open Trial**

**Thomas Bjerregaard Bertelsen, University of Bergen, Norway**

**Åshild Telefsen, Sørlandet Sykehus, Norway**

### **Introduction**

Although cognitive behavioral therapy (CBT) is a well-documented and efficacious treatment for anxiety disorders in youths, improvements are still sorely needed. Of those afflicted youth who receive manualized CBT, half do not improve (Cuijpers et al., 2013), many do not maintain their gains, and although symptoms often improve, functional impairments in youth and within families remain (Manassis et al. 2014). Recent research suggests that increasing emphasis on exposure (Taboas, 2015) and including a high degree of family involvement to standard CBT are potentially promising ways to improve treatment outcomes for youth with anxiety (Breinholst et al., 2012 & Manassis et al. 2014).

### **Method**

Following these considerations, researchers at the Department of Child and Adolescents (ABUP) at Sørlandet Hospital, Norway, have developed a new multifamily group CBT intervention named RISK consisting of the above-mentioned factors and delivered in a group setting to enhance accessibility to treatment. The intervention is delivered over 10 sessions of 2.5 to 5 hours duration where both youth and their parents participate in groups consisting of between six and eight youth, and their parents. In the present study, we aim to evaluate the effectiveness of this treatment in an open trial study performed at multiple locations in southern Norway. Method: Data collection, of pre- and post-treatment measures, began in January 2018 and is planned to be finalized in June 2019 and include 100 youth as well as their parent(s). Participants are recruited through community clinics in Arendal and Kristiansand in Norway. The primary outcome measures used are the ADIS-IV (CP) (Anxiety Disorders Interview Schedule (Silverman et al., 1996)) and SCAS-C (The Spence Children's Anxiety Scale (Spence, 1998)). The data will be analyzed using Bayesian t-tests (Kruschke, 2013) and Bayesian multilevel models (Kaplan, 2014) will be used to analyze the effect of the intervention. A Bayesian approach to analysis is employed because it enables a nuanced presentation of complex phenomena, capturing not only whether a given hypothesis is rejected or accepted but to what degree we should choose to reject or accept it (Gill, 2008).

### **Results**

We plan to present the results at the conference at which time data collection will have ended and analysis' carried out. Preliminary findings from a pilot-study as well as data collected thus far suggest promising results for the effectivity of the multifamily group intervention.

## **The Efficacy of some Emotional Regulation Strategies on Anxiety Delivered by a Robot in a Primary School Children Sample**

**Hopsitar Calin Alexandru, Private Practice, Romania**

**David Oana, Babes-Bolyai University, Romania**

### **Introduction**

The aim of this study was to compare the efficacy of some emotional regulation strategies delivered through a robot in a sample of children aged between eight and ten years of age. Children went through an emotional induction with fear, being told they are to pass an exam and the results of this exam were the base of important decisions that are to be made. There were four groups, one control group and three experimental groups, differentiated by the strategy delivered through the robot. Results, as well as practical implication, are discussed; outcomes considered were anxiety and rational/irrational cognitions.

## **Shame as a Predictor of Social Anxiety Symptoms: A 1-Year Longitudinal Study**

**Diana Candea & Daniel David, Babes-Bolyai University, Romania**

### **Introduction**

Shame is a type of self-conscious emotion characterised by self-awareness and negative self-evaluations. Shame is considered a painful emotion, focused on the entire self that is evaluated in a negative manner, which was found to be consistently associated with social anxiety symptoms. While the existing evidence confirms a positive association between shame-proneness and social anxiety, it is not clear whether shame-proneness is a predictor of these psychological symptoms or a concomitant symptom. This study aimed to investigate the relationship between shame-proneness and social anxiety symptoms in a longitudinal design. Given the existence of well-established associated factors of anxiety disorders (i.e., irrational beliefs and deficits in emotion regulation), we controlled for their effect in order to distillate shame-proneness' distinct contribution. Also, as social anxiety and depression are highly comorbid, we controlled for the effect of depression.

### **Method**

One hundred and forty-nine undergraduate students completed the baseline measures. A number of 82 participants completed the questionnaires after 6 months and after 1 year. Questionnaires were completed online, and they evaluated shame-proneness, depression, irrational beliefs, emotion regulation deficits and social anxiety symptoms.

### **Results**

The results indicate that shame-proneness explains a significant percent of the variance in social anxiety symptoms at baseline, after 6 months and after 1 year when controlling for depressive symptoms, irrational beliefs and deficits in emotion regulation. While the portion of variance explained by the other three variables decreased from baseline to 1 year (from 30% to 1.8%), shame-proneness continued to explain around 15% of the variance at each time point and was the only significant predictor when all variables were included in the model.

### **Discussion**

This study indicates that shame-proneness has a unique significant contribution on the variance of social anxiety symptoms. A possible explanation for this relationship might be related to the processes of self-awareness and self-evaluation underlying both constructs. As

shame-proneness seems to be an important predictor of social anxiety, prevention programs for these symptoms might tackle the experience of shame and its underlying cognitive processes. Such programs might be greatly beneficial for adolescents and young adults given that they might be a population at risk for shame-proneness.

### **Coping with Stress: Effectiveness of iCBT for the Self-Management of Psychological Distress**

**Aileen Chen, St Vincent's Hospital, Australia**

**Jill Newby, University of New South Wales, Australia**

**Elizabeth Mason, Clinical Research Unit for Anxiety & Depression. UNSW at St Vincent's; Anxiety Disorders Clinic**

**Alison Mahoney, Clinical Research Unit for Anxiety & Depression. UNSW at St Vincent's; Anxiety Disorders Clinic**

**Megan Hobbs, Clinical Research Unit for Anxiety & Depression. UNSW at St Vincent's Hospital**

#### **Introduction**

Severe and/or chronic stress can result in mental health problems including depressive and anxiety disorders. Although face-to-face and internet-delivered cognitive-behavioural therapy (iCBT) has been found to be efficacious and effective in treating these disorders, there is an absence of affordable effective treatment options targeting chronic stress. A free online self-guided CBT course, Coping with Stress, was developed and has been available to the general public on ThisWayUp.org.au in Australia. The aim of this study, and as part of the quality assurance activities of ThisWayUp, is to evaluate its effectiveness in reducing psychological distress and improving well-being.

#### **Method**

At the time of preliminary analyses, 1166 members of the general public self-enrolled, provided demographic information and commenced Coping with Stress on ThisWayUp. More recently, we have now reached 4690 registrations. Assessments include psychological distress (K-10) prior to every lesson and well-being (WHO-5) prior to Lesson 1 and Lesson 4.

#### **INTERVENTION**

Each of the four lessons in Coping with Stress includes comic-based slides, homework exercises and extra resources that teaches strategies to manage stressful situations such as problem solving, assertive communication, thought challenging, and graded exposure to reduce unhelpful behaviours over a 90-day period.

#### **Results**

Preliminary linear mixed model analyses were run on psychological distress (K10) and large within-group improvements (Hedge's  $g=1.10$ ) were found. Analyses will be conducted again to include the additional registrations. Completion rates were approximately 25%. Furthermore, results on the impact of the short self-guided Coping with Stress course on psychological well-being will be reported.

#### **Discussion**

We expect there to be improvements in psychological outcomes over time that align with the preliminary large reductions in psychological distress detected. If confirmed, this program has the potential to help manage the personal and community burden of severe and/or chronic stress. Specifically, that an evidence-based treatment option for chronic stress is conveniently accessible online, available regardless of geographical location, and patients will not be out-of-cost.

### **Efficacy of CBT in Phobic Disorders of Different Presentations and Types**

**Megha Choudhary, Central Institute of Psychiatry, India**

**Susmita Halder, Amity University, India**

#### **Introduction**

The two social phobia cases, presented with complaints of poor social interaction, manifestation of physical symptoms of anxiety before and during any social situation, social withdrawal and low mood, with each a history of over 7 years of illness, in pharmacological treatment with low dose anti-anxiolytics with good compliance and poor response. A case of agoraphobia presented with symptoms of difficulties in crowded and closed spaces, often at times of vast empty spaces too where the freedom to get out at will is incapacitated, with an illness duration of 20 years along with additional symptoms of poor social interaction and self-image

#### **Method**

All three cases were conducted with a detailed psychological assessment and the integrative findings were suggestive of a core depressive self which maintained the belief behind the cognitive errors of catastrophization and arbitrary inferencing, thereby leading to symptom manifestation and relapse despite being on pharmacological management for years in a row. The patients were adjunct their pharmacological treatment with cognitive behavioral therapy. Around 15 sessions were taken for each of the case, and after initial relaxation exercises, systematic desensitization, behavioral experiments and graded exposure to manage the initial feared stimulus, Socratic questioning using downward arrow technique, to identify the core beliefs was done. Sessions thereafter focused on altering the maladaptive schemas with adaptive ones and helped the patients re-focus on the coping as well as ego strengthening techniques which were maintaining the poor self-image and poor social interactions.

#### **Results**

Improvement and maintenance of the positive change was reported once the belief was challenged. Relapse to the anxiety provoking situations was reduced which helped in determining the efficacy of identifying the maladaptive thoughts which could be maintaining the phobic presentation of the symptoms. Long term management of improved functionality and adjustment to the society was hence the shifted focus which further aided in compliance towards treatment and prevention of maintenance of symptoms to the anxiety provoking situations.

#### **Discussion**

Thus, suggesting that a holistic approach to intervention, like using cognitive behavioral therapy to treat the core maladaptive depressive schemata after the initial management of the anxiety provoking situations, can help in brining about improvement in functioning, quality of life and prevent a chronic situation of anxiety.

### **Cognitive Biases in Social Anxiety and Perfectionism**

**Bruna Ciprovac, Junwen Chen, Eva Kemps, Paul Williamson & Tim Windsor, Flinders University, Australia**

#### **Introduction**

Cognitive models of social anxiety (SA) emphasise the importance of the discrepancy between one's standards for performance and one's perceived ability to meet such standards in SA. This discrepancy, which directly relates to the concept of perfectionism, has been shown to

be cross-sectionally related to SA. However, only few studies have attempted to determine the directionality of this relationship, with the most compelling evidence to date showing that SA influences perfectionism (Gautreau et al., 2015). Furthermore, theoretical propositions and empirical findings have demonstrated the importance of cognitive biases to SA and perfectionism. However, no studies have simultaneously investigated the impact of multiple cognitive biases on SA and perfectionism. The present study sought to address these gaps in the literature by focusing specifically on the mediating effect of interpretation bias, negative self-imagery, and post-event processing on SA and perfectionistic concerns.

#### **Method**

One hundred and twenty-two participants (43 males and 2 unknown, M age = 27) completed a series of online questionnaires (i.e. the Social Phobia Inventory; The Frost Multidimensional Perfectionism Scale; the Multidimensional Perfectionism Scale; The Interpretation and Judgmental Questionnaire; the Appraisal of Social Concerns questionnaire; and the Extended Post-Event Processing Questionnaire) at three time points, placed three months apart each.

#### **Results**

: A measurement model including SA at Time 1, cognitive biases at Time 2, and perfectionistic concerns at Time 3 was tested using SPSS AMOS v.25. Results revealed acceptable model fit ( $p = .87$ ,  $\chi^2/df < 1$ , CFI  $> .95$ , and RMSEA = 0). Results showed that Time 1 SA had a direct effect on Time 2 interpretation bias ( $\beta = .44$ ,  $p < .001$ ), negative self-imagery ( $\beta = .46$ ,  $p < .001$ ), and post-event processing ( $\beta = .36$ ,  $p < .01$ ). In addition, Time 2 interpretation bias had a direct effect on Time 3 perfectionistic concerns ( $\beta = .29$ ,  $p < .01$ ) and SA ( $\beta = .20$ ,  $p < .05$ ). However, Time 2 negative-self imagery and post-event processing only showed significant effects on Time 3 SA but not perfectionistic concerns. Moreover, no significant direct effect of SA on perfectionistic concerns across time was found.

#### **Discussion**

Our results suggest that SA may lead to an increase in interpretation bias, which in turn, an increase in perfectionistic concerns. The nature of social interactions is inherently ambiguous and requires individuals to assess their own performance based on perceived feedback from social partners. Our data indicates that SA may affect individuals' assessments, leading to negatively biased interpretations of performance and feedback. In turn, these negatively biased interpretations of performance and feedback may add one's perceived inability to meet social standards, thus increasing perfectionism.

### **Relationships between Self-Beliefs, Bivalent Fear of Evaluation, and Social Anxiety Symptoms: A Preliminary Structural Equations Model**

**Sarina Cook, Lisa Phillips & Kim Felmingham, The University of Melbourne, Australia**

#### **Introduction**

Individuals with social anxiety disorder (SAD) feel severe discomfort and seek to avoid socially-evaluative situations such as public speaking (American Psychiatric Association, 2013). Evidence has been accumulating in recent years that individuals with SAD experience a bivalent fear of evaluation (BFOE), which is fear of negative evaluation (FNE) with a co-occurring fear of positive evaluation (FPE), that underpins their social anxiety symptoms (Cook, Meyer, & Knowles, 2018; Weeks, Heimberg, & Rodebaugh, 2008; Weeks & Howell, 2012). Psychoevolutionary and cognitive frameworks consider how FNE and concerns about rejection are central to understanding why socially-evaluative situations are so uncomfortable (e.g., Clark & Wells, 1995; Gilbert, 2001; Rapee & Heimberg, 1997). However, how core self-beliefs relate to BFOE has not yet been explored.

#### **Method**

The aim of this study was to investigate a model of core self-beliefs, bivalent fear of evaluation and social anxiety symptoms in SAD. A total of 346 university undergraduates participated in a 30-minute online survey. Participants were included in this study only if their report of SAD symptoms exceeded the Mini-SPIN cut-off for SAD. The constructs in this study were measured using the 3-item Mini Social Phobia Inventory (Mini-SPIN; Connor, Kobak, Churchill, Katzelnick, & Davidson, 2001) for screening for SAD, the 20-item Social Phobia Scale (SPS; Mattick & Clarke, 1998) for social anxiety symptoms, the 8-item Brief Fear of Negative Evaluation Scale - Straightforward (BFNE-S; Weeks et al., 2005) to measure FNE, the 10-item Fear of Positive Evaluation Scale (FPES; Weeks et al., 2008) to measure FPE, and the Self-Beliefs Related to Social Anxiety Scale (SBSA; Wong et al., 2014) to measure core self-beliefs.

#### **Results**

The hypothesised bivalent social anxiety model fit the data reasonably well, explaining 45% of the variance in social anxiety symptoms. Self-beliefs related to social anxiety explained 48% of the variance in FNE, but only 13% of the variance in FPE.

#### **Discussion**

It appears that social anxiety symptoms are best accounted for by focusing on the co-occurring bivalent fear of evaluation. A moderate amount of variance in social anxiety symptoms was accounted for by bivalent fear of evaluation, which in turn was accounted for by self-beliefs. However, the present self-belief construct was more strongly related to FNE relative to FPE. In conclusion, it is argued that the core self-beliefs play an important role in the degree of fear of evaluation, however the core self-beliefs that underpin FPE are not yet known and require further research to clarify.

### **Bivalent Fear of Evaluation in Social Anxiety: A Systematic Review and Meta-Analysis**

**Sarina Cook, Lisa Phillips & Kim Felmingham, The University of Melbourne, Australia**

#### **Introduction**

Individuals with social anxiety disorder (SAD) feel severe discomfort and seek to avoid socially-evaluative situations such as public speaking (American Psychiatric Association, 2013). Cognitive theories often suggest that fear of negative evaluation (FNE) is a product of evolution, and the way an individual thinks about negative evaluation contributes to the development and maintenance of SAD (e.g., Clark & Wells, 1995; Gilbert, 2001; Rapee & Heimberg, 1997). Recently, a bivalent fear of evaluation (BFOE) theory has emerged in the literature, suggesting that both FNE and fear of positive evaluation (FPE) co-occur and contribute to social anxiety together. Several studies have confirmed that FPE is a distinct construct and reveal that both FPE and FNE explain more variance in social anxiety symptoms than FNE alone (Cook, Meyer, & Knowles, 2018; Weeks, Heimberg, & Rodebaugh, 2008; Weeks & Howell, 2012). The aim of this study was to systematically review the relationship BFOE and SAD.

#### **Method**

This study was guided by the PRISMA statement (Moher et al., 2015) and registered a priori (PROSPERO CRD: 42018099543). An electronic database search of PsycINFO, PubMed, CINAHL, and Scopus was performed with variations of fear of positive evaluation or fear of negative evaluation or bivalent fear of evaluation and social anxiety or social phobia. All results were exported to Endnote where duplicate

records were manually removed. Abstracts were screened using standardised criteria, only empirical articles with both a fear of evaluation measure and a social anxiety measure which had an analysis that addressed at least one of the research questions were eligible for inclusion. Methodological quality was assessed concurrently with data extraction. Data were analysed using the Comprehensive Meta-Analysis program, assessing for heterogeneity with Cochran's Q and I<sup>2</sup>, and also calculating effect sizes.

#### **Results**

The electronic database searches resulted in 1,231 abstracts.

#### **Discussion**

Results will be discussed.

### **Examining the Effects of Anxiety Disorder-Specific Cognitive Behavioural Group Therapy on Severity of Insomnia Symptoms Lauren Cudney, Sheryl Green, Elizabeth Pawluk, Karen Rowa & Randi McCabe, McMaster University, Canada**

#### **Introduction**

Insomnia is a severe form of sleep disturbance, commonly reported by individuals with anxiety disorders (Wulff et al., 2010). Transdiagnostic Cognitive Behavioural Group Therapy (CBGT) treatment for anxiety is found to reduce symptoms of insomnia, even when sleep disturbances were not specifically targeted (McGowan et al., 2016). It remains unclear whether a change in insomnia symptoms depends on the specific anxiety disorder being targeted through CBT. The aims of the current study were to (1) examine changes in the severity of insomnia pre and post CBGT for Generalized Anxiety Disorder (GAD), Obsessive Compulsive Disorder (OCD), Panic Disorder (PD), Social Anxiety Disorder (SAD), and Cognitive Processing Group Therapy (CPGT) for Post-Traumatic Stress Disorder (PTSD) and (2) determine the rate of reliable and clinically significant change in insomnia symptoms.

#### **Method**

Participants included adult patients (N=270) at the Anxiety Treatment and Research Clinic, St. Joseph's Healthcare Hamilton who were enrolled in CBGT for GAD (n= 80), OCD (n= 36), PD (n= 30), SAD (n= 66) and CPGT for PTSD (n= 59). Insomnia symptoms were assessed using the Insomnia Severity Index (ISI). A non-parametric test was used to determine differences within subjects pre- to post-treatment on ISI scores collapsed across groups, followed by paired comparisons to assess differences in ISI scores for each CBGT. A Reliable Change Index (RCI) was calculated to assess the percent of reliable change, and clinically significant change in insomnia symptoms within each CBGT.

#### **Results**

At pre-treatment 54% of the total sample had ISI scores above the clinical threshold for moderate insomnia symptoms. Across all treatment groups, participants reported significant improvement in insomnia symptoms ( $p < .01$ ). Participants who completed the CBGT for GAD and CBGT for SAD had significantly decreased insomnia ( $p < .01$ ), but no significant change was noted for the other CBGT groups. The RCI analysis revealed that 26% of people in the GAD CBGT sample and 20% of people in the SAD CBGT sample showed reliable symptom improvement. Reliable and clinically significant improvement of insomnia symptoms occurred in 23% of the sample with pre-treatment ISI above the clinical cut-off for insomnia.

#### **Discussion**

The findings suggest that severity of insomnia symptoms attenuates following CBGT for specific anxiety disorders, with notable changes following CBGT for GAD and SAD. However, clinically significant improvements were only found in a minority of patients, which suggests that many patients continue to experience significant symptoms of insomnia following completion of CBGT for anxiety disorders.

### **The Role of Social Anxiety, Psychopathic Tendencies and Hormones in Approach-Avoidance Behavior Towards Emotional Faces**

**Anna Dapprich, Wolf-Gero Lange & Karin Roelofs, Radboud University, the Netherlands**

#### **Introduction**

Social anxiety and high levels of psychopathic traits could be conceptualized as the opposing ends of one continuous trait i.e. the extent of caring about social evaluation. Indeed, research found that individuals with clinical social anxiety and psychopathic traits show different automatic social action tendencies, respectively. Besides that, also hormonal levels are involved in both, social anxiety and psychopathy, as well as automatic social action tendencies. The current research examined: 1) the relationship between social anxiety, psychopathic tendencies, cortisol and testosterone and 2) its interactive role in social action tendencies in a non-clinical, female sample.

#### **Method**

In order to answer these questions, the Liebowitz Social Anxiety Scale, the Psychopathic Personality Inventory, pre-experimental levels of cortisol and testosterone, as well as the Approach-Avoidance task using emotional faces has been assessed.

#### **Results**

Indeed, a negative correlation between social anxiety and psychopathic tendencies has been found supporting the continuous approach of caring about social evaluation. Furthermore, by using Structural Equation Modelling significant main effects of psychopathic tendencies, testosterone, and cortisol, and an interaction between cortisol and social anxiety on approach-avoidance tendencies has been found. Most interestingly, individuals with higher psychopathic traits were faster in approaching angry faces. Besides that, individuals with both, higher social anxiety and higher levels of cortisol were slower in approaching happy faces.

#### **Discussion**

These results stress the importance of taking both personality and biology, into account when studying automatic social action tendencies.

### **Distress Tolerance and Anxiety**

**Marie-France de Lafontaine, Université Laval, Canada**

**Stéphane Turcotte, Integrated Health and Social Services Research Center in Chaudière-Appalaches, Canada**

**Guillaume Foides-Busque, Université Laval, Canada**

#### **Introduction**

Distress tolerance is the perceived capacity of managing aversive physical and psychological states and many studies suggest that this concept is involved in the development of anxiety and its disorders. Zvolensky et al. (2010) defined distress tolerance as the combination of five factors: tolerance of negative emotions, physical discomfort, uncertainty, frustration and ambiguity. Each of these factors was separately

linked to different anxiety disorders in previous studies. This research aims at determining which of these factors are predominantly associated with anxiety levels.

#### **Method**

Three hundred and seventy-three adults (82.3% women, mean age = 27.6 years  $\pm$  9.3 years) completed a series of online questionnaires. These questionnaires gathered sociodemographic information and assessed anxiety as well as the five components of distress tolerance.

#### **Results**

Regression analyses show that each of the distress tolerance factors is significantly and negatively correlated with the level of anxiety ( $p < 0.05$ ). Tolerance of uncertainty ( $F [1, 328] = 183.69, p < 0.01$ ) and tolerance of negative emotions ( $F [2, 327] = 116.56, p < 0.01$ ) are associated with anxiety independently of the other factors. These two factors explained 41.3% of the variance in anxiety levels.

#### **Discussion**

This research indicates that tolerance of uncertainty and tolerance of negative emotions are the components of distress tolerance that are most associated with the level of anxiety. It also highlights the importance of considering all individual components of distress tolerance in the study of its association with anxiety and other psychological constructs.

### **Social Anxiety and Use of Social Media : A Preliminary Study**

**Carmen Pastor, Virginia Dehesa\* & Juan Sevilla, Centro de Terapia de Conducta de Valencia, Spain**

#### **Introduction**

Social anxiety is a well-known disorder widely studied in face-to-face interactions but not that much in online interactions, with no more than 40 studies on internet and social anxiety. In recent years, coinciding with the expansion and boom of the use of social media apps, at the time of assessing a social anxiety problem in a clinical context, we meet more and more often with online sequences.

Social fears online are similar to those offline (anxiety or fear of being judged, negatively evaluated, humiliated or rejected in social situations) but the safety seeking behaviours (SSB) are obviously very specific due to the intrinsic features of online communication (asynchronous, anonymous and text-based communication).

The aim of this preliminary study was to prove If there are differences in the use of social media between social phobics and non social phobics and If social phobics use specific SSB than differ from those used by non social phobics.

#### **Method**

Two different measures were administered to a non-clinical sample of 204 persons : "Liebowitz Social Anxiety Scale" (LSAS), and a specific questionnaire regarding the use of social media (WhatsApp, Facebook, Instagram and Twitter) and 19 safety seeking behaviours that our clinical practice have shown to be typically used by social anxiety patients. We used the anxiety scale to discriminate who met the criteria of social anxiety and who did not, and we compared the differences in the use of SSB of both groups.

#### **Results**

The data was analyzed using Chi-Squared test and Fisher's test, as an alternative, to perform an independence test between the behaviors and being phobic or not. The results show that 7 of the SSBs significantly depends on social phobia. On those significant ( $\alpha < 0.05$ ), the relative risk for each was calculated to determine the increased probability of being a social phobic by exhibiting such behaviors (for example, performing conduct 12, "If I write something, I spend too much time wondering and worrying", increased the likelihood of being social phobic by 449%).

#### **Discussion**

These results show that there are differences in the use of social media between social phobics and non social phobics, having found some safety seeking behaviours which significantly depend on social phobia. Starting from these results our intention is to expand the study with a bigger and clinical sample.

### **A Comparative Study of Influence of Cognitive Behavioral Factors on Job-Hunting Anxiety Among Japanese and Chinese University Students**

**Jie Dong, Kansai University, Japan**

**Kouhei Matsubara,**

**Hiroshi Sato,**

**Tomotsugu Kawasaki,**

#### **Introduction**

Job-hunting anxiety is one of the factors affecting employment for university students. According to a survey in Japan conducted by the National Federation of University Co - op Associations (2017), seventy percent or more students felt the job-hunting anxiety. Anxiety in job-hunting not only negatively affect the progress of activities but also related to clinical symptoms (Fujii, 1999). There are many university students in China who are puzzled about employment competition at the job-hunting stage and feels negatively for the future (Cai · Li, 2009). The number of Chinese university students with job-hunting anxiety will increase, and along in line with failing possibility of job-hunting, consequently.

#### **Method**

**Aims---** Present study aimed to compare relationships between cognitive behavioral factor and job-hunting anxiety in China and Japan.

**Method---** A total of 181 Japanese students and 127 Chinese students participated in this study. Participants responded to Job-Hunting Anxiety Scale (Dong et al., 2016a; Matsuda et al., 2010), Automatic Thoughts Questionnaire-Revised (Dong et al., 2016b; Sakamoto et al., 2004), Problem-solving Skills Scale (Matsubara et al., 2016; Maruyama et al., 1995), and Kikuchi's Scale of Social Skills-Revised (Aikawa, 2017; Mao et al., 2017).

We used multiple group structural equation model to investigate relationships between cognitive behavioral factors and job-hunting anxiety in Japan and China. We made modification that deleted consistently non-significant paths in both Japanese and Chinese models.

#### **Results**

**Result---** Indicated that the fit of the model was adequate, with  $\chi^2 = 59, p < .001, df = 20, CFI = .964, RMSEA = .080$ . The relationships were as follows: negative automatic thoughts influenced whole the sub-factors of Job-Hunting Anxiety Scale (Japanese  $\beta = .35 - .51, all p < .001$ ; Chinese  $\beta = .25 - .28, p < .01$  or  $.001$ ). Problem-Solving Skills influenced the support anxiety (Japanese  $\beta = -.11$ ; Chinese  $\beta = -.27, p < .001$ ) and the activity persistence anxiety (Japanese  $\beta = -.04$ ; Chinese  $\beta = -.26, p < .001$ ) in china only, but related to the lack of readiness anxiety in both country (Japanese  $\beta = -.19, p < .001$ ; Chinese  $\beta = -.14, p < .05$ ). Social skills only influenced the appeal anxiety in Japan (Japanese  $\beta = -$

.17,  $p < .05$ ; Chinese  $\beta = -.11$ ). In China, Social Skills influenced the support anxiety (Japanese  $\beta = .00$ ; Chinese  $\beta = -.19$ ,  $p < .01$ ), the activity persistence anxiety (Japanese  $\beta = -.15$ ; Chinese  $\beta = -.18$ ,  $p < .05$ ), and the lack of readiness anxiety (Japanese  $\beta = -.04$ ; Chinese  $\beta = -.15$ ,  $p < .05$ ).

#### **Discussion**

From the results, it could be indicated that negative automatic thoughts consistently influenced job-hunting anxiety in Japanese and Chinese students. Problem-solving skills and social skills, in Chinese students, were important factors for job-hunting anxiety, but has little impact on it in Japanese students. Also, positive automatic thoughts may not be important to reduce job-hunting anxiety.

### **Measuring Pre-Event and Post-Event Rumination in Social Anxiety Disorder: Validating the Thoughts Questionnaire**

**Hayley Donohue & Matthew Modini, University of Sydney, Australia**

**Ronald Rapee, Macquarie University, Australia**

**Alice Norton & Maree Abbott, University of Sydney, Australia**

#### **Introduction**

Negative rumination has been consistently identified as an important maintaining factor in Social Anxiety Disorder (SAD). Pre-event and post-event rumination are both associated with increased symptom severity and poorer treatment outcomes in SAD. Therefore, the ability to successfully measure pre-event and post-event rumination is important for treatment planning and prognosis. The Thoughts Questionnaire (TQ) is currently the most widely used measure of state pre-event and post-event rumination in SAD, however it is yet to be statistically validated. The aim of this study is to investigate the psychometric properties of this scale in relation to a social threat task.

#### **Method**

Data from 554 participants (with a primary diagnosis of SAD and non-clinical controls) was used to determine the TQ's factor structure, construct validity, test-retest reliability, CBT treatment sensitivity, its ability to discriminate between those with a primary diagnosis of SAD and non-clinical controls, and to provide clinical cut-off scores. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to examine the factor structure and construct validity of the TQ. ROC Curve Analyses were used to investigate the TQ's sensitivity, specificity, positive and negative predictive power, and clinical cut-off scores. CBT treatment sensitivity was evaluated by comparing TQ scores for treatment and waitlist-control groups (all with a primary diagnosis of SAD), before and after a 12-week group CBT intervention. Test-retest reliability was examined by comparing TQ scores collected before and after the 12-week period for Ps in the waitlist-control (no treatment) group.

#### **Results**

EFA was conducted separately for the pre- and post-event versions of the scale, and for positive and negative rumination items. For pre-event rumination, the 14 negative rumination items ( $n = 554$ ) loaded onto one factor, as did the 9 positive items ( $n = 368$ ). This was also the case for post-event rumination, whereby negative ( $n = 546$ ) and positive ( $n = 231$ ) items loaded onto separate factors. This indicates that the TQ has strong construct validity, confirmed in subsequent CFA analyses. Analyses also revealed good test-retest reliability, sensitivity to CBT group treatment for social anxiety, and the ability to successfully discriminate between those with SAD and non-clinical controls.

#### **Discussion**

The role of negative pre-event and post-event rumination in maintaining SAD is widely recognised by cognitive models, however research in this area is sparse and current CBT treatments for social anxiety do not typically target rumination directly. The ability to effectively measure state pre-event and post-event rumination using a scientifically validated measure has important implications for research and clinical practice.

### **Do Emotion Regulation Strategies Mediate the Relationship Between Perceived Control & Fear and Avoidance in Social Anxiety?**

**Cassandra Fehr & Allison J. Ouimet, University of Ottawa, Canada**

#### **Introduction**

According to Barlow (2002), people with social anxiety (SA) perceive a lack of control over their emotions. Consequently, they may be more likely to avoid and/or fear social situations, in part, because they fear a lack of control over emotional reactions when confronted with social threat. Research found that perceived control over anxiety partially mediated the relationship between SA and fear of negative evaluation, accounting for 26% of variance. Emotion regulation (ER) research suggests that people with SA report greater use of expressive suppression (vs. cognitive reappraisal). However, it is unclear how ER strategies relate to social fear and/or avoidance.

#### **Method**

Using 2 parallel mediation models (PROCESS), we will investigate whether ER strategies (cognitive reappraisal, expressive suppression) mediate the relationships between various aspects of anxiety control (i.e., emotional, stress, and threat control) and social anxiety severity. Undergraduate participants ( $N = 1145$ ) completed self-report measures of ER strategies (Emotion Regulation Questionnaire), social anxiety severity (Liebowitz Social Anxiety Scale), and anxiety control (Anxiety Control Questionnaire). In Model 1, we will test whether anxiety control predicts fear of social interactions and performance through ER strategies. In Model 2, we will test whether anxiety control predicts avoidance of social interactions and performance through ER strategies.

#### **Results**

Data collection is complete and data cleaning is underway. For both models, we predict that suppression only, will mediate the relationships between anxiety control and social fear and avoidance. We hypothesize that increased suppression will predict increased fear of social situations (Model 1), but will predict decreased avoidance of social situations (Model 2). Specifically, participants who report a greater perceived lack of control over their anxiety will be more likely to engage in suppression to regulate their emotion, which will in turn lead to increased fear of social situations, but decreased avoidance, because of suppression use to endure the situation.

#### **Discussion**

By combining Barlow's CBT model of anxiety with findings from past ER research, we can better understand how beliefs about emotions influence ER, and its consequent influence on maladaptive behaviour in SA. To date, our view of adaptiveness in ER is predominantly categorical; suppression being often viewed as a strictly maladaptive strategy. However, from a more integrative standpoint, the use of suppression in SA may have maladaptive (i.e., maintain fear) as well as adaptive (i.e., reduce avoidance) consequences on behaviour in SA. Additionally, one's perception of emotional control may be influential in one's reliance on a particular strategy.

## **Can Brief Single Session Cognitive Bias Modification of Interpretation Change Spontaneous Online Interpretations in High Worriers?**

**Ya-Chun Feng, King's College London, United Kingdom**

**Charlotte Krahé, University of Liverpool, United Kingdom**

**Frances Meeten, University of Sussex, United Kingdom**

**Che Ling Michelle Mok, University Hospital Lewisham, United Kingdom**

**Colette Hirsch, King's College London, United Kingdom**

### **Introduction**

Worry is a stream of negative thoughts over future events and can be maintained by the consistent tendency to generate interpretations (i.e. interpretation bias) when encountering ambiguous information. In our previous study, we found that high worriers lack the benign interpretation bias that can be found in low worriers when they first encounter ambiguous information (online interpretation) and on reflection (offline interpretation). While we know that offline interpretations change following cognitive bias modification for interpretation (CBM-I), no research to date has assessed whether online interpretations also alter.

### **Method**

The current study randomly allocated high worriers into single session CBM-I training or CBM-I control group. Both online and offline interpretation biases were assessed post CBM-I. A behavioural measure of worry (breathing focus task) was also completed.

### **Results**

Consistent with our predictions, the training group showed greater online and offline benign interpretation biases and lower levels of worry compared to the control group. However, only the offline interpretation bias mediated the relationship between groups and levels of worry.

### **Discussion**

The results indicate that CBM-I can promote benign interpretations at different stages of information processing, and that even in a single brief session, spontaneous interpretations generated at the time the ambiguous information is first encountered, have already become more positive.

## **Feasibility, Acceptability, and Clinical Utility of a Virtual Reality Behavioral Assessment Task for Young Adults with Social Anxiety**

**Schuyler Fox, Lauren Hoffman & Anne Marie Albano, Columbia University Medical Center, USA**

### **Introduction**

Social Anxiety Disorder (SAD) is highly prevalent among young adults (YAs; ages 18-29; Auerbach et al., 2016). Although CBT is an evidence-based treatment for SAD, under reporting of symptoms often hinder YAs from receiving proper treatment (DiBartolo, Albano, & Heimberg, 1998). Behavioral Assessment Tasks (BATs) enhance diagnostic precision and treatment planning, however, feared situations common for young adults are challenging to simulate in office (Feindler & Liebman, 2015). Virtual Reality (VR) has been presented as an alternative, though has not yet been utilized for BATs for YA SAD (Powers & Emmelkamp, 2008). Our clinic created a VR BAT focused on three typically challenging social situations for YAs (i.e., assertiveness, public speaking, informal conversation). The proposed poster will present data regarding the feasibility, acceptability, and clinical utility of the VR BAT.

### **Method**

A convenience sample of 31 consented YAs with anxiety disorders (Mage=21.90, SDage=3.0; 25 male) completed the VR BAT as part of the standard clinic assessment process which included a diagnostic clinical interview (i.e., ADIS-5), questionnaires assessing social anxiety symptoms (e.g. SIAS), and the VR BAT (i.e. 3 VR scenarios and one live conversation). Participants completed an acceptability survey and rated aspects of the VR program (e.g., headset comfort; range 1-5 where 1 = "not at all", 3 = "somewhat", 5 = "very"). Data regarding feasibility (e.g. number of scheduling errors) and participant rated acceptability were tracked. Independent sample t-tests and Pearson correlations were performed to test the hypothesis that anxiety experienced during the VR BAT (i.e., subjective units of distress, SUDS; SIAS scores) would be higher among participants with SAD.

### **Results**

To date, 74% (n=90) of all potential participants completed the VR BAT. Reasons for non-completion included: scheduling conflicts (11%; n=13), declined participation (3%; n=5), clinician's discretion (6%; n=7), and technology errors (6%; n=7). Of the 32 consented participants, mean ratings for headset comfort (M=3.2, SD= 1.00), headphones comfort (M=3.87, SD=1.02), sound (M=3.90, SD=1.11), and environment images (M=3.64, SD=1.08) were all at least "somewhat acceptable"; 74.2% reported that their own responses were at least "somewhat" similar to typical experiences. Four independent samples t-tests were conducted to compare mean SUDS experienced during the BAT for individuals with (n=13) and without (n=18) SAD. Mean SUDS reported by participants with SAD were significantly higher than SUDS reported by participants without SAD for the informal conversation (t=-3.31; p<.01), assertiveness (t=-4.02; p<.01), speech (t=-4.34; p<.01), and live conversation (t=-2.95; p<.01) scenarios.

### **Discussion**

The VR BAT was acceptable and feasible for diagnostic use among our young adult clinical sample, and further, was able to distinguish between individuals with and without SAD. Further data, as well as findings related to major depression and generalized anxiety in the sample, will be presented

## **Physical Exercise Augmented Psychological Treatment of Anxiety Disorders: A Systematic Review**

**Kristian Fredriksen, Diakonhjemmet Hospital, Norway**

**Simen Venemyr, Bærum District Psychiatric Centre (DPS), Norway**

**Silje Haukenes Stavestrand, Kristine Sirevåg & Anders Hovland, Solli DPS; University of Bergen, Norway**

### **Introduction**

Cognitive behavioural therapy (CBT) is currently the treatment of choice for most anxiety disorders. Still, with recovery rates of approximately 50 %, many patients fail to achieve clinically significant improvement following treatment. This has led to increased efforts for augmenting the initial effects of treatments, and physical exercise has in recent years been advocated as a means to augment the effects of psychological treatment for these disorders. Physical exercise appears to reduce anxiety through other mechanism than CBT, some of which might also have the potential to augment the effects of exposure based treatments like CBT.

## **Method**

A systematic literature search was conducted in the databases PsychInfo, Medline and Web of Science to evaluate the potential augmentative effect of combining physical exercise with psychological treatment for anxiety disorders, in a meta-analysis. Due to the few and diverse studies that resulted from these searches, a systematic review was considered a more appropriate evaluation of these findings.

## **Results**

Eight articles were included in the review. Four of the included studies conclude that the combination yielded augmentative effects, while the other four did not. Although the studies had variable and inconclusive findings, the results in the reviewed studies indicated that the combination of exercise and psychological treatment is feasible. The augmentative effects might be dependent on the diagnosis, and the studies generally found better support for an add-on effect of physical exercise for panic disorder than for other anxiety disorders.

## **Discussion**

The results indicating a diagnosis dependent add-on effect of physical exercise could in part be explained by a ceiling effect for anxiety disorders with good treatment outcomes. The results also appear to be moderated by the administration of exercise. It seems that exercise administered over an extended period of time, several times a week during and after the psychological treatment, yielded better augmentative effects than acute physical exercise prior to therapy sessions. The studies included in the current review do not indicate that higher intensity of exercise interventions provided better augmentative effects than low intensity exercise. The results are based on a small number of studies and should be interpreted with caution. The circumstances under which physical exercise has an augmentative effect on CBT is not yet well understood, and more studies to address this are needed.

## **The Relationship Between Social Anxiety and Posttraumatic Stress Symptoms in Response to Socially Threatening Events**

**Susanne Fricke, Rosa J. Bohlender, Marie K. Neudert, Raphaela I. Zehner, Stefanie Jaenicke-Reissig, Rudolf Stark & Andrea Hermann, Justus Liebig University Giessen, Germany**

### **Introduction**

A majority of patients with social anxiety disorder (SAD) report threatening social events in their past. These events, for example being criticized by a person of authority or being bullied, are an important aetiological factor of SAD. It is possible that negative distorted images of one's public self arise as a result of these events. These negative distorted images are phenomenological similar to intrusive re-experiencing of traumatic events in post-traumatic stress disorder (PTSD). First studies show that patients with SAD can develop such PTSD symptoms as a result of threatening (but not necessarily traumatic) social events. The relevance of disorganisation of the memory and dissociative experiencing during the event in SAD, similar to PTSD, has not been investigated yet.

### **Method**

In this study 33 healthy participants were interviewed about an autobiographical socially threatening event. Additionally they completed questionnaires about posttraumatic stress symptoms, disorganisation of their memory, and dissociative experiencing during the event for this socially threatening event.

### **Results**

First results show that social anxiety is correlated with heightened intrusive re-experiencing, avoidance, negative effects on cognitions and mood, and hyperarousal. Furthermore, a relation between dissociative experiencing during the social threatening event and social anxiety is given but not between disorganisation of the memory and social anxiety.

### **Discussion**

These results emphasize the relevance of intrusive re-experiencing and other PTSD symptoms in reaction to socially threatening events for social anxiety in mentally healthy humans. Future studies have to show to what extent disorganisation and dissociative experiencing are of particular importance in patients with SAD.

## **Development and Evaluation of the Reading Anxiety Scale**

**Amie Grills, Madeline Leonard & Chelsey Bowman, Boston University, USA**

### **Introduction**

Research has found that reading skills are an important predictor of children's educational achievement. However, studies have shown that anxiety may negatively influence children's reading performance (Grills-Taquechel, Fletcher, Vaughn, & Stuebing, 2012). Although reading-specific anxiety has been associated with general or trait anxiety, it has also been shown to be a distinct concept that is considered situational toward the act of reading (Piccolo et al., 2016). Given these findings, there is a clear need for appropriate and accurate assessment measures specifically designed to assess for reading anxiety.

### **Method**

The 8-item Reading Anxiety Scale (RAS) was designed to assess worries and stressed feelings about reading, reading instruction, and test-taking. The primary purpose of the present study was to examine the psychometric properties of the RAS in two distinct cohorts of elementary school aged children.

### **Results**

The first cohort consisted of 35 fifth grade students (63% male) and the second consisted of 127 third and fourth grade students (53% male). The factor structure, internal consistency, convergent validity, and divergent validity of the RAS will be examined in both cohorts of students. In addition, change in RAS scores over time will be examined, comparing students who received a reading plus anxiety reduction intervention (17 in cohort 1, 39 in cohort 2) with students who received a reading intervention only (19 in cohort 1, 34 in cohort 2) or classroom business as usual (36 in cohort 2).

### **Discussion**

The psychometric properties of the RAS will be discussed, as will the feasibility and utility of the RAS as a potential screening tool for elementary school aged students.

## **The Effect of Self-Efficacy of Injection on the Fear of Needles**

**Suzuka Hako, Kohei Kambara & Akiko Ogata, Hiroshima University, Japan**

### **Introduction**

Needle fear refers to anxiety associated with needles and situations where needles or injections are used. Needle fear is a major problem because this fear increases medical avoidance, which, in its worst case, can cause death. In Japan, very few studies have examined needle

fear. People with anxiety about pain are more likely to feel pain during injections. Previous research has shown that subjective pain is negatively associated with self-efficacy. It is not clear whether there is a relationship between needle fear and self-efficacy. Therefore, this study aimed to examine the relationship between needle fear and self-efficacy. In this study, self-efficacy of injection is defined as the degree of confidence in an individual's ability to perform their actions when receiving injections. Thus, people with high self-efficacy can endure the pain of injection.

#### **Method**

In order to decrease avoidance for receiving injections because of needle fear, it seems important to raise the self-efficacy of injection. A questionnaire survey was conducted with Japanese university students (419 healthy people, 51.79% female, Mean age = 20.00, SD = 1.39). Fear of needles was measured with the Multidimensional Injection Fear Scale (MIFS; 16-item, 5-point Likert scale; Hako et al., 2018). This scale consists of four factors: direct fear, which is fear that is felt when actually receiving an injection, indirect fear, which is a fear of seeing scenes where others are scared of injections, physiological response, which is a physiological response during injection treatment, and avoidance, which is an avoidance of getting an injection. Self-efficacy of injection was measured with the School-age Children's Self-efficacy for Painful Medical Procedures (15-item, 4-point Likert scale; Emoto, 2003).

#### **Results**

Cluster analysis was performed according to their degree of fear of needle for grouping. As a result, participants were divided into four groups: a group that feels little fear (no fear group), a group that feels a little direct fear (low fear group), a group that feels high direct fear and indirect fear (high fear group), and a group that not only feels high direct fear and indirect fear but also experiences high physiological responses and avoidance (risk group). A one-way ANOVA was conducted comparing groups on the MIFS score. It was statistically significant ( $F(3, 409) = 41.91, p < .000$ ). Post hoc analysis showed significant differences at all levels. The risk group showed the worst self-efficacy of injection of all groups.

#### **Discussion**

The results showed that people rarely avoid injection if they merely feel fear. However, physiological responses during injections may increase the avoidance of injections. The results also showed that people with a high needles fear have lower self-efficacy than people with a low needle fear. Negative experiences with injection cause needle fear (APA, 2013). Self-efficacy of injection may be reduced because of fear and avoidance, and there is a possibility that low self-efficacy enhances needle fear. Therefore, in addition to the current treatment (e.g., exposure therapy), there seems to be a necessity for an intervention to raise self-efficacy.

### **Better Save than Wealthy: Dysfunctional Risk Avoidance in Spider-Fearful Individuals**

**Kristina Hengen & Georg Alpers, University of Mannheim, Germany**

#### **Introduction**

Previous research has documented that fearful individuals incur costs if it can help to avoid fear-relevant cues. This research has mostly relied on paradigms where reward contingencies were manipulated in favour of either fear-relevant or neutral cues. Decision making under uncertainty may be more ecologically valid. We, thus, developed a paradigm with potential monetary gains and fear-relevant outcomes. We modified the Balloon Analogue Risk Task (BART) where the risk of popped balloons was not only coupled with the loss of the gained reward but also with fear-relevant outcomes.

#### **Method**

Individuals high or low on fear of spiders ( $N = 35$ ) pumped up balloons to increase their gains. If the balloon popped this resulted in a monetary loss and a fear-relevant (spider) or a neutral stimulus (butterfly) followed. Risk aversion was operationalized by the adjusted number of pumps, dysfunctionality of the decision strategy as the amount of the monetary reward. In addition, reaction times were recorded for each decision.

#### **Results**

Spider fearful individuals were generally more risk averse but much more so in trials where they expected fear-relevant stimuli. This resulted in smaller monetary gains compared to non-fearful individuals. Interestingly, more fearful individuals generally responded more hesitantly on all pumps, but more so when they feared to encounter a spider.

#### **Discussion**

This data provides ecologically valid evidence for the risk avoidance in fearful individuals. The emotional Balloon Analogue Risk Task (eBART) is a promising new research tool to examine risk avoidance with emotionally relevant stimuli.

### **Neural Correlates of Long-term Extinction Recall in Social Anxiety Disorder**

**Andrea Hermann, Marie K. Neudert, Raphaela I. Zehner, Onno Kruse & Rudolf Stark, Justus Liebig University Giessen, Germany**

#### **Introduction**

Aversive social events play a pivotal role in the etiology of social anxiety disorder (SAD). Fear conditioning might be an important mechanism underlying the development of social anxiety in response to those event. Despite this, relatively less is known about the neural correlates of disorder-relevant fear acquisition, extinction and return of fear.

#### **Method**

In this functional magnetic resonance imaging study we investigated 36 patients with SAD and 39 matched healthy control participants (HC) in a 4-day fear conditioning paradigm comprising fear acquisition, extinction training (+ 1 day), short-term extinction recall (+ 1 week), and long-term extinction recall (+ 4 months; half of the sample). Neutral facial stimuli were used as CS and film clips with insulting comments of the same persons as UCS.

#### **Results**

The results show diminished ventromedial prefrontal cortex activation during fear acquisition, stronger dorsal anterior cingulate cortex activation decrease during extinction learning, enhanced amygdala activation during short-term, and reduced hippocampus activation during long-term extinction recall in SAD patients compared with HC.

#### **Discussion**

The findings of this study emphasize the relevance of aversive social conditioning experiences in the etiology and/or maintenance of SAD.

## **Disqualification of Positive Social Outcomes Predicts Low Positive Affect in Korean Adults with High Levels of Social Anxiety** **Da Hye Hong & Soo Hyun Park, Yonsei University, South Korea**

### **Introduction**

Research suggests that individuals with high levels of social anxiety experience diminished positive affect that is not explained by comorbid depressive symptoms. Given that impairments in cognitive processes during social interactions are theorized to play a significant role in the etiology and maintenance of social anxiety, cognitive bias regarding positive social stimuli may contribute to such deficits in positive affect. Specifically, fear of positive evaluation (FPE) and disqualification of positive social outcomes (DPSO) have been suggested as possible mechanisms underlying the attenuated experience of positive emotions. Hence, the present study examined whether FPE and DPSO have incremental value in predicting low positive affect over and above concurrent depressive symptoms in socially anxious adults.

### **Method**

Community adults with high levels of social anxiety (N=65) were selected using a cut-off score of 34 or above on the Social Interaction Anxiety Scale. The participants completed measures assessing positive affect, depression, FPE and DPSO. Hierarchical regression analysis was conducted to test the research hypothesis.

### **Results**

The analysis revealed that DPSO significantly predicted low positive affect ( $\beta = -.374, p = .019$ ) even after controlling for depressive symptoms, while FPE failed to contribute significantly to the model ( $\beta = .151, ns$ ).

### **Discussion**

Results indicated that cognitive tendency to disqualify positive social feedbacks, rather than to experience overt apprehension toward them, may act as a mechanism that leads to the experience of less positive affect in socially anxious adults.

## **Endogenous Testosterone Levels Predict Symptom-Reducing Effects of Public Speaking Exposure in Social Anxiety Disorder** **Moniek Hutschemaekers, Radboud University Nijmegen and Pro Persona, the Netherlands**

**Rianne de Kleine, Universiteit Leiden, the Netherlands**

**Michelle Davis, The University of Texas at Austin, USA**

**Mirjam Kampman, Radboud University Nijmegen and Pro Persona, the Netherlands**

**Jasper Smits, The University of Texas at Austin, USA**

**Karin Roelofs, Radboud University Nijmegen, the Netherlands**

### **Introduction**

Testosterone plays an important role in the regulation of social motivational behavior and social motivational disorders, such as social anxiety disorder (SAD). SAD has been linked to relatively reduced endogenous testosterone levels (Giltay et al., 2012). Indeed, low endogenous testosterone levels are generally associated with high levels of social avoidance and testosterone administration can, in turn, alleviate social avoidance and promote prosocial behavior in healthy participants as well as in SAD (Enter et al. 2016ab). Based on these findings, it has been proposed that high testosterone levels during exposure may be beneficial for exposure therapy outcome. The current proof of concept study, aimed to examine whether baseline and reactive endogenous testosterone levels are predictive of exposure effects in SAD.

### **Method**

Seventy-three participants (21 males, 52 females) with a primary SAD diagnosis performed four public speeches; three during one exposure session and one at a post-assessment one week later. Baseline testosterone levels were sampled at pre-assessment. Additionally, testosterone levels were sampled before, directly after and 30 minutes after exposure. Throughout all the speeches Subjective Units of Distress (SUDs) were assessed. Social anxiety symptoms (Liebowitz Social Anxiety Scale; LSAS) were assessed at pre- and post-assessment.

### **Results**

Baseline and reactive testosterone levels were not related to SUDs during exposure, but predicted reductions in social anxiety symptom (LSAS) levels. More specific, low baseline as well as high reactive testosterone levels were associated with reductions in social anxiety symptoms.

### **Discussion**

Endogenous testosterone levels predicted social anxiety-reducing effects of public speaking exposure in patients with SAD. The direction of effects suggests that people with lower baseline testosterone levels may have more to gain in exposure, as indicated by the relatively larger testosterone reactivity and the reduction in social anxiety symptoms at post-assessment. These effects could not be explained by effects of testosterone on subjective anxiety during the exposure sessions. These findings inspire investigation into treatment-enhancing effects of testosterone in patients with SAD.

## **Examining the Relationship Between Social Anxiety and the Judgement of Dynamic Facial Expressions**

**Hanaa Idris, Colin MacLeod & Romina Palermo, University of Western Australia, Australia**

### **Introduction**

In social interactions, the ability to accurately assess facial expressions can often be quite useful for successful communication especially as disapproval, particularly in social settings, is rarely verbally expressed in an overt or direct manner. Cognitive models suggest that information-processing biases contribute to elevated levels of social anxiety – with growing evidence that social anxiety is associated with a negative judgement bias. This negative judgement bias may be manifested when individuals misinterpret social situations or facial expressions to be more negative than they are. Previous studies have examined judgement biases through the use of static stimuli, however, despite its widespread use, some researchers have questioned its ecological validity.

### **Method**

In the present study, the Social Interaction Anxiety Scale (SIAS) (Mattick & Clarke, 1998) was administered to 131 undergraduate students at the University of Western Australia (84 women and 47 men with mean age  $\pm$  SD of  $20.40 \pm 6.77$ ) with students scoring in the upper and lower quartile being invited to take part in the experiment. Participants completed an emotion judgement task that involved making judgements about the final image in a short dynamic sequence of an emotional expression (happy, angry or disgust) that became both progressively more and less negative as well as positive in expression. Individuals were required to indicate the final image seen in each dynamic emotional expression.

## Results

Results indicated that, overall, positive expressions were judged to be more positive than they actually were and negative expressions were judged to be more negative  $F(1,129) = 55.90, p = 0.05$ . An anxiety-linked judgement bias was evident with low socially anxious individuals judging images to be more negative than those that they were presented with  $F(1,129) = 6.34, p < 0.05$ . However, contrary to expectations, this anxiety-linked judgment bias was not found to be moderated by dynamic change  $F(1,129) = 0.24, p = 0.62$ .

## Discussion

These results suggest that individuals with high social anxiety display greater accuracy with judging negative emotional expressions compared to low socially anxious individuals.

## Exploring The Relationship between Mindfulness, Experiential Avoidance and Psychological Discomfort Among University Students

**Samara Barrera, Miriam Alonso-Fernández, José Luis González-Gutiérrez, Borja Matías-Pompa & Almudena López-López, Rey Juan Carlos University, Spain**

### Introduction

High rates of depressive and anxiety symptoms have been found among university students and young people with higher education because of their diary stressors. In this line, several researches report that mindfulness and acceptance variables could be of great relevance. As consequence, studies that analyze the role of these variables in relation to stress in this population are necessary.

### Method

The first objective was to analyze the possible differences between groups of students with high and low levels of both mindfulness and experiential avoidance (EA) in variables like stress, anxiety, psychological discomfort and depression. The second objective was to determine whether mindfulness and EA were correlated with stress, anxiety, depression and psychological distress. The third objective was to study the relationships between the students' adaptive coping skills (for example, planning tasks or positive re-evaluation of the events) and their mindfulness and EA. A sample of 224 subjects (71.4% woman, mean age 21.22, S.D= 4.55) were assessed in Stress, Anxiety, Depression, Psychological Discomfort, Coping skills, Mindfulness and EA. Due to the non-normal distribution of variables (Kolmogorov-Smirnov test), non-parametric tests such as U of Mann Whitney were performed, and Spearman rank correlation coefficients were estimated.

### Results

Significant differences between low and high scorers in both mindfulness and EA were observed for depression ( $U=4210,5$  and  $U=2569,5$ , respectively;  $p < .001$ ), anxiety ( $U=3921,5$  and  $U=3159$ , respectively,  $p < .001$ ), stress ( $U=3959,5$  and  $U=3118,5$ , respectively;  $p < .001$ ) and psychological discomfort ( $U=3604,5$  and  $U=2550$ , respectively;  $p < .001$ ). Students with higher scores in these variables showed higher levels of EA and a lower level of mindfulness. Besides, significant positive correlations were found between EA and stress ( $\rho = .379; p < 0.001$ ), depression ( $\rho = .554; p < 0.001$ ), anxiety ( $\rho = .436; p < 0.001$ ) and discomfort psychological ( $\rho = .508; p < 0.001$ ). However, the variable mindfulness was inversely related to depression ( $\rho = -.375; p < 0.001$ ), stress ( $\rho = -.410; p < 0.001$ ), anxiety ( $\rho = -.402; p < 0.001$ ) and discomfort psychological ( $\rho = -.454; p < 0.001$ ). Coping skills were positively correlated with mindfulness ( $\rho = .227; p < 0.001$ ), and inversely with EA ( $\rho = -.418; p < 0.001$ ).

### Discussion

The results showed that those participants with high experiential avoidance and low mindfulness characterize by higher scores in the examined variables. Indeed, whereas stress, depression and anxiety showed to be positively linked to experiential avoidance, they exhibit an inverse correlation with mindfulness. Likewise, adaptive coping skills were related with high levels of mindfulness and with low levels of experiential avoidance. This study suggests that experiential avoidance and mindfulness have an influence in discomfort associated with stress, anxiety and depressive symptomatology, as well as with the students' adaptive coping skills. Future studies could show more information about these relations between these variables and the best way to improve wellbeing of students.

## Helping Students Overcome Fear of Public Speaking – Short Group CBT Treatment

**Ines Jakovic, Ivanka Zivcic-Becirevic & Gorana Birovljevic, University of Rijeka, Croatia**

### Introduction

Fear of public speaking is highly prevalent among university students, with higher prevalence among women. Some findings indicate that 63.9% of the college students reported fear of public speaking and 89.3% of them would like their undergraduate program to include classes to improve public speaking (Marinho et al., 2017). Among students with social phobia, fear of public speaking was the most common social fear. This problem is often unrecognized at the university, but has adverse impact on academic performance and overall quality of student life.

Negative automatic thoughts, exaggerated fear of embarrassment or humiliation, as well as intensive somatic symptoms while giving a public speech can have a deleterious effect on the quality of the presentation as well as on the perception of self as a speaker. Dissatisfaction with the presentation and oneself generates future negative expectations leading to increased fear. This vicious circle can result in students' avoidance of public speaking situations and, in extreme cases, dropping out of the courses with this requirement.

As public speaking is a common academic activity and social fears are associated with lower educational achievement and impaired academic performance, fear of public speaking is a common reason for students to seek help at the University Counseling Centre in Rijeka.

### Method

The goal of this paper is to present the results of the brief group CBT treatment designed for university students with fear of public speaking, based on the cognitive-behavioral group therapy (CBGT; Heimberg and Becker, 2002).

We have run seven groups with 45 students from University of Rijeka. Treatment was conducted in small groups (6 to 8 students) that met once a week in 2 hour sessions, range from 4 to 6 times, depending on the number of students in the group. Therapeutic intervention included psychoeducation, cognitive restructuring and behavioural experiments, with the main focus on exposure. Each student had a minimum of three performance assignments with the group members as the audience. The following measures were used for the evaluation: The Speech Anxiety Thoughts Inventory, Personal Report of Confidence as a Speaker and Beck Anxiety Inventory.

### Results

At the end of treatment all students had lower results on the scales. They also reported higher satisfaction with their performance, less fear during the exposure and decrease in attention focused on their somatic symptoms. They have also described positive experiences while performing in front of their class at school.

## **Discussion**

Short group CBT of students with fear of public speaking was very successful and it is highly recommended as a useful intervention for college students who often face this type of anxiety.

## **The Effects of Social Comparison on Perceived Anxiety in Virtual Exposure**

**Isabel Kampmann, Thomas Meyer & Nexhmedin Morina, Westfälische Wilhelm-Universität Münster, Germany**

### **Introduction**

Social comparison is a mechanism that can profoundly alter our perception of emotional situations. However, there is limited research on the effects of social comparison, and assimilation processes in particular, on perceived anxiety.

### **Method**

To investigate whether social comparison influences perceived anxiety levels, we subjected 159 individuals ( $M_{age} = 23.44$ ) with fear of heights or fear of flying to an anxiety-eliciting situation using virtual reality (looking down from a high building or flying in an airplane, respectively). Participants were randomly assigned to a condition promoting social comparison with an upward assimilation condition, to a downward assimilation condition, or to a no-comparison control condition.

### **Results**

We found that individuals in the upward assimilation condition experienced a significantly lower increase of anxiety during the anxiety eliciting situation than individuals in the control condition. The downward assimilation condition did not significantly differ from the control condition and the upward assimilation condition.

### **Discussion**

This indicates that social comparison with an individual who copes well with an anxiety-related situation (upward assimilation) might help to reduce anxiety when one confronts the same situation. Future research is needed on possible moderators of this effect and how social comparison could be used to improve existing treatments for anxiety disorders.

## **Specific Reduction in Social Avoidance After Loving-Kindness Meditation Without Attention-Based Training**

**Yoshihiro Kanai, Tohoku Gakuin University, Japan**

**Haruka Ono & Miki Matsunaga, Rikkyo University, Japan**

### **Introduction**

Clark and Wells (1995) demonstrated that individuals with high social anxiety pay attention to internal stimuli, and they use this information to create a distorted self-image. Thus, the cognitive therapy developed by Clark and Wells (1995) includes attention training, which instructs patients to pay attention to external stimuli. In contrast, mindfulness training, such as body-scan meditations, instructs patients to focus their attention to internal bodily sensations without evaluation of the obtained sensations. In addition, loving-kindness meditation has also been proposed as an intervention strategy for social anxiety (Hofmann, Grossman, & Hinton, 2011). Loving-kindness meditation cultivates compassion for other people and prosocial motives. These strategies differ based on their theoretical backgrounds, and their effects on social anxiety symptoms have not been compared in previous studies.

### **Method**

The purpose of this study was to compare the effectiveness of loving-kindness meditation, attention training, and body-scan meditation on social anxiety symptoms. Thirty-seven undergraduate students with high social anxiety (LSAS: Liebowitz Social Anxiety Scale score  $\geq 42$ ; mean age = 19.94,  $SD = 0.91$ ; 32 women) were randomly assigned to loving-kindness meditation ( $n = 9$ ), attention training ( $n = 10$ ), body-scan meditation ( $n = 9$ ), or control ( $n = 9$ ) groups. The three intervention groups were asked to engage in each training for two weeks using a standardized auditory guide CD. LSAS was measured before and after the training. After the two weeks, participants were asked to hold a group discussion for 15 minutes as an exposure to a social situation. As an affective response to the group discussion, the positive and negative affect schedule and subjective unit of distress (SUD; 0: not at all anxious–100: extremely anxious) were measured before and during the discussion.

### **Results**

A two-way analysis of variance (ANOVA) was conducted on the LSAS score using the groups (loving-kindness meditation, attention training, body-scan meditation, or control) as a between-participants factor and phase (before or after the training phase) as a within-participants factor. Results indicated a significant interaction for an avoidance subscale score of LSAS ( $F[3, 33] = 5.56, p = .003$ ). A simple main effect test revealed that avoidance score significantly decreased after training only in the loving-kindness meditation group ( $F[1, 33] = 14.62, p = .001$ ). On the other hand, regarding the affective response to the group discussion, a two-way ANOVA (group as between-participants factor, time as within-participants factor: before or during the discussion) indicated only a significant main effect of time. An increase of positive affect and decrease of negative affect and SUDs during the discussion were shown, while there was no group difference in the affective response.

### **Discussion**

Results of this study suggest that since loving-kindness meditation for two weeks could alleviate avoidance from social situations, the prosocial factor of mindfulness meditation training seems to be necessary for a change in social anxiety symptoms. However, that training alone could be insufficient for emotional changes during actual social situations.

## **Perception of Feedback Accuracy and Relevancy in Socially Anxious Students: Examining the Impact of Feedback Modality and Valence**

**Leanne Kane, Bronwyn O'Brien, Stephanie Houle-Johnson & Andrea Ashbaugh, University of Ottawa, Canada**

### **Introduction**

People with high social anxiety (SA) may process self-relevant social information differently than people with low SA. For instance, socially anxious individuals tend to remember negative feedback more easily (Cody & Teachman, 2010), perhaps because this feedback is consistent with their self-schemas. Socially anxious individuals may therefore view negative feedback as more accurate and relevant to their performance and positive feedback as less accurate and relevant to their performance compared to low socially anxious participants. Moreover, it is possible that feedback delivered aurally versus visually may be processed differently. An earlier study found that participants were better at recognizing negative feedback compared to positive feedback when this feedback was spoken sentences (e.g., "You were engaging"), but not when the feedback was presented as facial expressions (e.g., a person smiling; Houle-Johnson et al., 2019).

## **Method**

Thus, the goal of the current study was to examine whether the perceived accuracy and relevancy of social feedback are affected by the valence and modality of the feedback in high and low socially anxious students. Undergraduate students classified as high ( $n=20$ ) and low ( $n=47$ ) in social anxiety (using the Social Phobia Scale; Mattick & Clarke, 1998) completed a speech and either read or heard feedback about their speech, an equal proportion of which was positive (e.g., “You were clear”) or negative (e.g., “You were uninteresting”). Participants rated how accurate and relevant each feedback sentence was of their performance (1=Not at all; 5=Very).

## **Results**

Two mixed 2x2x2 ANOVAs indicated Valence by Social Anxiety interactions (accuracy:  $F(1,63)=10.5, p=.002, \eta^2=.14$ ; relevancy:  $F(1,63)=7.80, p=.007, \eta^2=.11$ ) such that the high SA group rated the negative feedback as more accurate ( $M=2.99, SE=0.15$ ) and relevant ( $M=3.05, SE=0.16$ ) than the low SA group (accuracy:  $M=2.26, SE=0.10$ ; relevancy:  $M=2.42, SE=0.11$ ). In contrast, the high and low SA groups rated the positive feedback as similarly accurate (high:  $M=2.58, SE=0.15$ ; low:  $M=2.76, SE=0.09$ ) and relevant (high:  $M=2.83, SE=0.13$ ; low:  $M=2.90, SE=0.08$ ). Feedback modality impacted neither accuracy nor relevancy ratings.

## **Discussion**

Results suggest that negative feedback was perceived as more accurate and relevant by socially anxious individuals, perhaps because it was consistent with their self-views in social performance situations. Surprisingly, positive feedback was perceived as similarly accurate and relevant regardless of social anxiety levels, suggesting that it is the perception of negative feedback that differentiates high and low social anxiety. Moreover, although modality has been shown to impact memory for feedback (Houle-Johnson et al., 2019), it does not appear to influence perceptions of accuracy and relevancy. Limitations of the current study and implications for the cognitive-behavioural understanding and treatment of social anxiety will be discussed.

## **The Fear of Losing Control in Social Anxiety: An Experimental Approach**

**Kenneth Kelly-Turner & Adam S. Radomsky, Concordia University, Canada**

### **Introduction**

Social anxiety disorder is often conceptualized as arising from a variety of maladaptive cognitions (e.g., attentional bias towards internal sensations, negative beliefs about the self) and a fear of negative evaluation. One cognitive domain that has received relatively little attention, despite endorsement from people struggling with social anxiety, is the belief that they may lose control over their speech/behaviour, or biological functions. This parallels similar beliefs about losing control (over thoughts and behaviour) seen in obsessive-compulsive disorder. The present study aimed to evaluate the causal role of beliefs about losing control on social anxiety symptoms in an analogue sample.

### **Method**

Undergraduate psychology students ( $N = 107$  of a projected 130) received false feedback about self-control, beliefs about losing control were manipulated to induce either high or low levels of beliefs about control. Participants then engaged in a ‘getting to know you’ task with a confederate. Participants rated their subjective anxiety, the degree to which they believe they made a positive impression and the degree to which they felt they were able to maintain control throughout the interaction. Confederates also rated the degree to which the participant made a positive impression.

### **Results**

Participants in the high beliefs about losing control (HLC) condition reported significantly greater subjective anxiety than those in the low beliefs about losing control (LLC) condition leading up to the ‘getting to know you’ task ( $t(114)=1.98, p=0.05, d=0.37$ ). Participants in the HLC condition (versus LLC condition) reported greater perceived losses of control over their behaviour during the getting to know you task ( $t(114)=2.06, p=0.042, d=0.38$ ). Finally, individuals in the HLC condition (versus LLC) tended to performed worse in the ‘getting to know you’ task regardless of rating source ( $F(1,113)=3.82, p=0.053, \text{partial } \eta^2=.033$ ).

### **Discussion**

These results support previous correlational research which has suggested beliefs about control are important in social anxiety (e.g., Hofmann, 2005). The current study suggests that holding negative beliefs about losing control may lead to anticipatory anxiety and result in both real and perceived behavioural deficits in a social interaction. Beliefs about losing control are therefore likely relevant in the development or maintenance of social anxiety.

## **Brief, Intensive, Concentrated CBT for Social Anxiety Disorder in an 11 Year Old in the Context of Chronic Illness**

**Eleanor Kerry, Matteo Catanzano & Maya Patel, Great Ormond Street Hospital for Children, United Kingdom**

**Kate Fifield, Sophie Bennett & Chris Ludlow, University College London, United Kingdom**

**HoLan Liang, Great Ormond Street Hospital for Children, United Kingdom**

### **Introduction**

Young people with physical health conditions are at greater risk of developing mental health difficulties than those that are physically well. There is little research to date investigating treatment for mental health disorders in children and young people with chronic physical conditions, and the studies that exist offer little guidance about the optimal interventions for this population. Brief, intensive and concentrated cognitive behavioural therapy (CBT) has been shown to be effective in treating various anxiety disorders in children and young people without chronic illness and has particular advantages for this population due to their physical health needs which can make weekly sessions challenging to attend. Single case studies have an important role to play in building up the evidence base about the applicability and efficacy of such brief, intensive, concentrated interventions for children with multiple mental health disorders in the context of chronic illness.

### **Method**

This paper describes an 11 year old girl with Juvenile idiopathic arthritis (JIA) with co-morbid anxiety disorders, including social anxiety, and associated Selective Mutism. We aimed to evaluate the acceptability and impact of delivering 12 sessions of face-to-face intensive, concentrated CBT. The sessions were delivered over the course of 3 days (4 sessions per day) by two therapists.

### **Results**

Results showed reductions in child- and parent-reported symptoms of anxiety and depression, according to the RCADS (Revised Children’s Anxiety and Depression Scale) and improvements in parent-rated self-efficacy following treatment. In addition to symptomatic changes, both parent and child felt the intervention was acceptable and reported progress on their goal-based outcomes (GBO).

## **Discussion**

These results suggest that brief, intensive, concentrated CBT can be successfully applied to a young person with multiple mental and physical health needs. Further research is needed to explore the benefits of this approach with a more rigorous experimental design.

## **The Influences of Virtual Social Feedback on Social Anxiety Disorders**

**Tomoko Kishimoto, Nankai University, China**

**Xinfang Ding, Capital Medical University, China**

### **Introduction**

Social feedback in the virtual environment is a critical part of a successful Virtual reality exposure therapy (VRET), identifying the influences of virtual social feedbacks on social anxiety patients is necessary. The present study aimed at exploring the influences of ambiguous and negative virtual social feedbacks on social anxiety patients and the health control group (HCG).

### **Method**

Twenty-six social anxiety patients and Twenty-six healthy participants were recruited. All participants were exposed to a virtual public speaking scenario. They were required to make two 3-minute speeches while the virtual audiences gave them either ambiguous feedbacks or negative feedbacks. The subjective units of discomfort (SUD) and heart rate were collected during the process.

### **Results**

The results showed that SAD individuals reported higher levels of subjective anxiety than the HCG and the between group differences were larger in the mild ambiguous condition than in the intense negative condition.

### **Discussion**

This study indicates that social anxiety patients have the interpretation bias toward ambiguous virtual social feedback. Therefore, it is important for VR-based interventions to take into account not only the valence of the feedback but also the ambiguity aspect.

## **Predictors of Treatment Outcome in Patients with Social Phobia**

**Stefanie Kunas, Hannah Sinzger, Kevin Hilbert & Ulrike Lueken, Humboldt Universität zu Berlin, Germany**

### **Introduction**

Effectiveness of cognitive behavioral treatment (CBT) differs between patients. However, knowledge about psychological predictors of therapeutic success is limited. The high prevalence and severe burden of social anxiety disorder (SAD) underlines the relevance of research to personalize mental health care for these patients. We aimed to identify psychological predictors of CBT outcome by a systematic review of clinical studies on SAD. Specifically, the following questions were addressed: Which psychological variables have been investigated as potential predictors of CBT outcome and how do their effects depend on treatment modality and type of outcome?

### **Method**

Eligible articles published until June 2018 were identified via electronic database search (PubMed, PsycINFO, Cochrane Library, Scopus) by consent of two independent screeners and via screening of references from previous reviews on the same topic. Articles were selected in this thesis if they investigated patient variables assessed at baseline as potential predictors of CBT outcome on adults diagnosed with SAD according to ICD or DSM. Sociodemographic, disorder-specific, comorbidity-, personality- and treatment-related variables were included as potential predictors for dropout, end-state, change, response, remission or maintenance as types of outcome. Article data, sample data, information on treatment (main approach, intensity and setting), investigated predictors and findings for each outcome (type, time, source and content), were extracted from the included articles.

### **Results**

Sixty-five studies were analyzed for content and quality using an adapted form of the Cochrane Risk of Bias Tool. Variables were mostly investigated as predictors of end-state and change. SAD patients with more severe symptoms improved more, but stayed in a worse condition after treatment. Duration of illness did not influence therapeutic outcome. Comorbid depression predicted worse end-state but led to more improvement on depressive scales. Other comorbid conditions also affected treatment outcome negatively. Among personality variables, agency predicted better outcome independent of treatment modality, while maladaptive cognitive processing predicted worse outcome. Self-concern had a slight negative impact on cognitive therapy outcome and a positive impact on behavioral therapy outcome. Introversion predicted worse outcome only in individual settings. Neuroticism, emotion regulation, agreeableness and attachment styles had no predictive value. Sociodemographic variables showed little

### **Discussion**

This review provides preliminary evidence for differential treatment effects depending on clinical symptoms and personality variables and recommends further investigation of research questions on moderations and interactions.

## **Perfectionism, Automatic Thoughts in Exam Situations and Test Anxiety in Relation to University Students' Mental Health**

**Ana Kurtovic, Ana Babic Cikes & Tabita Elizabeta Koprivnjak, Faculty of Humanities and Social Sciences Osijek, Croatia**

### **Introduction**

Students cope with their academic challenges in different ways. They also experience different emotional states and thinking patterns during their studies. Some of them are effective and others can undermine their academic success and functioning in general. The aim of this study was to investigate a contribution of different psychological risk factors, specifically, perfectionism, automatic thoughts in exam situations and test anxiety, to mental health of university students.

### **Method**

A total number of 222 university students participated in the study. They were recruited via social networks groups of the university students from the different faculties in Croatia. Students filled out several online questionnaires; Frost multidimensional perfectionism scale with six subscales (concern over mistakes, personal standards, parental expectations, parental criticism, doubts about actions, and organization), Automatic thoughts in exams situations questionnaire with 4 subscales (fear of failure, fear of disappointing parents, lack of motivation and interest, positive thoughts), Test anxiety questionnaire and Mental health inventory with 2 subscales (distress and wellbeing).

### **Results**

The first hierarchical regression analysis with distress as a criterion revealed that concern over mistakes (perfectionism), fear of failure (automatic thoughts) and test anxiety contributed to distress in students. Furthermore, the effect of concern over mistakes was mediated by fear of failure and test anxiety. Second hierarchical regression analysis with the wellbeing as a criterion showed that doubts about actions and

organization (perfectionism), as well as positive automatic thought and fear of failure (automatic thoughts) predicted wellbeing in students, while test anxiety had no significant effects. Furthermore, the effect of doubts about actions was mediated by fear of failure.

#### **Discussion**

The results of our study confirm that perfectionism, negative thoughts in exam situations, as well as test anxiety contribute negatively to mental health of university students. Moreover, good organization and positive thoughts in exam situations contribute to students' wellbeing. The results also suggest the importance of restructuring of negative thoughts, practicing affirmative thinking, improvement of organization skills and coping with exam situations in mental health prevention programs for university students.

#### **Is There Any Connection Between Social Anxiety and Narcissistic Traits?**

**Francesco Lauretta, Duccio Baroni, Alice Fiesoli, Laura Caccico, Elena Grassi, Antonella Lebruto & Nicola Marsigli, Institute for Behavioral and Cognitive Psychology and Psychotherapy, Italy**

#### **Introduction**

In the last decades, the construct of narcissism has undergone a critical revision (Miller, Widiger & Campbell, 2010). The idea that narcissism is represented not only by its so-called grandiose phenotype, but also by another one, called vulnerable, appears to have more and more consensus among clinicians (Pincus, Cain & Wright, 2014). One of the distinctive characteristics of vulnerable phenotype seems to be a marked sensitivity and fear of the judgment of others. However, this feature is also typical of social anxiety. This preliminary study therefore aims to explore the differences in the narcissistic traits between people with high and low social anxiety.

#### **Method**

Participants were 236 persons (Mean age = 34.4 years, SD = 8.73), the majority was female (75.8%). The sample was subdivided in two groups on the basis of Social Phobia Scale (SPS; Mattick & Clarke, 1998) scores (low social anxiety: n = 156, Mean age = 34.6 years, SD = 8.61; high social anxiety: n = 80, Mean age = 34.0 years, SD = 9.01). The Hypersensitive Narcissism Scale (HSNS; Hendin & Cheek, 1997), the Five-Factor Narcissism Inventory (FFNI-Short Form; Glover et al., 2012) and the Rosenberg's Self-Esteem Scale (RSES; Rosenberg, 1965) were administered. A series of independent one-way ANOVA was conducted to assess differences between the two groups.

#### **Results**

We found evidences of lower self-esteem ( $p < .001$ ) and higher levels of hypersensitive narcissistic features (Egocentrism:  $p < .001$ ; Oversensitivity to Judgement:  $p < .001$ ) in high social anxiety participants. Regarding the FFNI, people with higher social anxiety reported lower scores in Authoritativeness ( $p < .001$ ) and Indifference ( $p < .001$ ) subscales, and higher scores in Distrust ( $p < .001$ ), Entitlement ( $p < .001$ ), Need for Admiration ( $p < .001$ ), Reactive Anger ( $p < .001$ ), Shame ( $p < .001$ ) subscales. Moreover, total score of FFNI vulnerable narcissistic scale was higher in high social anxiety group; no difference was found in grandiose scale between groups.

#### **Discussion**

Overall, results show that people with higher social anxiety present higher levels of vulnerable phenotype narcissistic traits. Hypersensitivity to the judgment, typical both of social anxiety and vulnerable phenotype, is confirmed by the differences in HSNS and in the Indifference scale. People with higher social anxiety present higher need for admiration (Need for Admiration) by others and, at the same time, a greater tendency to feel shame (Shame) and to react angrily to criticism (Reactive anger). The differences between the two groups on the Distrust and Entitlement scales seem to suggest that, despite low self-esteem, people with high social anxiety see the other as a potential threat and have to compete socially to receive special treatment. Overall the research, although preliminar and limited, seems to open perspectives for further research between social anxiety and narcissism.

#### **Interference Effects of Emotional Stimuli on Working Memory Updating in Social Anxiety**

**Chi-Wen Liang, Chung Yuan Christian University, Taiwan, R.O.C.**

#### **Introduction**

Attentional control theory assumes that anxious individuals may show impaired attentional function including inhibition, shifting and updating, although the impact of anxiety on updating may be weaker than on the other two functions. Moreover, these impairments of attentional control abilities are assumed to be greater when there are threat-related distracting stimuli present. The present study investigated the interference effects of socially threatening stimuli (emotional expressions) on working memory updating performance in social anxiety.

#### **Method**

A total of 56 undergraduate students (socially anxious group, SA group=28; non-anxious group, NA group=28) completed this study. The mean age of participants was 20.30 years (SD=1.36), and 53.57% of the sample was female. After participants signed the informed consent, they completed a modified n-back task that used emotional expressions (happy, angry and neutral) as interference stimuli which were presented together with targets in the task. Finally, they filled out a battery of questionnaires including the Brief Fear of Negative Evaluation Scale, Fear of Positive Evaluation Scale, Social Interaction Anxiety Scale, Social Phobia Scale, and State-Trait Anxiety Inventory, and Beck Depression Inventory-II.

#### **Results**

Three-way ANOVAs with group (SA/ NA) as between subject factor and task type (0-back/ 2-back) and interference condition (no interference/ happy face/ angry face/ neutral face) as within subject factors were conducted on error rates and reaction times (RTs) of the modified n-back task. For the error rates, participants had highest error rates for the 2-back than 0-back task,  $F(1, 54) = 31.66, p < .001$ . For the RTs, participants had longer RTs for the 2-back than 0-back task,  $F(1, 54) = 151.87, p < .001$ . Participants of both groups showed longer RTs for the happy face and neutral face condition than the no interference condition,  $F(3, 162) = 5.30, p = .002$ . Participants' RTs for angry face condition did not differ from RTs for no interference condition. No interaction effect was found.

#### **Discussion**

SA participants did not show significant impairments on working memory updating compared with NA participants when task-irrelevant emotional stimuli were presented. The result suggested that angry faces had least interference effects on participants' RTs. It is possible because participants tried to ignore or avoid these negative emotional stimuli.

## **Investigating Attentional Control for Emotional Stimuli Under Low and High Cognitive Load in Social Anxiety**

**Chi-Wen Liang, Chung Yuan Christian University, Taiwan, R.O.C.**

### **Introduction**

Attentional control theory (ACT) assumes that anxious individuals may show impaired attentional functions including the inhibition and shifting. Antisaccade paradigm was commonly used task to investigate participants' oculomotor attentional control ability. According to ACT, the impairments of attentional control ability in anxious individuals would be greater under cognitive load due to decreased processing resources. The present study aimed to investigate the effects of low and high cognitive load on attentional control functions using a modified mixed antisaccade paradigm with emotional expression as target stimuli.

### **Method**

Thirty socially anxious (SA) participants and 27 non-anxious participants completed this study. The mean age of participants was 21.04 years ( $SD=1.34$ ), and 66.67% of the sample was female. After participants signed the informed consent, they completed a modified Antisaccade task that used emotional expressions (happy, angry and neutral) as target stimuli. In the antisaccade task, participants were asked to make prosaccade or antisaccade response to target stimuli according to the instruction which preceded a target stimulus. Finally, they filled out a battery of questionnaires including the Brief Fear of Negative Evaluation Scale, Fear of Positive Evaluation Scale, Social Interaction Anxiety Scale, State-Trait Anxiety Inventory, and Beck Depression Inventory-II.

### **Results**

Four-way ANOVAs with group (SA/ NA) as between subject factor and task type (prosaccade/ antisaccade), cognitive load (low load/ high load) and face type (angry/ happy/ neutral) as within subject factors were conducted on error rates and saccade latency of the modified antisaccade task. For the error rates, both groups showed higher error rates for antisaccade task under high than low cognitive load condition. Furthermore, participants showed higher error rates for angry faces than happy faces under high cognitive load condition. For the saccade latencies, SA participants had shorter saccade latencies for angry faces than for happy and neutral faces. NA participants did not show any differences between face types in their saccade latencies. In addition, both groups showed shorter antisaccade latencies under high than low cognitive load condition.

### **Discussion**

Our results indicate that cognitive load reduce attentional control in individual with and without social anxiety, particularly while a negative stimulus was present (angry face). SA participants spent less time to make a correct antisaccade for angry faces compared with happy and neutral faces. It is possible because SA individuals have a tendency to do more efforts to compensate their deficits and this compensation effect leads to better performance. The present study suggest that level of cognitive load and valence of target stimuli interactively influence attentional control ability in SA individuals.

## **Increased Gray Matter Covariation in a Frontoparietal Network in Adolescents with Social Anxiety Disorder**

**Zhen Liu, Yang Hu, Yiwen Zhang, Wenhong Cheng & Zhi Yang, Shanghai Jiao Tong University School of Medicine, China**

### **Introduction**

Social anxiety disorder (SAD) is a common anxiety disorder with a disproportionately high prevalence in early adolescence. It is characterized by significant and persistent fear of negative evaluation by others and avoidance of social situation. Task-dependent functional neuroimaging studies have revealed hyperactivity within frontolimbic neural circuit in SAD patients in the processing of anxiety-related stimuli and emotion regulation such as amygdala, insula, hippocampus and prefrontal cortex. Measures of brain structure are largely state-independent, and can complement functional studies by identifying morphological vulnerabilities that are robust to task parameters. Results of studies addressing structural-anatomical brain changes in SAD have been mixed and partially contradictory. A recent meta-analysis has shown that adult patients exhibit larger gray matter volume in dorsolateral prefrontal cortex, supplementary motor area, angular gyrus, and middle temporal and occipital gyrus as well as a deficit in the left putamen (Wang et al., 2018). However, structural alterations in Adolescents with SAD have been extremely limited.

In methodology, we used voxel-based/surface-based morphometry (VBM) to identify gray matter volume and cortical thickness alterations associated with SAD in adolescents. VBM is a univariate method which could identify group differences throughout the brain simultaneously (Good et al., 2001). Moreover, we use SBM, the multivariate, data-driven approach providing a way to pool information across different voxels as well as identify unpredicted patterns due to the mixed and contradictory findings of previous brain structural studies of SAD (Xu et al., 2009). SBM is based on independent component analysis (ICA), which has shown considerable promise for the analysis of fMRI and segmentation the gray matter. SBM is a multivariate, data-driven approach providing a way to identify unpredicted covariation patterns of gray matter volume.

### **Method**

#### **(1) Participants**

All participants were 10-17 years of age and were given the written informed consent approved by Ethics Committee. 36 drug-naïve patients diagnosed with SAD ( $14.39\pm 2.31$  years old) according to DSM-5 were recruited from Shanghai Mental Health Center, while 38 age and gender matched healthy controls ( $14.78\pm 2.45$  years old) were recruited through local schools. The Social Anxiety Scale for Children (SASC) was applied to measure the symptom severity of social anxiety.

#### **(2) Voxel-based/surface-based morphometry**

T1-weighted images were segmented into gray matter, white matter and cerebrospinal fluid using CAT12. Gray matter images were normalized into a standard space, modulated by the Jacobian determinant of warp field (to compensate the local volume changes caused by non-linear registration), and spatially smoothed with an 8mm FWHM Gaussian kernel. These gray matter maps reflected the relative gray matter volume at each voxel. Furthermore, cortical surface and thickness were estimated, resampled into HCP 32k mesh and spatially smoothed with a 15mm FWHM Gaussian filter. Gray matter volume and cortical thickness were compared between two groups with age as a covariate at each voxel/vertex using SPM12.

#### **(3) Source-based morphometry**

Normalized and modulated gray matter maps were smoothed with a 4mm FWHM Gaussian kernel for source-based morphometry. GIFT (v3.0b) was used to extract independent components from these gray matter maps. The number of components were set to 30, which could account for 62.7% variances (we also set the number of components to 20 and 40 for ensuring the robustness of any findings). The independent components reflected the unique gray matter covariance patterns and the corresponding loadings reflected the degree of how these patterns could be identified in each subject. The component loadings were compared between SAD and healthy controls with age as a covariate using R.

## Results

For VBM, there was no significant difference in either gray matter volume or cortical thickness between SAD and HC. For SBM, one component, mainly composed of right superior parietal cortex (SPC), inferior parietal cortex (IPC), angular gyrus and middle frontal gyrus (MFG), exhibited significantly higher loadings in SAD than in HC ( $t = 3.68$ ,  $df = 72$ ,  $p < 0.001$ ). The significance still existed after correcting multiple-component comparisons using Bonferroni correction ( $p = 0.013$ ). The number of components specified would not change the significance of group comparison results. Within SAD adolescents, no significant correlations were found between subject loading and symptom severity.

## Discussion

By using a data-driven approach and whole-brain analysis, this study identified increased gray matter covariation in adolescents SAD patients in a frontoparietal structural network. This is partially in line with previous studies. The increased structural covariation in the frontoparietal network corresponds to increased prefrontal and parietal activations in functional studies, as well as early information processing biases and attention control dysfunction in SAD youths, which could reflect compensatory but dysregulated top-down attention control or reorienting and disturbed connections in regulatory circuits especially in adolescence.

By using a data-driven approach and whole-brain analysis, this study identified increased gray matter covariation in adolescents SAD patients in a frontoparietal structural network including right dorsolateral prefrontal cortex (DLPFC) and right parietal cortex, which means gray matter volume within this network changes in the same direction. There were no definite gray matter volume nor cortical thickness differences between adolescents SAD patients and healthy controls, which is the biggest difference when comparing our results with previous studies on anatomical differences in SAD. This is partially in line with one study that reported increased cortical thickness in right DLPFC and parietal cortex in adult SAD patients (Brühl et al., 2014). Therefore, we presume results in current study reveal a developmental tendency toward adulthood.

Comparing the pattern of structural differences of the current study with functional models of SAD, we found overlapping networks, such as executive control regions (DLPFC) extending into the dorsal attention network (DLPFC, superior parietal cortex). Angular gyrus has shown to be involved in cognitive reappraisal (Kalisch, 2009). The increased structural covariation in the frontoparietal network corresponds to increased prefrontal and parietal activations in functional studies, as well as early information processing biases and attention control dysfunction in SAD youths, which could reflect compensatory but dysregulated top-down attention control or reorienting and disturbed connections in regulatory circuits. The lack of correlation with symptom severity in our study could further suggest that the structural covariation alteration of frontoparietal network is rather a trait characteristic of SAD. These findings are consistent with the update neurofunctional model of SAD (Brühl et al., 2014) by emphasizing cognitive attention control network than to circumscribed disturbances focusing on the fear circuit especially in adolescence. The current research also provides potential evidence from neural mechanism in adolescents with SAD, emphasizing the importance of cognitive control enhancement and attention bias correction through cognitive behavioral therapy.

## Preliminary Study of Effects of Interventions Focused on Detached Mindfulness & Metacognitive Believe on Worry of Non-Clinical Sample: Compared to the Effects of Two Detached Mindfulness Techniques

Minori Machida & Kenji Sato, Tokushima University, Japan

### Introduction

Although most of people experiences worry in dairy life, excessive worry (feeling uncontrollability) lead to some problems. For example, to inhibit that problem solving, becoming sleeping disorder, decrease quality of life, outbreak of some of psychological disorders. We have to develop preventive intervention program about uncontrollability of worry because it's difficult that community people of high worrier received full package psychotherapy. One of the most effective intervention for worry is Metacognitive Therapy (MCT). MCT is consisted two part, increasing Detached Mindfulness (DM) part and modifying metacognitive believe (MCB) part. Although DM is based on active attention control skills, the package of MCT for worry isn't include techniques that increase active attention control skills directory. One of the most effective techniques developed such purpose is Attention Training Technique (ATT). It's suggested that ATT decrease worry and increase attention control

### Method

High worrier undergraduate & graduate students were randomly allocated to an Attention focused group (AF:  $n = 3$ ), a Worry Postpone Experiment group (WPE:  $n = 3$ ) or a waitlist control group (WLC:  $n = 2$ ). Both intervention groups received one week of another training & one week of same training. At first week, AF group received ATT. On the other hand, WPE group received Worry Postpone Experiment at the same time. Next week's Training, which was received both intervention group, focused on disconfirming metacognitive believe about worry that include uncontrollable, danger & usefulness, engaging worry postpone experiment & recording these results on structured seats. A WLC group state two weeks while to be aware of their worry as much as they could in their dairy life.

### Results

Although significant interactive effects was shown at only DM, all of interaction term's effect sizes were over  $\eta^2 = .20$ . So we did simple main effect test. The results showed that AF group effect and WPE group effect were marginally significant. And between both intervention group and WLC group's group difference's effect sizes at post2 were very large (AF:  $g = -3.49$ , WPE:  $g = -2.77$ ). AF group also showed higher score of switching attention at post2 than WLC group. DM significantly increased Pre-Post1, Pre-Post2 at only AF group. And AF group showed higher DM score at post2 than WLC group.

### Discussion

These results showed the validity of metacognitive interventions. And ATT is more effective than WPE to increase DM. Although this research didn't measurement Follow-up (FU), AF group would more decrease PSWQ at FU because of the changes of DM and attention control skills. There is a need to carry out additional test experiment in future research.

## **Validation of the Trait and State Versions of the Post-Event Processing Inventory in the Japanese Population with and without Self-reported Diagnostic Status of Social Anxiety Disorder**

**Shunta Maeda, Tohoku University, Japan**

**Tomoya Sato, Hijiyama University, Japan**

**Yoshihiro Kanai, Tohoku Gakuin University, Japan**

**Rebecca Blackie & Nancy Kocovski, Wilfrid Laurier University, Canada**

### **Introduction**

Post-event processing (PEP) has been postulated as a factor that contributes to the maintenance of social anxiety. To assess PEP in the Japanese population, the Japanese version of the Post-Event Processing Questionnaire (PEPQ) has been developed. However, some shortcomings in the PEPQ have been pointed out, including the fact that it contains items addressing content outside the scope of the PEP construct. Thus, to establish an alternative measure of PEP in the Japanese population, we translated the trait and state versions of the Post-Event Processing Inventory (PEPI; Blackie & Kocovski, 2017) into Japanese and examined their psychometric properties.

### **Method**

The both versions of the PEPI were translated into Japanese with permission from the developer. A total of 1,000 participants, divided into three subsamples, were recruited from panels of an internet marketing research company. Participants in the first subsample completed the PEPI-Trait, PEPI-State, and measures of social anxiety and depression. Participants in the second subsample completed the PEPI-Trait, PEPI-State, and measures of emotion regulation. The final subsample consisted of participants with and without self-reported diagnostic status of social anxiety disorder. Participants in the final subsample completed the PEPI-Trait, PEPI-State, and Overall Anxiety Severity Scale.

### **Results**

Confirmatory factor analysis supported the original three-factor structure consisting of “Frequency,” “Self-judgement,” and “Intensity” for both the PEPI-Trait (CFI = .93, TLI = .91, RMSEA = .09, SRMR = .05) and PEPI-State (CFI = .94, TLI = .92, RMSEA = .09, SRMR = .05). In addition, correlation analysis provided preliminary evidence for the concurrent and discriminant validity of both the PEPI-Trait and PEPI-State. Further, participants with self-reported diagnosis of social anxiety disorder exhibited clearly higher scores on both the PEPI-Trait and PEPI-State than those without diagnoses.

### **Discussion**

These findings suggest that the Japanese version of the PEPI-Trait and PEPI-State replicate the psychometric properties of the original English versions to a certain extent. Further, our findings suggest that the PEPI would be applicable not only to a student population, but also to the general population and a clinical population.

### **References:**

Blackie, R. A., & Kocovski, N. L. (2017). Development and validation of the trait and state versions of the Post-Event Processing Inventory. *Anxiety, Stress and Coping*, 30, 202–218.

## **Client Motivation and Engagement in Transdiagnostic Cognitive Behavioral Therapy for Anxiety Disorders: Predictors and Outcomes**

**Isabella Marker, Chloe Salvaris, Thomas Tolliday, Emma Thompson & Peter Norton, Monash University, Australia**

### **Introduction**

Client motivation is regarded as a key factor in cognitive behavioral therapy (CBT) for anxiety disorders. To date, client motivation has only been measured during individual-CBT, with little known about the predictive capacity of motivation in group settings. This is problematic as CBT is often delivered in group settings and prior literature indicates that problems with engagement and drop out may be greater in groups. The current study aimed to explore the role of client motivation in group-CBT. Measuring motivation during individual-CBT has proven somewhat difficult with many self-report measures providing weak and inconsistent results. For this reason observational measures of motivation, such as rating client change language during CBT, have been trialled with some success.

### **Method**

The current study aimed to measure motivation using an observational coding system of client change (CT) and counter change talk (CCT) during two components of group transdiagnostic-CBT: cognitive restructuring and exposure sessions. This study utilised participant data and video-recordings of group sessions of transdiagnostic-CBT (tCBT) for anxiety collected during three prior clinical trials undertaken at the University of Houston Anxiety Disorder Clinic (UHADC studies; Norton, 2008, 2012b; Norton & Barrera, 2012). The Client Language Easy Rating System (CLEAR; Glynn & Moyers, 2012) was used to assess CT and CCT of 58 participants comprising 11 tCBT treatment groups. Two graduate students using video recordings of group sessions coded CT and CCT. The study then utilised this data to explore the predictive capacity of CT and CCT in determining treatment outcomes. Additionally the study examined whether baseline client characteristics were predictive of in session CT and CCT.

### **Results**

Results indicated that CT and CCT predicted different treatment outcomes depending on the stage of therapy. CT and CCT predicted symptom severity at post-treatment and slope of improvement during cognitive restructuring sessions. During exposure sessions only CCT was predictive of poorer treatment outcomes but CT determined client attendance and treatment drop out. Results from this study also indicated that subgroups of CT/CCT (i.e. utterances of engagement vs. motivation) predicted different treatment outcomes. Furthermore, baseline characteristics including symptom severity, education, and age were predictive of CT and CCT throughout treatment.

### **Discussion**

This study highlights that CT/CCT holds use as a measure of motivation in groups. It was able to find that patterns of CT/CCT differ over the course of group therapy and that depending on group stage CT/CCT was predictive of different outcome variables. This study also further highlighted the need to separate CT/CCT into different subcategories as our findings indicated that language indicative of motivation, and language indicative of engagement, held different predictive capacities. Future research therefore should aim to distinguish between subcategories as this may aid clinicians in identifying and treating signs of ambivalence and resistance in therapy.

## **Can Intermittent Motivational Interviewing Increase the Effectiveness of CBT in Anxiety Disorders?**

**Isabella Marker & Peter Norton, Monash University, Australia**

### **Introduction**

Recent meta-analytic findings have revealed that the addition of Motivational Interviewing (MI) to Cognitive Behavior Therapy (CBT) for anxiety disorders improves treatment outcome (Marker & Norton, 2018). However, for the most part, previous research has limited MI as a prelude to CBT, adding up to 4 initial MI sessions prior to commencing CBT. This study explored the benefits of a more integrated approach by adapting and examining an already established transdiagnostic CBT (tCBT) protocol (Norton, 2012) to include time limited intermittent MI strategies. The tCBT protocol is made up of 12 sessions with sessions 1-3 focussing on psychoeducation and cognitive restructuring, sessions 4-9 focussing on exposure and, sessions 10-12 exploring core beliefs and relapse prevention. The adapted protocol included 15 minutes of MI at the start of sessions 1, 3, 8, and 10, within the standard 60 minutes session.

### **Method**

43 participants were assessed for this trial using the Anxiety and Related Disorders Interview Schedule for DSM-5 (ADIS-5). 36 participants met a primary anxiety disorder diagnosis and were randomly allocated to receive individual intermittent MI and tCBT (iMI+tCBT;  $n = 18$ ), or individual tCBT and psychoeducation (control;  $n = 18$ ). All participants were screened using the ADIS-5 and the Clinical Global Impressions at pre, post and 3 month follow up. Participants also completed a battery of self-report ratings including the Anxiety Disorder Diagnostic Questionnaire (ADDQ), the Beck Depression Inventory - 2nd Edition (BDI-2), and measurements of motivation and ambivalence towards treatment.

### **Results**

Of the 36 participants, 27 completed treatment, (iMI+tCBT = 14, control = 13). Preliminary analyses, using the ADIS-5, suggest that at post treatment, 11 participants in MI (78.6) no longer met criteria for any anxiety disorder diagnosis, compared to 6 in the control condition (46.2%), a difference in proportions of .3. This difference boarded on significance  $p = .08$ . Intent-to-treat analyses found 61.1% of participants in MI no longer meeting criteria for any anxiety diagnosis, compared to 33.3% in the control,  $p = .09$ . In terms of clinically significant results, CGI ratings indicated that 85.7% of MI treatment completers (ITT = 66.7%) no longer were considered "mentally ill," compared to 46.2% (ITT = 33.3%) in the control group. This was statistically significant,  $p = .04$ . Self-report session-by-session ratings and 3-month follow-up ratings are yet to be analysed.

### **Discussion**

The results suggest that intermittent-MI strategies may increase the effectiveness of CBT for anxiety disorders. Although further analysis of results is required, the data suggest overall benefit of time-limited MI. Prior literature has examined MI as a prelude to CBT, and often this has extended therapy by up to four sessions. The current study suggests that MI can be included in small doses (15 minutes) as part of standard CBT sessions, without extending the length of therapy.

## **Does Attention Bias Modification for Social Anxiety Disorder Become More Effective by Increasing State Anxiety?: a Pilot Study**

**Misuzu Matsumoto, Yugo Kira & Akiko Ogata, Hiroshima University, Japan**

### **Introduction**

Social anxiety disorder (SAD) is characterized by an intense fear of social situations. Attention bias modification (ABM) is one of the interventions for SAD. The goal of ABM is to reduce anxiety by reducing attention bias (AB). However, the effect of ABM is limited. AB is indicated by an increased level of state anxiety (Garner et al., 2007). Therefore, reducing AB by increasing state anxiety during ABM may increase the effectiveness of ABM. However, Amir et al. (2008), which AB reduced, asked to participants to do a speech task to measure anxiety response. Increasing state anxiety through a speech task may have influenced the effect of ABM. Therefore, we conducted ABM and a speech task in another day. We therefore carried out a pilot study to examine the hypothesis that increasing state anxiety during ABM would increase its effectiveness in reducing AB and anxiety response in a speech task.

### **Method**

In a preliminary investigation, 433 undergraduate students responded to the Liebowitz Social Anxiety Scale (LSAS-J), which measures the presence of social anxiety symptoms. Six participants who scored above the cut-off score were invited to participate. Participants (Mean age = 21.00 years; 5 female) were divided into one of two groups: ABM group, increased state anxiety during ABM group (ISA+ABM group). Experiments were conducted across three days. On the first day, participants completed the AB assessment task, which provided a baseline index of AB. Next, they completed a speech task. Before and after the speech task, participants rated their state anxiety level. On the second day, the ABM group completed ABM. The ISA+ABM group completed a recitation task to increase their state anxiety before ABM. This task involved reading difficult sentences in front of a camera. Before and after ABM, participants rated their state anxiety level. On the third day, participants performed the same

### **Results**

procedure as that on the 1st day, which provided a post-training index of AB and anxiety response. The study protocol was approved by the Hiroshima University ethics committee.

We performed a t-test to examine whether state anxiety increased with the recitation task. The analysis showed that state anxiety showed a significant increasing trend. Next, we performed ANOVA to examine whether AB and anxiety response were reduced by ABM. ANOVA was performed with AB score and anxiety response score as the dependent variables and group as the independent variable. The analysis showed that AB and anxiety response was not significantly different.

### **Discussion**

These results imply that state anxiety during ABM increased. However, ABM was not effective for reducing AB and anxiety response in the speech task. The difference between results of Amir et al. (2008) and this study was that we conducted ABM and the speech task across three days. Therefore, reduction in AB may be not maintained. Further studies are needed to examine factors that maintain the reduced AB (e.g. number of training trials). In the future, we needed to consider that influence of increasing state anxiety during ABM on AB in a paradigm that maintains AB reduction.

## **Measuring Repetitive Thinking in Iran: Psychometric Properties of Persian Version of Perseverative Thinking Questionnaire**

**Reza Moloodi & Maryam Kami, University of Social Welfare and Rehabilitation Sciences, Iran**

**Mahdi Mazidi\*, The University of Western Australia, Australia**

**Thomas Ehring, LMU Munich, Germany**

**Amin Khaje Mansoori, University of Tehran, Iran**

**Mojgan Bakhshi Nodooshan, Islamic Azad University, Iran**

### **Introduction**

Repetitive Negative Thinking (RNT) is an intrusive cognitive activity with negative content that is perceived as uncontrollable. RNT has been identified as a risk factor for the development and maintenance of a range of mental disorders including mood disorders, anxiety disorders, and sleep disorders (Ehring & Watkins, 2008). This makes RNT a promising target for both research and treatment of emotional disorders. The first generation of research conceptualized RNT in a content-specific and disorder-specific way, however, in the past decade, researchers have highlighted that RNT displays common process characteristics across psychopathologies, whereby only the content of the RNT appears to be disorder-specific (e.g., Ehring et al. 2008). Based on these findings, Ehring et al. (2011) developed the 15-item Perseverative Thinking Questionnaire (PTQ) to assess RNT. The present study evaluated the factor structure as well as the validity and reliability of the Persian version of the PTQ.

### **Method**

At first, the English version of PTQ was translated into Persian and independently back-translated into English. Seven clinical psychologists checked the translation to ensure the fluency and content validity of the items. The back-translation was checked by the developer of the original PTQ to confirm equivalence of the two language versions. Data was collected in three samples. A student sample ( $N = 894$ ) completed the Generalized Anxiety Disorder Scale, the Difficulties in Emotion Regulation Scale (DERS) and the PTQ. Participants from the general population ( $N = 252$ ) filled out a battery of questionnaires including the Penn State Worry Questionnaire (PSWQ), the Ruminative Response Scale (RRS), the Depression, Anxiety, Stress Scale-21 (DASS-21) and the PTQ. Finally, psychotic inpatients ( $N = 193$ ) filled in the PTQ, only.

### **Results**

Confirmatory factor analysis indicated that the second-order model with three lower-order factors model (Core feature of RNT, unproductivity of RNT, and mental capacity captured by RNT) showed a good fit with the data in all three samples. In addition, the PTQ had good internal consistency (alpha Cronbach's: .91- .92) and test-retest reliability (.70 - .81; all  $ps < 0.001$ ). As to validity, the PTQ scores showed a positive correlation with the PSWQ, RRS, DERS, GAD-7, and DASS-21. In addition, the PTQ was found to discriminate the clinical sample from the student and general population samples.

### **Discussion**

To our knowledge, this is the first study investigating the validity and reliability of the Perseverative Thinking Questionnaire in Eastern culture. The findings suggest that the Persian version of the PTQ is a valid and reliable measure of repetitive negative thinking. The factor structure of the PTQ found in this study is in line with the proposed theory and replicated the earlier research too (Altan-Atalay & Saritaş atalar, 2018; Ehring, Zetsche, et al., 2011).

## **Psychological Inflexibility as a Transdiagnostic Prospective Mediator**

**Ljiljana Mihalčić & Snežana Tovilović, University of Novi Sad, Serbia**

### **Introduction**

Both Negative Affectivity (NA) and Psychological Inflexibility (PIF) have been proposed as transdiagnostic variables, implicated in the emergence of various mental disorders, including anxiety symptoms. PIF encompasses several domains: avoidance of unpleasant internal experiences, rigid mindsets or behavioral patterns that disregard current situational demands, and the lack of persistence in pursuing chosen values (Hayes et al. 2006). PIF has been suggested to act as a mechanism by which NA leads to psychopathology, via amplification of negative emotions (Sauer-Zavala et al., 2012). Hence, the aim of this study was to test the hypothesis that PIF would be a mediator in the relations between NA and the prospective symptoms of social phobia, panic, and generalized anxiety disorders, controlling for the contribution of the previous anxiety symptoms and anxiety sensitivity.

### **Method**

Participants were undergraduates ( $N = 165$ , 80% females,  $Age = 19.86$ ,  $SD = .98$ ) at the University of Novi Sad, Serbia. They consented to participate in a three-wave longitudinal study. At Time 1, they completed the PANAS-trait form, the Anxiety Sensitivity Index-3, and the Depression, Anxiety and Stress Scale-21. These instruments were used to measure a general tendency to experience negative affect, the fear of anxiety sensations that arises from beliefs that those sensations can have harmful cognitive, physical and social consequences, and the current levels of depression, anxiety and stress, respectively. At Time 2, one year later, participants filled out the Acceptance and Action Questionnaire-II tapping psychological inflexibility. During Time 3, six months after Time 2, participants were screened for the diagnosis of social phobia (SP), generalized anxiety disorder (GAD), and panic disorder (PD) using the Psychiatric Diagnostic Screening Questionnaire.

### **Results**

Analyses were conducted using the PROCESS macro in which PIF was expected to mediate the relations between NA and the anxiety symptoms, controlling for the prior levels of anxiety symptoms and anxiety sensitivity. The results suggested that these relations were completely mediated by PIF (indirect effect for SP: 95% BC(.03-.09); indirect effect for GAD: 95% BC (.02-.11); indirect effect for PD: 95% BC (.01-.03)).

### **Discussion**

This study in a nonclinical sample showed that both PIF and NA were predictors of the prospective symptoms of panic, social phobia, and generalized anxiety disorders, in which PIF mediated completely the effects of NA on the symptoms. This finding suggests that one's tendency to experience a range of negative affects does not turn into the symptoms unless negative emotions are treated in a rigid and avoidant manner. It seems that PIF contribute to the anxiety symptoms by amplifying the experience of negative emotions. It is noteworthy that this effect remained after controlling for anxiety sensitivity, a well-known risk factor for anxiety psychopathology. Our findings are strengthened by our research design in which the predictors, the putative mediator, and the symptoms were measured at different time points. Future studies should test whether such a complete mediation would be obtained in a clinical sample.

## **Effect of Functional Aspects of Fear of Evaluations on Social Anxiety Symptoms**

**Chihiro Moriishi, Waseda University, Japan**

**Ayumi Yamashita, Tokyo Selye Center, SOGO Institute of Psychology & Education, Japan**

**Shunta Maeda, Tohoku University, Japan**

**Hiroyoshi Ogishima & Hironori Shimada, Waseda University, Japan**

### **Introduction**

“Fear of Negative Evaluation (FNE)” and “Fear of Positive Evaluation (FPE),” which are related to social anxiety, have been studied independently, as they represent the cognitions with distinct valences underlying social evaluation (Weeks et al., 2008). However, research indicates that FNE and FPE induce avoidance behavior and are strongly correlated; it is thus known that FNE and FPE may have similar functions. Hence, we can hypothesize that fear of evaluation, regardless of valence, contributes to the severity of social anxiety symptoms. In the present study, we examined the effect of fear of evaluation on social anxiety symptoms, valence notwithstanding.

### **Method**

Three hundred and fifty-five students (186 female, 163 male, and 6 unknown sex; mean age = 20.3 [2.6]) completed questionnaires measuring their levels of FNE, FPE, anxiety, and depression. Regarding the classification, we employed a four-cluster model considering the difference in cognitive content, and a two-cluster model considering fear of evaluation, regardless of its valence. The study protocol was approved by a local ethics committee. A part of the data of this study was duplicated from the report of Inomata et al. (2017); however, this report presents analysis results based on different research objectives, as have been outlined above.

### **Results**

According to a non-hierarchical clustering method, no cluster in the four-cluster model was found to fit the assumption. Meanwhile, the standard FNE and FPE scores of both low groups were significantly lower than the average standard scores of overall FNE and FPE (FNE:  $t = 17.09$ ,  $p < .01$ ; FPE:  $t = 4.39$ ,  $p < .01$ ); moreover, both high groups were also significantly higher in the two-cluster model (FNE:  $t = 19.60$ ,  $p < .01$ ; FPE:  $t = 3.76$ ,  $p < .01$ ). In addition, both high groups showed significantly higher levels of anxiety and depression than both low groups.

### **Discussion**

The results indicated that individuals could be classified into two clusters, consisting of both high groups and both low groups, for FNE and FPE. These findings suggest that the fear of evaluation, regardless of emotional value, may contribute to severe social anxiety symptoms.

## **Return to Work: with Wellbeing or Work-Coping? Randomized Controlled Group Intervention with Persons Suffering from Work-Anxieties**

**Beate Muschalla, Technische Universität Braunschweig, Germany**

**Michael Jöbges, Brandenburgklinik Bernau, Germany**

### **Introduction**

Work-anxieties are associated with sick-leave and make high costs for companies and affected employees. Work-anxieties require specific diagnostic and interventions. We evaluated a short “work-anxiety-coping-group” (WAG) in a randomized controlled therapy study. We tested experimentally whether the exposition-oriented group (WAG) lead to shorter sick-leave-durations after treatment than a group focused on wellbeing and relaxation (“wellbeing-group” WG).

### **Method**

1619 employees who were presently in rehabilitation (with the aim of illness recovery and vocational reintegration) were investigated for work-anxieties.

389 persons with work-anxiety were randomly assigned to either WAG or WG. In the beginning and in the end of rehabilitation, general symptom load, work-anxiety, work-coping were measured. From 254 persons the duration of sick leave after the rehabilitation could be assessed.

### **Results**

Persons with work-anxiety (without other mental health problems) who participated in the WAG had a shorter sick leave duration after rehabilitation (11 weeks) than persons with work-anxiety from the WG (16 weeks).

In participants with work-anxiety and additional mental health problems there was no difference between the two groups.

When the intervention was longer (six instead of four sessions), the WG-participants perceived a loss of work-coping.

### **Discussion**

Early work-oriented interventions are necessary for preventing loss of work-coping. Future research should investigate whether longer duration of interventions may lead to shorter sick-leave in persons with both work-anxiety and additional mental health problems. This is the first RCT for treatment of work-anxieties. This study contained persons with different somatic illnesses, which also influence return-to-work. Research on (work-anxiety-prevention) interventions at work is needed.

## **The Influence of the Sub-Factors of Rejection Hypersensitivity and Social Skills on Social Anxiety Symptoms**

**Misako Nakamura, Risa Ito, Hideki Sato, Yuri Ozawa & Miki Wakasugi, Waseda University, Japan**

**Shunsuke Koseki, J. F. Oberlin University, Japan**

**Shin-ichi Suzuki, Waseda University, Japan**

### **Introduction**

It can be determined that it is necessary to examine factors required by people with rejection hypersensitivity to alleviate Social Anxiety Disorder (SAD) symptoms from a cognitive behavioral viewpoint. One of the cognitive behavioral factors associated with rejection hypersensitivity and SAD symptoms is social skills. In addition, rejection hypersensitivity is composed of 5 sub-factors: fear of breakup of a relationship, unassertive interpersonal behavior due to fear of hurting others, fear of criticism by others, discrepancy between social self-image and true self-image, and obsequence to others (Suyama et al., 2014). Therefore, this study has chosen to examine their effects.

### **Method**

Liebowitz Social Anxiety Scale (LSAS; Asakura et al., 2002), Kikuchi’s Scale of Social Skills 18 items (Kiss-18; Kikuchi, 1988), and Interpersonal Sensitivity Measure (IPSM; Suyama et al., 2014) were collected from the participants through questionnaires given to 186 healthy university students (75 men and 106 women with mean age  $\pm$  SD of  $21.71 \pm 3.27$ ).

## **Results**

First, a correlation analysis revealed a positive correlation between the sub-factors of rejection hypersensitivity and SAD symptoms, a negative correlation between social skills and SAD symptoms and between sub-factors of rejection hypersensitivity and social skills were also discovered. Second, the results of path analysis revealed that fear of breakup of a relationship and obsequence to others impacted negatively SAD symptoms. In addition, fear of breakup of a relationship and discrepancy between social self-image and true self-image had a significant worse effect on SAD symptoms, when social skills mediated these sub-factors.

## **Discussion**

From the results of this study, it is revealed that the effect of rejection hypersensitivity and social skills on SAD symptoms varies depending on the various sub-factors of rejection hypersensitivity. In the future, it is necessary to divide it into case that anticipate rejection from others and case unexpected.

## **The OCD Home Kit – Using Smart Technology to Enhanced Self-Guided Exposure and Response Prevention in Patients with Contamination Fears and Washing Rituals**

**Jia'en Ngieng, National University of Singapore, Singapore**

**Oliver Sündermann\*, National University Hospital Clinical Health Psychology Center, Singapore**

**Patrick Chia, National University of Singapore, Singapore**

### **Introduction**

Contamination fears and washing rituals are common in Obsessive-Compulsive Disorder (OCD) and Exposure and Response Prevention (ERP) is the treatment of choice, but many clients find self-guided ERP between sessions very challenging. The aim of this study is to pilot the use of a newly developed Home Kit using smart technology to support and motivate clients with washing rituals to carry out self-guided ERP in their homes.

### **Method**

The Home Kit was designed following interviews with OCD patients (N=3), experienced OCD therapists (N=8), and is based on CBT and ERP principles. It involves an automated dispenser, ibeacon and a programmed smart watch.

- 1) The automated dispenser helps to count and track the pumps of soap, rinses of water and number of blow-dryers used.
- 2) The ibeacon detects proximity of the patient to the basin and synchronizes the configuration of the automated dispenser and smart watch.
- 3) The programmed smart watch sends prompts to remind patients to practice techniques at home; reminding them to stop during their prolonged acts of compulsion when excessive washing is detected.

### **Results**

The Home Kit exposes patients to feared situations and provides consistent prompts to carry out exposure tasks. It enhances patient's autonomy to respond either by subduing or giving in to compulsive urges. ERP progress is monitored by the Home Kit and can be tracked by patient and therapist.

This research is primarily focused on mental contamination which can be heightened through Images/ Videos displayed on the smart watch, along with multiple sensory perceptions like Touch, Hearing, Sight and/or Proximity of perceived contaminants.

### **Discussion**

The Home Kit is currently in the pilot stage of testing. It is aimed to finish data collection by April 2019

## **Psychotherapy and Other Service Use among Adolescents and Young Adults with Anxiety Disorders**

**Hannah Niermann, Catharina Voss, Lars Pieper, John Venz & Katja Beesdo-Baum, Technische Universität Dresden, Germany**

### **Introduction**

Introduction: Anxiety disorders are among the most prevalent mental disorders and their onset is usually in childhood or adolescence. While it is known that a majority of individuals suffering from an anxiety disorder remains untreated, actual treatment rates for adolescents and young adults with an anxiety disorder in Germany remain largely unknown.

### **Method**

Method: As part of the Behavior and Mind Health (BeMIND) study, we investigated in a random community sample of 14- to 21-year-olds living in Dresden (Germany; N=1180) the prevalence and service utilization rates for anxiety disorders. Anxiety diagnoses were determined using an updated version of the Munich Composite International Diagnostic Interview (DIA-X/M-CIDI); service use was assessed within the interview and corresponding lists for institutions/providers.

### **Results**

Results: 22.5% of adolescents and young adults fulfilled DSM-5 criteria for at least one anxiety disorder. 39.5% of these individuals used any services for health care problems, most frequently they visited an outpatient psychotherapist/psychologist (22.9%). Individuals with agoraphobia were most likely to use any in- or outpatient specialized service (64.8%), while individuals with a specific phobia were least likely (21.7%). No age or gender differences in service utilization were observed. Having another comorbid anxiety, depressive, or substance use disorder increased the likelihood of seeking help.

### **Discussion**

Conclusions: In line with previous studies, the current results showed that the majority of individuals suffering from an anxiety disorder did not seek help for mental health problems and only few report contacts with a psychotherapist. Given the potential adverse long-term consequences of anxiety disorders, these findings suggest to improve efforts on increasing intervention awareness and treatment possibilities for individuals suffering from an anxiety disorder.

## **Mindfulness and Cognitive Behavioral Therapy for Social Anxiety: A Pilot Study of University Students**

**Shota Noda, Musashino University and Tokyo Mindfulness Center, Japan**

**Souta Tomiyama, Musashino University, Japan**

**Mutsuhiro Nakao, International University of Health and Welfare, Japan**

**Kentaro Shiotsuki, Musashino University, Japan**

### **Introduction**

Cognitive behavioral therapy (CBT) is effective for improving the clinical outcomes of social anxiety disorder (SAD). However, a number of clients do not achieve clinically significant improvement by the end of the therapy (Rodebaugh et al., 2004). Previous studies have shown that the remission rates of SAD are nearly 40% when using CBT (Leichsenring et al., 2014). Noda and Shiotsuki (2017) indicated that combining CBT and mindfulness training (MT) can provide more effective psychotherapy for SAD, since CBT directly affects social anxiety and MT can improve the factors that maintain social anxiety. Therefore, we developed Mindfulness and Cognitive Behavioral Therapy (MCBT) and examined its effectiveness.

### **Method**

The participants were 24 Japanese students (five males and 19 females) who were allocated to an intervention group ( $n = 15$ ) and control group ( $n = 9$ ). The intervention group participated in the MCBT program, which involved group therapy (three to five people). This program consisted of four sessions. Its main components were psychoeducation, MT, cognitive restructuring, and experience sharing. The control group only answered a set of questionnaires twice during the four weeks. This study was approved by the ethics committee of the first author's affiliated university and the written consent of all students was obtained before participation.

### **Results**

The results of a group  $\times$  time ( $2 \times 2$ ) analysis of variance of the Speech Cost/Probability Bias Scale-Probability Bias, the Five Facet Mindfulness Questionnaire, and the Self-Rating Depression Scale's scores showed significant interactions ( $F(1, 22) = 4.95, p < .05$ ;  $F(1, 22) = 17.25, p < .05$ ;  $F(1, 22) = 8.40, p < .05$ , respectively). The MCBT also produced significant pre-post improvements with high effect sizes ( $r = .81$  for the Five Facet Mindfulness Questionnaire,  $.73$  for the Speech Cost/Probability Bias Scale-Probability Bias, and  $.73$  for the Self-Rating Depression Scale).

### **Discussion**

It was shown that the MCBT improves the participants' trait mindfulness, negative cognition, and depression symptoms. From these results, it can be considered that MCBT is effective for SAD patients with a high degree of depressive symptoms. In the future, it is necessary to examine its effectiveness with more samples according to the severities and features of SAD.

## **Comparison of Neuropsychological Function in Social Anxiety Disorder and Healthy Controls**

**Sho Okawa, Sayo Hamatani, Honami Arai, Masato Nihei, Tokiko Yoshida, Jumpei Takahashi & Yoshiyuki Hirano, Chiba University, Japan**

### **Introduction**

Social Anxiety Disorder (SAD) is characterized by "a marked, or intense, fear or anxiety of social situations in which the individual may be scrutinized by others" (American Psychiatric Association, 2013). SAD has been related to low executive functioning and working memory (Fujii et al., 2013; Yoon et al., 2017). Although some studies have shown a relationship between SAD and neuropsychological function, the relationship between SAD and central coherence as well as visuospatial ability is unknown. Moreover, current evidence of the association between SAD and deficits in neuropsychological function is limited. Neuropsychological function may impact the maintenance of social anxiety and may be an effect of therapy for SAD. This study aimed to compare the neuropsychological function between SAD patients and healthy controls (HC).

### **Method**

Participants for the SAD and HC groups were recruited through referrals from Chiba University Hospital and posters and leaflets placed at Chiba University, respectively. We analyzed data from 48 participants (mean age = 27.1 years,  $SD = 9.57$ ): 11 for the SAD group (mean age = 26.73 years,  $SD = 9.25$ ) and 37 for the HC group (mean age = 27.22 years,  $SD = 9.78$ ). We used the Liebowitz Social Anxiety Scale (LSAS) to measure the score of social anxiety. We conducted the Rey Complex Figure Test (RCFT), Spatial Working Memory (SWM) in Cambridge Neuropsychological Test Automated Battery, and Trail Making Test (TMT). To measure central coherence, we used the Central Coherence Index (CCI) in RCFT. For executive function, we used part B in TMT and the strategy score in SWM. Part A in TMT and between-error score indicated visuospatial ability and working memory. Ethical approval was obtained from the Institutional Research and Ethics Committee of the Graduate School of Medicine, Chiba University.

### **Results**

We conducted the Mann-Whitney U test to compare the scores of each measure. The mean of LSAS showed a significant difference ( $p < .001$ ): 86.64 ( $SD = 19.67$ ) and 28.30 ( $SD = 22.03$ ) for the SAD and HC groups, respectively. The mean of CCI was 1.33 ( $SD = .33$ ) for the SAD group and 1.53 ( $SD = .30$ ) for the HC group; a significant difference was observed ( $p < .05$ ). For part A in TMT, the SAD group scored 94.55 ( $SD = 42.56$ ), and the HC group, 51.19 ( $SD = 8.62$ ). For part B, the SAD group scored 100 ( $SD = 28.95$ ), and the HC group, 68 ( $SD = 24.32$ ). The scores for both parts were significantly higher for the SAD group (TMT A =  $p < .001$ , TMT B =  $p < .01$ ). No significant difference was observed in the between-error ( $p = .124$ ) and strategy ( $p = .095$ ) scores in SWM.

### **Discussion**

Patients diagnosed with SAD have lower performance for visuospatial ability, executive function, and central coherence. Although this study did not support the association between SAD and working memory, a previous study has reported a patient with SAD having deficits in working memory (Amir & Bomyea, 2007). Further research with a larger sample will be needed to confirm the association between SAD and working memory.

## **Investigating the Effect of Adding Anxiety-Specific Practice to a Mindfulness Intervention for Anxiety**

**Inka Papenfuss, Brian Ostafin & Miriam Lommen, University of Groningen, the Netherlands**

### **Introduction**

In recent years, mindfulness-based approaches have gained increasing research interest and support for their application in the treatment of anxiety disorders. In this context, one area that has remained relatively unexplored, and which we aimed to start addressing in this study,

concerns how different mindfulness interventions compare in their efficacy to reduce anxiety. This avenue of research is important as it may point to elements to include in treatment and may ultimately help maximize the effectiveness of mindfulness-based interventions.

#### **Method**

Participants in the current study were 148 undergraduate students. In a first session, they completed a number of self-report questionnaires assessing intolerance of uncertainty, mindfulness, and anxiety symptoms. Subsequently, they were randomly assigned to one of three conditions: a control condition consisting of listening to an audiobook and returning attention to the audio when distracted; a mindfulness condition consisting of conventional mindfulness instructions (mindfulness of breath, body sensations, thoughts); and a mindfulness-of-anxiety condition that included conventional instructions and added an anxiety-specific element, in which participants were asked to bring to mind a moderately anxiety-provoking memory and to apply mindful awareness to memory-related thoughts and emotions. Instructions were delivered via audio tape, both in the first session and as homework for 12 consecutive days. In a follow-up session, the self-report measures were completed a second time.

#### **Results**

Analysis of changes in symptoms from pre- to post-intervention revealed significant differences between groups for symptoms of social phobia and interoceptive fear, and a marginally significant difference for agoraphobia symptoms. Post hoc tests revealed that these effects were driven by greater symptom change in the mindfulness-of-anxiety condition compared to control. No significant differences between groups were found for change in worry, intolerance of uncertainty, or mindfulness.

#### **Discussion**

The findings from the present study provide initial evidence that applying mindfulness exercises to the experience of anxiety-related memories can be beneficial for the reduction of anxiety. Potential limitations such as the use of a student sample are discussed, as well as avenues for future research, such as investigation of whether the findings are specific to these types of anxiety.

### **Responses to Uncertainty: Potential Mediators for the Effect of a Mindfulness Intervention on Symptoms of Anxiety**

**Inka Papenfuss, Brian Ostafin Yannick Boddez & Miriam Lommen, University of Groningen, the Netherlands**

#### **Introduction**

In recent years, the application of mindfulness-based interventions in the treatment of anxiety has gained increasing support. However, mechanisms of this effect have remained relatively unexplored. Responses to uncertainty represent potential candidate mechanisms, as excessive responding to uncertainty plays an important role in anxiety. Specifically, the present study sought to explore the mediating role of two relevant processes: (a) self-reported intolerance of uncertainty, a disposition reflecting negative beliefs about uncertainty that is expressed in adverse cognitive, emotional, and behavioral reactions to uncertainty; and (b) inflated estimates of threat probability in the face of uncertainty, measured by assessing generalization of fear learning in response to stimuli with uncertain threat value. Mindfulness may modulate these responses to uncertainty by fostering present-moment awareness and an accepting attitude towards all, including aversive aspects, of experience.

#### **Method**

To investigate the hypothesized relationships, the study employed a pretest-posttest control group design. Participants were 150 undergraduate students who exhibited heightened levels of anxiety. In a first session, participants completed self-report questionnaires measuring anxiety symptoms, intolerance of uncertainty, and mindfulness, and were randomly assigned to a mindfulness or control condition. The mindfulness condition consisted of conventional mindfulness exercises (mindfulness of breath, body sensations, and sounds) as well as an anxiety-specific element that involved applying mindfulness exercises to a moderately anxiety-provoking memory. The control condition consisted of listening to an audiobook. The intervention was completed in the first session, for 12 consecutive days at home, and in a second session. In the second session, the self-report measures were completed a second time. In addition, participants completed two conditioning tasks to assess fear generalization.

#### **Results**

Data collection for this study is currently in its final stages. The results will be presented for the first time at the conference.

#### **Discussion**

The outcomes will be discussed in terms of potential implications for mindfulness interventions and directions for further research.

### **Breaking down Barriers: Evaluating an Internet-Based CBT Program for Adults Experiencing Anxiety**

**Alissa Pencer & Rebecca Tucker, Dalhousie University, Canada**

**Joel Muise, Tranquility Online, Canada**

#### **Introduction**

Research has shown that internet-based cognitive behavioural therapy (iCBT) is effective in treating anxiety disorders (Olthuis et al., 2015). Furthermore, iCBT reduces barriers (e.g., geographical location and wait-times) and increases flexibility (e.g., time of day) as compared to more traditional methods. Importantly, studies have also demonstrated that having some contact with a coach or therapist in addition to self-help iCBT decreases drop-out rates and improves outcomes (Hadjistavropoulos et al., 2017; Stallman et al., 2016). There are limited evidence-based online platforms for the treatment of anxiety disorders in adults in Canada (Young, Helis, & Williams, 2018). Therefore, through interdisciplinary collaboration between psychology, computer science, and business, Tranquility Online was developed to fill this gap and create a user-friendly platform by combining state-of-the-art technology and the current evidence supporting the use of CBT for treatment of anxiety.

#### **Method**

We conducted a pilot program evaluation with 27 adults meeting the following inclusion criteria: anxiety rated as moderate or higher (i.e., a score of 10 or higher on the GAD-7), depression rated as moderate or lower (i.e., a score of 15 or lower on the PHQ-9), not engaged in ongoing CBT treatment, and no recent changes to any psychotropic medications. The participants were placed into three separate groups: self-help only (n=9), one-on-one coaching (n=9), and group-based coaching (n=9). Number of sessions completed was monitored for each group. Clients completed the Generalized Anxiety Disorder- 7 item (GAD-7; Spitzer et al., 2006), Patient Health Questionnaire- 9 item (PHQ-9; Kroenke et al., 2001) pre- and post- completion of the program, as well as at the start of every second module (i.e., modules 3, 5, 7, and 9). In addition, participants completed the Depression Anxiety Stress Scales- 21 item (DASS-21; Lovibond & Lovibond, 1995) pre- and post-completion of the program.

## **Results**

Overall, groups that received one-on-one or group coaching completed more modules than those in the self-help group. Due to this small sample size, along with some participants dropping out, participants were grouped together to describe the outcome data. Across the three coaching groups, participants who completed at least the first three modules tended to see improvements in their anxiety and mood symptoms by the end of the program. In addition to these primary symptoms of interest, the participants also saw decreases in symptoms of general stress. Qualitative findings regarding positive client satisfaction and perceived outcomes will also be described.

## **Discussion**

The findings from this program evaluation demonstrate that completing Tranquility, an online platform delivering CBT for anxiety disorders, leads to meaningful change in people's problematic anxiety and mood when they have the support of a coach. Future evaluations will focus on the use of data analytics to reduce drop-out rates and further improve outcome. There is also a plan to create a platform for CBT for depression.

## **The Role of Perceived Responsiveness in the Association Between Social Anxiety and Self-Disclosure**

**Sarah Petty, John Walker, Marian Morry & Patricia Furer, University of Manitoba, Canada**

### **Introduction**

Friendships are important relationships in human functioning. The mere presence of a close friend can make difficult situations more bearable (Adams, Santo, & Bukowski, 2011; Schnall, Harber, Stefanucci, & Proffitt, 2008), and low friendship quality is associated with early mortality (Giles, Glonek, Luszcz, & Andrews, 2005). Individuals with high social anxiety experience both global and specific impairments in friendship as evidenced by low social contact, low friendship satisfaction, low perceived social support, and they are more likely than individuals with low social anxiety to report having no close friends (Rodebaugh, 2009; Rodebaugh et al. 2014; Schneier et al., 1994, Torgrud et al., 2004; Whisman, Sheldon, & Goering, 2000). When friendships are maintained by individuals high in social anxiety, these friendships are characterized by low intimacy and closeness (Weisman, Aderka, Marom, Hermesh, & Gilboa-Schechtman, 2011). While psychological distress in general is associated with relational difficulties, social anxiety disorder is associated with friendship impairments over and above other mental disorders (Chou, Liang, & Sareen, 2011; Rodebaugh, 2009; Rodebaugh et al., 2012). Past research has identified the low self-disclosure displayed by individuals with high social anxiety as a behavior that may impair friendships (Meleshko & Alden, 1993). While fear related to social rejection is a cognitive component of social anxiety, little is known about specific cognitions experienced by individuals high in social anxiety when engaging in low self-disclosure. The interpersonal process model of intimacy suggests that engaging in self-disclosure is influenced by perceptions of responsiveness (Reis & Shaver, 1988).

### **Method**

The aim of this study was to test a model of self-disclosure for individuals high in social anxiety while considering the role of perceived responsiveness. We hypothesized that the association between high social anxiety and low self-disclosure would be mediated by low perceived responsiveness. Two samples were recruited to test our proposed model. The first sample consisted of an undergraduate student sample recruited from the University of Manitoba (N = 222), and the second were recruited from an anxiety self-help association (N = 242). All participants completed an online survey. Participants identified a close friend and answered questions about the relationship with the close friend including perceived responsiveness and self-disclosure in this friendship. Participants then completed the same procedure for an identified acquaintance. Following this, participants completed a measure of social anxiety and demographics.

### **Results**

Low perceived responsiveness mediated the relationship between high social anxiety and low self-disclosure for close friendships, but not for relationships with acquaintances. These findings were consistent across both the university student and the anxiety self-help samples.

### **Discussion**

As self-disclosure is crucial in the development and maintenance of close friendships, identifying perceived responsiveness as being associated with this behavior for individuals high in social anxiety is an important finding. This may also have implications for the treatment of social anxiety. Incorporating strategies to help clients explore the signals they use to determine perceived responsiveness during conversations with friends and to encourage them to increase self-disclosure in these relationships may be helpful in enhancing friendship closeness and intimacy.

## **The Efficacy of an Online, Early Intervention for Anxiety and Problematic Alcohol Use Among Young People**

**Katrina Prior, Lexine Stapinski & Nicola Newton, The University of Sydney, Australia**

**Mark Deady, The University of New South Wales, Australia**

**Erin Kelly, Maree Teesson & Andrew Baillie, The University of Sydney, Australia**

### **Introduction**

Anxiety and alcohol use disorders are two common and debilitating disorders that often co-occur. If left untreated, these conditions can fuel each other in a self-perpetuating cycle, leading to more severe symptoms and greater impairment. Typical onset of these disorders is between adolescence and early adulthood, with anxiety symptoms usually emerging earlier and marking a particular risk for harmful alcohol use and progression to alcohol use disorder. The unique challenges associated with the transition to adulthood, combined with the emergence of anxiety and alcohol use disorder symptoms, require a developmentally-targeted early intervention to empower young adults, enhance anxiety coping skills, and prevent the escalation of drinking. This study aims to evaluate the efficacy of the Inroads program, a therapist-supported, internet-delivered early intervention for young adults that targets alcohol use, anxiety symptoms and the interconnections between these problems.

### **Method**

A randomised controlled trial was conducted nationally across Australia among young adults (aged 17 to 24) who experience anxiety symptoms and drink alcohol at hazardous or harmful levels. Participants were individually randomised on a 1:1 basis to receive the Inroads early intervention (involving 5 online CBT modules and weekly therapist support via email or phone), or a control condition involving assessment plus alcohol guidelines and information. Primary outcomes, assessed at 8-weeks and 6-months post-baseline, include total number of standard drinks consumed in the past month, severity of harms associated with alcohol use, and anxiety symptoms across multiple disorders.

### **Results**

Pending. Results will be analysed by intention to treat using multi-level mixed effects analysis for repeated measures.

## **Discussion**

This study addresses a crucial knowledge gap by trialling an engaging and visually appealing youth-focused intervention, developed in consultation with young people, that targets anxiety, harmful alcohol use and the interconnections between them. The study will provide valuable insights into the effective ingredients underlying intervention effects, informing clinical conceptualisation and future refinements to achieve even more powerful intervention effects.

## **Distress Concealed Behind the Appearance of Normality in University Students: An Exploratory Study**

**Angelica Riveros-Rosas, Maria Elena Camarena-Adame, Karina Leon-Solis & Juan José Sanchez-Sosa, National University of Mexico, Mexico**

### **Introduction**

Professional training in universities involves the development of personal and prospective job roles that partially determine the eventual probability of success and seek adequacy regarding future professional expectations. Disparity between expectations, be them personal, academic or social, and the students' actual attributes may lead to rigid and defensive interaction styles that will limit their professional training options and even job accessibility. Additional negative consequences of these conditions include significant personal distress, reduced recognition by peers, need for social support and, indeed, professional counseling or therapy.

### **Method**

The present study involved qualitative and quantitative methodological analyses based on systematically collecting data on three key questions asked to 102 students (50% women) participating in a "He for She" gender-consciousness-sensitivity workshop at the school of business administration in Mexico's flagship university UNAM. The first question was how they wished to be perceived by others within the school, the second asked what they would prefer to conceal from others and the third was in what situations would they feel most necessary to conceal such condition or attribute.

### **Results**

Results revealed that the most frequent conditions they would attempt to hide were such personal problems as being fatigued, not mastering academic knowledge, and being angry or sad. Most participants would try to conceal such conditions during class or exams, and when they were under financial duress while collaborating on activities with their fellow students. Economical concerns mainly revolved around transportation, having the right materials and participating in recreational activities. Approximately 25% of students indicated that they would not really have anything to conceal or to show as appearance under practically any circumstance. In general, results showed that most students are concerned with their academic performance and showing themselves as emotionally stable and in control.

### **Discussion**

Although these findings could reflect adaptive styles in the sense of showing security and adequate functioning, they could paradoxically limit the development of support networks and the students' ability to socialize or asking for help, including assistance provided by well established counseling and therapy services in the school. Results are discussed in the context of those from other studies regarding the role of social support on academic performance and on wellbeing. The present study main conclusions include that students tend to conceal emotions and experiences that would make their peers doubt their capabilities as university students. The most frequently concealed emotions include anger, sadness and lack of academic interest. Data also suggest that this concealment is used to cope with insecurity or with situations that place them in perceived financial disadvantage.

## **Is Behavioural Avoidance in Social Anxiety Characterized by Biases in Stimulus Categorization or General Behavioural Tendencies?**

**Daniel Rudaizky & Colin MacLeod, University of Western Australia, Australia**

### **Introduction**

Social anxiety, the tendency to experience elevated anxiety in response to social or performance situations, is also characterized by patterns of behavioural avoidance. Researchers have employed the Approach Avoidance Task (AAT; Heuer, Rinck & Becker, 2007) to demonstrate that high socially anxious (HSA) individuals, exhibit increased behavioural avoidance of stimuli that may signal social evaluation such as faces displaying emotional expressions. However, there are two alternative hypotheses that could explain these findings 1) it may be the case that having categorized a face in terms of its emotionality, HSA individuals are more likely to exhibit behavioural avoidance than non-socially anxious individuals or 2) it may be the case that HSA individuals are more likely than non-socially anxious individuals to categorize faces in terms of their emotionality, but that everyone is more likely to behaviourally avoid a face that has been categorized in this way.

### **Method**

In order to test these alternate hypotheses we created a new version of the Approach Avoidance Task (AAT) in which participants were required to categorize either emotional (happy, angry) or non-emotional (neutral) faces along one of two dimensions, gender or valence, and then make either an approach or avoidance response to this face using a joystick. Reaction times to make the categorization decision and the approach/avoidance response were recorded. 32 high, and 32 low, socially anxious participants completed the task.

### **Results**

Analysis of the categorization RTs indicated that a) high and low socially anxious individuals did not differ in their ability to categorize face stimuli as either emotional or non-emotional. The joystick movement times were used to calculate behavioural approach/avoidance indices. Analysis of these indices showed HSA participants relative to low socially anxious participants demonstrated increased behavioural avoidance of emotional faces after they were required to categorize faces in terms of their valence, however, no group differences were found in approach/avoidance scores for emotional faces after participants categorized them in terms of their gender.

### **Discussion**

These findings lend support to our first hypothesis indicating that heightened social anxiety, compared to lower social anxiety, was characterized by behavioural avoidance of faces only when they displayed an emotional expression and had been categorized in terms of their emotionality. This suggests that although HSA individuals do not demonstrate an increased ability to categorize face stimuli as threatening, once a stimulus has been classified as representing a threat (i.e. an emotional face), an HSA individual will show disproportionately increased behavioural avoidance compared to a low socially individual. Implications of these findings are discussed.

## **An Internet-Based Mindful Lovingkindness-Compassion Program for University Students with Social Anxiety**

**Seokjin Ryu & Hyunju Cho, Yeungnam University, South Korea**

### **Introduction**

Despite much evidence that mindfulness and lovingkindness-compassion are particularly effective in reducing anxiety, few studies have applied them to social anxiety. Internet-based intervention, which can reduce the embarrassment of face-to-face treatment, can be effective for those experiencing social anxiety. Recent studies indicated that internet-based interventions can be as effective as face-to-face interventions for various anxiety symptoms. In the current study, we examined the effectiveness of an online version of a Mindful Lovingkindness-Compassion Program (MLCP) on social anxiety symptoms and related variables of people with social anxiety.

### **Method**

A total of 46 participants with increased levels of social anxiety were assigned to MLCP (n=21; 16 female; Mean age[SD]= 21.91[1.70]) or the wait-list control group (n=25; 20 female; Mean age[SD]= 21.60[1.73]). The MLCP consists of eight sessions, multiple forms of mindfulness and compassion practice, as well as psycho education. The participants were introduced to the program in the laboratory and were asked to run one session per week. Participants wrote their experiences each session on a semi-structured worksheet and it was e-mailed to the researcher. The worksheet was feedback by the researcher. They were able to send their questions or comments to the researcher by phone, text or e-mail during the program. Before and after program, participants reported social anxiety symptoms (SAD, SPS), rumination (RRS), fear of negative evaluation (FNE), self-focused attention (SDSAS), acceptance of social anxiety (SAAAQ), decentering (EQ), mindfulness (MAAS) and self-compassion (SCS).

### **Results**

The results of the study showed that MLCP yielded large effect sizes in reducing social anxiety symptoms (Cohen's d: 1.98 [SAD] and 1.52 [SPS]). In addition, secondary outcomes related to social anxiety, mindfulness and self-compassion improved significantly with large effect size at post treatment (Cohen's d: 1.10 [RRS], 1.22 [FNE], 1.18 [SDSAS], 1.35 [SAAAQ], 1.55 [EQ], 0.81 [MAAS], SCS [1.26]). Contrary to the intervention group, the control group did not show any significant changes in the measurements.

### **Discussion**

The findings of this study suggest that internet-delivered MLCP were effective in reducing social anxiety and improve related variables. In particular, the effect size has been shown as large, suggesting that it is as effective as traditional face-to-face therapy. It also indicates that the feedback-based mindfulness and compassion practices are effective in alleviating social anxiety. This study need to replicate with large-scale sample and disability people.

## **Different Paths to Social Anxiety and Depression: The Role of Early Memories of Warmth and Safeness and Fears of Compassion**

**Brígida Caiado & Maria do Céu Salvador\*, University of Coimbra, Portugal**

### **Introduction**

Early memories of warmth and safeness (EMWS) have been negatively associated with fears of compassion. Social anxiety (SA) and depression have been positively associated to early critical or negligent experiences with parents and peers and with fears of compassion. Some studies have shown, with other variables, that the paths to SA and to depression may be different. This led us to think that the role of EMWS with parents and with peers and fears of compassion might also follow different paths to SA and to depression. To the best of our knowledge, no studies have yet explored this hypothesis. Thus, this study analyzed if SA and depression would be predicted by EMWS with parents and peers, and if this relation would be mediated by fears of compassion.

### **Method**

The sample included 766 adult students (63.8% females; Mage=20,46; SD=3,717). Self-report scales measuring EMWS with parents and peers, fears of compassion, SA and depression were filled. A path analysis was performed to test the mediating model.

### **Results**

The final model presented a very good model fit, explaining 31% of SA and 30% of depression. EMWS with peers predicted SA directly. Both EMWS with peers and with parents had an indirect effect on SA through fear of compassion from others (partial and total mediation, respectively). Fear of self-compassion did not have any effect on SA. In contrast, fear of compassion from others did not have any direct effect on depression; all its effect was mediated by fear of self-compassion (best predictor) or by SA. Specifically, EMWS with peers had a small direct effect on depression, and an indirect effect through SA, fear of compassion from others and of self-compassion, and fear of compassion from others and SA. EMWS with parents only presented an indirect effect (full mediation) through fear of self-compassion, fear of compassion from others followed by fear of self-compassion, and fear of compassion from others and SA together.

### **Discussion**

This study highlights the importance and possible differences of EMWS with peers and parents and of fears of compassion explaining of SA and depression. In addition to promote self-compassion, interventions should also focus on fears of compassion. It should be noted, however, that, the paths from EMWS with parents and peers to SA and to depression through fears of compassion seem different. Particularly, fear of compassion from others was the only fear of compassion having a predictive effect on SA, and fear of self-compassion was the best predictor of depressive symptoms, with fear of compassion from others only having its effect through fear of self-compassion. This result may imply that the intervention in SA should essentially target fear of compassion from others, while in the case of depression should also and mostly target fear of self-compassion. Intervention in depression should also evaluate and target SA symptomatology since it directly predicts depressive symptomatology.

## **A Pilot Study on the Development of a Behavioral Measure of Self-Compassion**

**Hideki Samizo, Chihiro Moriishi, Hiroyoshi Ogishima & Hironori Shimada, Waseda University, Japan**

### **Introduction**

Researchers have examined whether self-compassion, which is a cognitive construct opposed to the cognitive features of social anxiety disorder (SAD) (Neff, 2003), would be effective against SAD. However, state self-compassion may not be measurable using questionnaires, and the effectiveness of self-compassion would not be sufficiently examined. But by measuring cooperative and altruistic behavior using the ultimatum game and dictator game, state self-compassion would be estimated, because compassion, which is part of self-compassion, causes cooperative and altruistic behavior. The aim of the present study is to develop a behavioral measure of state self-compassion based on the ultimatum game and dictator game.

## Method

The Japanese version of the Self-Compassionate Reactions Inventory (SCRI-J; Miyakawa & Taniguchi, 2016) and a self-compassion measurement task that was developed in the present study, were administered to 6 college and graduate students (1 man and 5 women with a mean age  $\pm$  SD of  $24.0 \pm 2.3$ ). First, the participants answered the SCRI-J and did the self-compassion measurement task. Second, they did a self-compassion writing task (Leary et al., 2007). Finally, they answered the SCRI-J and did the self-compassion measurement task again. This method was approved by the local ethical committee.

## Results

We analyzed the raw data of six participants but could not find a consistent change in the scores before and after the self-compassion writing task for both the SCRI-J and the self-compassion measurement task. However, a medium effect size was found in the self-compassion measurement task ( $d = .544$ ). The baseline score of the self-compassion measurement task correlated slightly with the baseline score of the SCRI-J ( $r = .255$ ), and the change in the score of the self-compassion measurement task correlated moderately with the change in the SCRI-J score ( $r = .429$ ).

## Discussion

The self-compassion measurement task developed in the present study is not appropriate for measuring self-compassion because the changes in the scores for this task were not consistent with those of the SCRI-J. However, a medium effect size was found in the self-compassion measurement task. This indicates that the self-compassion measurement task may be able to estimate changes in state self-compassion more objectively than a questionnaire.

## Clinical Implications of Childhood Maltreatment in Panic Disorder

**Martí Santacana, Irene Ramos-Grille, Núria Aragay, Gemma Garrido, Roser Guillamat & Vicenç Vallès, Consorci Sanitari de Terrassa, Spain**

**Miquel Àngel Fullana, Hospital Clínic de Barcelona, Spain**

### Introduction

In the last few years, childhood maltreatment has gained increasing attention in scientific literature on psychiatry and clinical psychology. Among other reasons, this is because it is a transversal and highly prevalent issue in mental disorders. However, in the specific case of panic disorder (PD), there are few data available on the clinical implications of childhood maltreatment. In this context, the aim of our study was to assess the association between childhood maltreatment and the symptomatic profile in PD.

### Method

In the framework of wider research, one hundred and twenty-five patients meeting DSM-IV criteria for PD (111 with agoraphobia and 14 without agoraphobia) were included in the study. Diagnosis was established by experienced clinicians using the Mini International Neuropsychiatric Interview (MINI). The sample included 84 women (67.2%) and the mean age was 36.3 years (range 18-60,  $SD=8.9$ ). Before the start of a cognitive behavioural therapy protocol, all patients were assessed with the Panic Disorder Severity Scale-Self Report (PDSS-SR), the Anxiety Sensitivity Index-3 (ASI-3), the Beck Depression Inventory-II (BDI-II), the Sheehan Disability Inventory (SDI), the Personality Disorders Questionnaire-4 (PDQ-4) and the Childhood Trauma Questionnaire-Short Form (CTQ-SF). In line with previous studies, the presence of childhood maltreatment was evaluated using the following cut-off scores for the CTQ-SF subscales: emotional abuse  $\Rightarrow 9$ , physical abuse  $\Rightarrow 8$ , sexual abuse  $\Rightarrow 6$ , emotional neglect  $\Rightarrow 10$  and physical neglect  $\Rightarrow 8$ . Later, variables referring to the age of onset, initial severity, anxiety sensitivity, depressive symptomatology, comorbidity and functional impairment were compared between patients with no history of childhood maltreatment ("CTQ-SF negative") and patients with at least one type of childhood maltreatment ("CTQ-SF positive"). Chi-square and t-test were applied when appropriate.

### Results

In our sample, 86 patients (68.8%) had been exposed to at least one type of childhood abuse or neglect. Patients of the "CTQ-SF positive" group showed higher levels of depression (BDI-II), greater anxiety sensitivity (ASI-3), and more axis-I and axis-II comorbidity (MINI / PDQ-4) compared with patients of the "CTQ-SF negative" group ( $p < 0.05$ ). No significant differences were obtained in the age of onset, initial severity (PDSS-SR) or in functional impairment (SDI).

### Discussion

According to our results, childhood maltreatment is associated with a greater severity of some clinical features in patients with PD. Although these results are preliminary, they might be useful on the path towards personalized medicine, with treatments tailored to different patient profiles. In this context, for instance, future research might consider adding trauma-specific interventions to the current treatment protocols for those PD patients with a history of childhood maltreatment.

## Can Working Memory Training Reduce Test Anxiety?

**Berna Sari, Guliz Zeynep Tarman, Busra Ozdogan & Baris Metin, Uskudar University, Turkey**

**Nazanin Derakshan, Birkbeck University of London, United Kingdom**

### Introduction

A vast amount of research demonstrates that anxiety is adversely associated with working memory (WM) performance (Moran, 2016). Hence, intervention techniques targeting at improving WM, such as WM training, can be used to reduce the impact of anxiety on performance. Few studies (Sari et al., 2016; Course-Choi et al., 2017; Grol et al., 2018) investigating this assumption observed training-related gains in reductions in anxiety-related symptoms as a function of training. Here, we examined how working memory training could impact test anxiety for upcoming examinations, the role of motivation and the sustainability of training effects over time.

### Method

We recruited 101 student volunteers, 2 weeks before the midterm exams. They were randomly assigned either to control (non-adaptive dual n-back training,  $N = 52$ ) or training group (adaptive dual n-back training,  $N = 49$ ), who trained for 14 consecutive days. Data of 35 participants were discarded because they did not complete the training protocol. The final sample consisted of 77 participants ( $Mage = 22.80$ ,  $SDage = 2.73$ ; 10 males;  $N_{control} = 47$ ,  $N_{training} = 30$ ). Participants completed measures of anxiety, test anxiety and attentional control before, after, 1 and 7 weeks post intervention. At the end of each session, participants were asked to rate how successful they think they were during the task; how motivated they were to perform the task; and how anxious they felt.

## **Results**

Results showed that adaptive dual n-back training resulted in reductions in trait anxiety post intervention with training-related gains in reductions in test anxiety correlating with perceived success in training. However, no group differences were found at follow-ups.

## **Discussion**

Our results extend previous research significantly, to show that adaptive dual n-back training can reduce the adverse effects of real life stressors, and emphasizes the role of motivation in training-related gains. Future studies are recommended implementing booster sessions or combining WM training with other intervention techniques (i.e. mindfulness training, cf. Course-Choi et al., 2017) to maximize long-term benefits of training.

## **Cross-Cultural Comparison of Social Anxiety Symptoms During a Social Interaction Task**

**Satoko Sasagawa, Mejiro University, Japan**

**Kentaro Shirotaki, Musashino University, Japan**

**Cecilia A. Essau, Roehampton University, United Kingdom**

### **Introduction**

Previous studies have found cultural differences in the expression of social anxiety disorder. Participants from the Eastern culture tend to score higher than their counterparts from the Western culture on subjective measures of social anxiety. However, to date, there has been a limited number of empirical studies on whether socially anxious individuals differ across cultures in their manifestation of behavioral and physiological symptoms. The purpose of the present study was to make a comparison between U. K. and Japan on measures of subjective, physiological, and behavioral symptoms of anxiety during a social interaction task.

### **Method**

Three hundred and seventy participants rated themselves on subjective measures of social anxiety and Taijin Kyofusho. 50 undergraduate students (30 from U. K. and 20 from Japan), who scored high on the measures and agreed to participate in a social interaction task, were instructed to maintain a 15-minute informal conversation with a confederate whom they were not previously acquainted with. The conversation was videotaped, and heart rate, blood pressure, and SUD levels of each participant during the task were recorded every 2 minutes. The conversation was later quantified by 3 independent raters for 12 behavioral categories (e.g. “nod”, “laugh”, “repeat the other person’s words”). The conversation was divided into 6 segments (2 minutes each, 12 minutes total, set accordingly with the measurement of physiological symptoms), and the raters determined whether each behavioral category was present during a particular segment. Inter-rater reliability was high, and disagreement was resolved.

### **Results**

The Japanese sample exhibited more relationship maintenance behavior (e.g. “nod”, “laugh”, “repeat the other person’s words”, “seek other person’s consent/ approval”), while the U. K. sample showed more movement (e.g. “sway”, “twirl a pen”). Correlations between social anxiety and Taijin Kyofusho measures, decrease in SUD, decrease in physiological symptoms, and the frequency of each behavioral category was calculated. Results showed that the correlation between physiological symptoms and subjective anxiety was stronger in Japan than in U.K. In both countries, more movement was observed when SUDs decreased. In U.K., “filler words (ums and ahs)” was a strong predictor of increase in subjective anxiety, while in Japan, relationship maintenance behavior was associated with a decrease in SUDs.

### **Discussion**

In U.K., communication fluency and getting a clear message across were important factors to reduce social anxiety. In Japan, examining how others are reacting to one’s speech and maintaining relationship had a stronger impact on subjective levels of anxiety. Treatments such as social skills training need to consider functional differences a behavior may possess within different cultures.

## **What Can Be Achieved in One Week? Effects of Short iCBT Program on Self-Focused Attention**

**Katrin Schoenenberg & Alexandra Martin, University of Wuppertal, Germany**

### **Introduction**

The evaluation of online therapy commonly investigates full treatments programs (Andrews, Cuijpers, Craske, McEvoy & Titov, 2010; Carlbring, Andersson, Cuijpers, Riper, & Hedman-Lagerlöf, 2018; Kampmann, Emmelkamp & Morina, 2016). Little is known about the effects of isolated treatment components addressing specific mechanisms. In social anxiety and body dysmorphic disorder self-focused attention represents an important maintaining factor which is typically addressed in CBT and iCBT. The present study investigates the effect of a one week iCBT program on self-focused attention in people with subclinical social anxiety and body dysmorphic symptoms.

### **Method**

After a positive screening, participants (N = 147; NSAD = 63; NSAD+BDD = 79; NBDD = 5) were randomized to either an intervention or a waiting list control group. The intervention group started immediately with the program. The waiting group crossed-over in the second week. The self-help program comprised a short introduction into the topic, an observation task, an audio instruction on focusing on the different senses and three behavioural experiments. Self- and other focused attention (SFA and OFA), fear of negative evaluation (FNE), rumination (RUM) were assessed pre and post intervention, and at a short-term follow-up one week post intervention. Intention-to-treat (ITT) and completer analyses were conducted.

### **Results**

Post intervention ITT analysis showed significant interaction effects for SFA (p = .027), FNE (p = .026) and RUM (p = .003). Post-hoc tests using Bonferroni adjustment of alpha showed significant reductions in the intervention but not in the waiting group. Improvements of the intervention group were stable at follow-up. Results were similar in completer analyses.

### **Discussion**

A one week iCBT program on self-focused attention positively affected ratings of self-focused attention, fear of negative evaluation and rumination. The results are promising given the restricted scope of the intervention.

## **The Effects of Changing Cost Bias in Cognitive Behavior Therapy Programs for Japanese Patients with Social Anxiety Disorder**

**Kentaro Shirotaki, Musashino University, Japan**

**Yoshio Kodama, Tokorozawa Mental Clinic, Japan**

**Shota Noda, Musashino University, Japan**

**Mutsuhiro Nakao, International University of Health and Welfare, Japan**

### **Introduction**

The cognitive-behavioral model suggests that probability and cost estimates are related to anxiety in social situations (Rapee & Heimberg, 1997). Previous studies have also suggested that the cost bias strongly predicts symptoms of social anxiety disorder (SAD). Therefore, it is important to understand the role of cognitive functions in Cognitive Behavior Therapy (CBT) of SAD. We investigated the effects of changing the cost bias in cognitive behavior therapy programs on Japanese SAD patients. They took part in an eight-session, individual CBT program consisting of psychoeducation, speech exposure, cognitive restructuring, and video feedback. The Ethics Committee of the author's affiliated university approved the protocol of this study. The written consent forms of all participants were obtained before the start of present program.

### **Method**

Japanese SAD patients (N = 22, 12 males and 10 females; Mean age = 31.20, SD = 9.97) participated in this study. The participants responded to the Japanese version of the Liebowitz Social Anxiety Scale (LSAS; Asakura et al., 2002), the Social Cost/Probability Scale-cost bias scale and probability scale (SCOP; Shirotaki & Nomura, 2009), the Short Fear of Negative Evaluation Scale (SFNE; Sasagawa et al., 2004), and the Japanese version of Speech Perception Questionnaire (SPQ; Shirotaki et al., 2010). We divided the participants into a highly changed cost bias group (HG; n = 11) and a lower changed cost bias group (LG; n = 11) based on median values on the change from pre-scores to post-scores of the SCOP-cost bias scale.

### **Results**

The results of a group  $\times$  time ( $2 \times 2$ ) ANOVA of the LSAS-fear, the SFNE and the SCOP-probability scale scores showed significant interactions ( $F[1, 20] = 5.52, p < .05$ ; and  $F[1, 20] = 4.55, p < .05$ ;  $F[1, 20] = 17.61, p < .01$ , respectively). Also, a significant time effect was only indicated for the SPQ score ( $F[1, 20] = 16.96, p < .01$ ). There was no significant difference in LSAS, SCOP, SFNE, and SPQ scores in the pre-treatment period. We calculated effect sizes (Cohen's *d*) to assess the degree of change in LSAS-fear score in the two groups. Cohen (1988) has proposed that effect sizes be categorized Small (0.20–0.49), medium (0.50–0.79), and large (0.80 or more). Based on Cohen's classification, changes in LSAS-fear had a large effect on HG ( $d = 1.29$ ) and a medium effect on LG ( $d = 0.79$ ).

### **Discussion**

These results suggest that changing the cost bias has a significant effect on improving SAD symptoms. The results also showed large effect sizes of LSAS-fear on the Highly changed group. Similar to previous studies, these results indicate that reducing LSAS-fear is an important factor in SAD treatment, which is suggestive of the importance of reducing the cost bias by CBT. Future research is required to identify specific intervention techniques for reducing the cost bias.

## **Intolerance of Uncertainty, Anxiety, and Autistic Symptoms in a Young Adult Non-Clinical Sample**

**Meropi Simou, Aristotle University of Thessaloniki, Greece**

**Gregoris Simos, University of Macedonia, Greece**

### **Introduction**

Intolerance of uncertainty (IU) was originally conceptualized as a broad construct that reflects cognitive, emotional, and behavioral reactions to uncertainty in everyday life situations; consequently people with IU may engage in worry in order to increase their sense of certainty and control every time they are faced with ambiguity (Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994). Since then, research has shown that IU is a transdiagnostic cognitive vulnerability factor to almost all anxiety disorders (Shihata, McEvoy, Mullan, & Carleton, 2016), and thus IU is perceived as a dispositional characteristic that reflects a set of negative beliefs about uncertainty and its implications (Dugas & Robichaud, 2007). IU seems to be a dimensional construct across nonclinical and clinical samples and not simply an aspect of anxiety (Carleton et al., 2012). Autistic characteristics also seem to lie along a dimension; at the one end there is a lack of any, even mildest, autistic symptom, on the opposite end there are diagnosable Autism Spectrum Disorders, whereas in between, there are people with mild, non-significantly clinical or subthreshold autistic symptoms. This in-between category has recently become the focus of scientific research. Recently also, a couple of researches have also implicated IU in anxiety related to childhood and adolescence Autism Spectrum Disorders; IU appears to mediate the association of ASD with anxiety.

### **Method**

Aim of the present study was the study of autistic characteristics, IU and anxiety in a non-clinical young adult sample of a mean age of 27.5 (SD: 4.8) years. Autism Spectrum Quotient (ASQ), Intolerance of Uncertainty Scale-Short Form (IU-SF), Generalized Anxiety Disorder-7 (GAD-7), and the Anxiety Scale of the Depression Anxiety Stress Scale-21 (AS-DASS21) were administered to 299 study participants.

### **Results**

ASQ total score, ASQ-Social Skills and ASQ-Communication skills subscales correlated significantly to IU total score, IU-prospective anxiety (IU-PA), IU-anticipatory anxiety (IU-IA), AS-DASS21 and GAD-7. A series of consecutive partial correlation analyses where the influence of IU total, IU-PA and IU-IA was taken into consideration, showed that IU mediated either partially or completely the relationship between ASQ subscales and anxiety. Consequent regression analyses confirmed the unique and significant predictive role of IU-Inhibitory Anxiety.

### **Discussion**

Present results confirm previous findings on the aetiological role of the intolerance of uncertainty in the induction of comorbid anxiety symptoms in autism spectrum manifestations, and unveil the even more significant role of behavioral inhibition or avoidance response paralysis of cognition and action in the face of uncertainty (IU-Inhibitory). Taking it a bit further, we could agree with the Boulter, Freeston, South, & Rodgers (2014) speculation that high-level of restricted and repetitive behavior, as well as insistence on sameness, may represent attempts by children to make life as predictable as possible in the face of the intolerability of uncertainty and predicted lack of safeness. Our findings have both theoretical implications, and also implications for clinical practice; CBT interventions targeting IU in the context of anxiety related to autism spectrum problems may be a helpful option.

## **The Role of Mental Images in Reducing Test-Anxiety: Feasibility of a New Short Intervention**

**Zrinka Sosic-Vasic, Caroline Schaitz, Julia Kröner & Anna Maier, University Hospital of Ulm, Germany**

### **Introduction**

Mental images play a crucial role in anxiety disorders. We therefore explored the frequency of mental images in test-anxiety and the resulting burden of those affected within an online survey. Furthermore, since recent studies have shown promising first evidence for the effectiveness of modulating mental images in test anxiety, we additionally tailored a two-session program of Imagery Rescripting-based (IR) test-anxiety reduction. During two sessions clients are guided to create new mental images related to the experience of coping with test-anxiety. Feasibility in terms of treatment acceptance and safety was evaluated.

### **Method**

The online survey included 300 subjects answering questions regarding test anxiety (PAF), depression (BDI-II-R), self-efficacy (WIRKALL and WIRKSTUD), and several instruments for the exploration of mental images (IFES, SUIS, VVIQ). For the sake of the feasibility study, 9 participants suffering from test-anxiety were treated with this new approach. Test-anxiety (PAF), depression (BDI-90), life satisfaction (FLZ), and self-efficacy (WIRKALL and WIRKSTUD) were recorded prior to the treatment (t1) and post treatment (t2). At t2 the satisfaction of the participants with the procedure using the ZUF-8, VEV and BFTB was also recorded.

### **Results**

In the online survey 55.8 % of the participants reported test-anxiety related mental images. In 78 %, these occurred even outside the exam period. For 85 % the images were unpleasant. Results of the feasibility study did not record any symptom exacerbation from t1 to t2 as indicated by mild score improvement in BDI, WIRKSTUD and WIRKALL. Only in PAF there was a slight, but not significant, increase of the values. In ZUF-8, VEV and BFTB there was continuously high to medium acceptance and satisfaction of the subjects with the Imagery Rescripting procedure. Also, no drop-out-rates were recorded.

### **Discussion**

Adverse mental images related to test anxiety are a common feature among students. Data from our feasibility study suggest that this short-term intervention is safe and acceptable for students with test-anxiety. However, the study is limited by the small sample size and lack of a control group. In the course of a randomized controlled trial, we want to investigate this question.

## **Patient Preferences for Intensive Versus Spaced Delivery of Internet CBT for Panic Disorder**

**Eileen Stech & Jill Newby, University of New South Wales, Australia**

### **Introduction**

Internet-delivered cognitive behavioural therapy (CBT) is effective for treating various anxiety-related disorders. However, internet CBT takes approximately 8-12 weeks and some patients may desire faster outcomes. Research from the face-to-face literature suggests that CBT can be successfully delivered in an intensive format (e.g., in one week) for a range of anxiety disorders. To date, there has been no attempt to deliver internet CBT for any anxiety disorder in an intensive format, and it is unknown whether patients would be interested in this option.

### **Method**

We conducted a survey of 174 treatment seeking individuals, who were applying to participate in clinical trials of internet CBT for panic disorder. Participants were asked whether they would prefer to complete internet CBT in an intensive (1 week) or spaced (8 weeks) format. Participants indicated the perceived advantages and barriers for their participation in intensive internet CBT.

### **Results**

Results suggest that a subset of patients would prefer intensive delivery of internet CBT, to expedite their improvement. Participants preferring intensive delivery typically reported severe panic symptoms, with onset more than 10 years ago.

### **Discussion**

This study makes a novel contribution to the literature on patient preferences related to internet CBT for panic disorder. Replication of the study for other anxiety presentations is warranted, and further research is needed to explore the feasibility and efficacy of intensive internet CBT. Increasing public awareness of various treatment formats is an important consideration for future dissemination of CBT.

## **Internet-Delivered Cognitive Behavioral Therapy for Panic Disorder with or Without Agoraphobia: A Systematic Review and Meta-Analysis**

**Eileen Stech, Jaclyn Lim, Emily Upton & Jill Newby, University of New South Wales, Australia**

### **Introduction**

Several independent research groups have developed internet-delivered cognitive behavioral therapy (iCBT) programs for panic disorder. Past reviews have assessed the efficacy of iCBT for anxiety disorders broadly, with limited information and analysis specific to panic disorder. No previous review has examined the impact of iCBT on agoraphobia symptoms. A more comprehensive review and meta-analysis was needed to inform directions for future research.

### **Method**

This systematic review and meta-analysis included 27 studies evaluating the efficacy or effectiveness of iCBT for panic disorder, including RCTs, non-randomised trials and open trial designs. The primary outcomes were measures of panic and agoraphobia symptoms at post-treatment. We also extracted data on treatment components, adherence, adverse events and outcome measures at follow-up.

### **Results**

The mean uncontrolled effect size for iCBT from pre- to post-treatment, was large for panic symptoms ( $g=1.16$ ) and medium to large for agoraphobia symptoms ( $g=.73$ ). Uncontrolled effect sizes were maintained at 3-6 month follow-up. iCBT outperformed waiting list or information controls for both panic and agoraphobia symptoms, and appeared equivalent to face-to-face CBT. Subgroup analyses of length of program, inclusion of anxiety management strategies, and degree of clinician support did not reveal significant differences. Mean effect sizes were larger in efficacy trials, though remained large in effectiveness studies.

### **Discussion**

These findings show that iCBT is effective in reducing panic and agoraphobia symptoms. Further research is needed to refine programs (via dismantling studies) and guide implementation in usual care settings.

## **Does Attentional Bias to Negative Information Causally Contribute to Diminished Anxiety Dissipation?**

**Stephanie Stevens, Colin MacLeod & Lies Notebaert, The University of Western Australia, Australia**

### **Introduction**

There is currently strong evidence to suggest that negative attentional bias causally contributes to increased Anxiety Reactivity (a heightened readiness to experience an increase in state anxiety in response to a stressor). However, it remains unknown whether negative cognitive biases causally contribute to diminished Anxiety Dissipation (experiencing a slower rate of decline in state anxiety following its evocation). Many researchers have also sought to develop a variety of novel CBM-A tasks with the aim of creating a CBM-A approach that is more capable of producing a group difference in attentional bias than the traditional Dot Probe CBM-A manipulation. To date, the Emotion-in-Motion CBM-A manipulation perhaps offers the best alternative to the Dot Probe CBM-A manipulation. The current study was designed to determine whether a CBM-A procedure that successfully creates a group difference in selective attentional responding to negative information also serves to produce a group differ

### **Method**

Participants were allocated to either the Benign CBM-A Condition, designed to encourage an attentional bias away from negative information (i.e. target box to track contains a happy face), or the Control CBM-A Condition, that was configured in a manner that did not encourage a directional attentional bias (i.e. the target box contains a happy face in half of the games and an angry face on the other half of the games). The percentage of time that the participants correctly tracked the target box with the mouse cursor was recorded and used to calculate attentional bias to negative information. In order to assess for the impact on Anxiety Dissipation, sState anxiety was increased by exposing participants to a speech stressor and was measured at five minute intervals across a 40 minute period subsequent to the speech stressor.

### **Results**

The results revealed that participants in the Control CBM-A Condition showed a significantly greater attentional bias to angry faces post training, as compared to participants in the Benign CBM-A Condition. Therefore, the Emotion-in-Motion CBM-A manipulation was effective in modifying attentional bias. The results also showed that the stressor significantly induced a heightened state of anxiety for both groups. However, there were no significant trends showing a progressive decline in state anxiety over time. As such, it is evident that Anxiety Dissipation did not occur in either group. This suggests that there was no difference between the two CBM-A Conditions in changes to state anxiety over time.

### **Discussion**

A particularly important finding in the current study is that the Emotion-in-Motion CBM-A manipulation has been successful in producing a group difference in attentional bias, which supports the notion that the Emotion-in-Motion CBM-A manipulation is more effective than the Dot Probe CBM-A manipulation. This may be the first indication that CBM-A does not causally contribute to diminished Anxiety Dissipation. However, further research is required to determine the optimal task features for both modifying attentional bias to negative information and increasing Anxiety Dissipation, as will be discussed further.

## **The Relationship Between Negative Urgency and Attention Processes in People High in Generalized Anxiety Disorder Symptoms**

**Kathleen Stewart, Leah Sack & Naomi Koerner, Ryerson University, Canada**

### **Introduction**

Negative urgency (NU) is an emotion-based disposition to behave impulsively when distressed. NU has been associated primarily with externalizing behaviours such as pathological gambling, substance use, compulsive shopping, and binge-eating and purging (e.g., Anestis, Selby, & Joiner, 2007). However, recent research by our group has shown NU to be positively associated with generalized anxiety disorder (GAD) symptoms and worry-relevant cognitive processes such as intolerance of uncertainty and the tendency to interpret ambiguous information as threatening (Pawluck & Koerner, 2016). There is a dearth of research on whether NU is associated with attention processes that are implicated in GAD, such as attentional bias to threat, attention control difficulties, and lower mindfulness. There is theoretical reason to suspect that those who act rashly in response to negative emotion would 1) have greater difficulty disengaging from negative stimuli (bias) 2) have a decreased ability to control and shift the focus of their attention (control) and, 3) have greater difficulty staying in the present moment when distressed (mindfulness). The present study aimed to examine the relationship between NU and behavioural and self-report measures of these attention constructs.

### **Method**

Community participants high in GAD symptoms (N = 55 to date; data collection on track for completion by March 2019) completed behavioural measures of attentional bias to threat (dot-probe task) and attention control (Attention Network Task). They also completed self-report measures of attentional control abilities (Attention Control Scale) and the ability to focus on the present moment, even in the face of distress (Southampton Mindfulness Questionnaire). Based on the relationship between worry and NU, and worry and attention processes, participants completed the Penn State Worry Questionnaire, which was used to control for level of trait worry.

### **Results**

NU was not associated with performance on the behavioural measures of attention bias ( $B=.00, p=.98$ ) or attention control ( $B=.01, p=.96$ ). It also was not associated with self-reported attentional control ( $B=-.21, p=.11$ ). However, greater NU was significantly associated with lower mindfulness ( $B=-.44, p<.001$ ), even when controlling for severity of trait worry.

### **Discussion**

Results suggest that the disposition to behave impulsively when distressed may not be related to actual impairment on behavioural measures of attention. It also appears that NU is not related to perceptions of one's own ability to focus and shift attention. However, in people high in GAD symptoms, NU is associated with lower self-reported mindfulness. This suggests that individuals high in NU believe that they cannot control their attention in the face of distress. In the future, it will be interesting to test whether this relationship manifests using behavioural measures of mindfulness. It is possible that NU may exacerbate the belief that one cannot control their attention when distressed, contributing to low confidence in the ability to regulate emotional experiences, which could increase subsequent maladaptive coping behaviour. This hypothesis also awaits testing.

## **The Role of Mindfulness on Social Anxiety and Procrastination**

**Guliz Zeynep Tarman & Berna Sari, Uskudar University, Turkey**

### **Introduction**

Social anxiety is persistent fear in social or performance related situations and accompanied by distress related to negative evaluation by others. In order to reduce the risk of humiliation, anxiety provoking social situations are either avoided or if the avoidance is not possible, safety behaviours, such as procrastination, are used (Salkovskis, 1991). Therefore, social anxiety may be altered by procrastination, yet it may create impairments both in social and academic life. However, being aware of the link between social anxiety and procrastination may possibly alleviate this association. Accordingly, mindfulness, focusing and acknowledging the facts at the moment without further interpretation (Kabat-Zinn, 1990) can potentially modulate the relationship between social anxiety and procrastination. However, limited information is available regarding to this issue.

### **Method**

Hence, the present study aimed to clarify the characteristics of social anxiety and procrastination in relation to mindfulness in healthy samples. Firstly, participants will be asked to complete a battery of self-report questionnaires: Liebowitz Social Anxiety Scale (LSAS), General Procrastination Scale (GP) and Mindful Attention Awareness Scale (MAAS). Following the questionnaires, participants were asked whether they wanted to perform an academic presentation in front of the university students and faculty members in which their presentation skills will be judged and evaluated by a group of university professors in advance for an extra course credit. Interested participants will be given three-week options starting with the subsequent week of the current study. Such a presentation will not take place. It will only be used to assess procrastination behaviour in relation to social anxiety. All participants will receive an extra course credit.

### **Results**

(Currently in progress). In this study, we will compare individuals who wants to present to the ones who do not and who choose the closest and uttermost dates as predictors of procrastination behaviour. In particular, we expect, in an anxiety provoking situation, despite their high levels of anxiety, participants who has higher levels of mindfulness will be less likely to procrastinate.

### **Discussion**

(Currently in progress). Possible theoretical and clinical implications will be discussed within the framework of social anxiety and procrastination literature.

## **Neural Correlates of Self-Focused Attention and External Attention Bias in Social Anxiety**

**Nozomi Tomita & Hiroaki Kumano, Waseda University, Japan**

### **Introduction**

Social anxious individuals have internal and external attention bias. The internal attention is called “self-focused attention”, whereas the external attention is called “external attention bias”. Only a few studies have compared directly self-focused attention and external attention bias in social situations. Tomita and Kumano (under submission) investigated brain activity changes following each manipulation of inward and outward attentional instructions during speech tasks to visualize the difference between self-focused attention and external attention bias in social situations. The findings showed hyperactivity in the right frontopolar area of the brain in the self-focused attention condition. In contrast, there was hyperactivity in the left superior temporal gyrus in the external attention bias condition. In this study, we investigated whether the hyperactivities in these brain regions are found in high social anxiety individuals even without attention manipulation instructions.

### **Method**

Forty healthy participants underwent the speech tasks in front of the four audiences who acted positive, negative, or neutral gestures, respectively. The speech tasks consisted of two conditions, no-instruction condition (speaking freely) and control condition (controlling attention biases). The participants’ brain activities during each speech task were measured with near-infrared spectroscopy. After each speech task, the participants evaluated the subjective degree of self-focused attention and external attention bias during the speech by questionnaire measurement. Then, we compared the brain activity between the two conditions in the group with high social anxiety and that of low social anxiety, respectively.

### **Results**

In the group with high social anxiety, there were more increases in the oxy-Hb in the region of interest of the right frontopolar area and incidentally in the left superior temporal gyrus in no-instruction condition than in control condition. In addition, there was a correlation between the oxy-Hb in the right frontopolar and subjective measurement of self-focused attention, whereas there was a correlation between that in the left superior temporal gyrus and that of external attention bias. However, there were no significant increases and correlations in the group with low social anxiety.

### **Discussion**

There were hyperactivities in the right frontopolar area and in the left superior temporal gyrus only in the group with high social anxiety even without the attention manipulation instructions used by Tomita & Kumano (under submission). These results suggested that these brain regions will be useful as the objective measurements of self-focused attention and external attention bias in social anxiety. Future studies should investigate the relationship between the self-focused attention and external attention bias in the patients with social anxiety and in other social situations.

## **Psychological Profiles and the Prognosis of Patients with Non-Cardiac Chest Pain**

**Marie-Andree Tremblay & Isabelle Denis, Université Laval, Canada**

**Stéphane Turcotte, Centre de recherche du Centre intégré de santé et de services sociaux de Chaudière-Appalaches, Canada**

**Richard Fleet, Clermont Dionne & Guillaume Foldes-Busque, Université Laval, Canada**

### **Introduction**

Multiple psychosocial factors have been associated with the development and maintenance of non-cardiac chest pain (NCCP). A recent study identified three main psychological profiles in patients with NCCP: patients with anxiety disorders (AD), patients with elevated heart-focused anxiety (HFA) and patients with low HFA. Preliminary analyses revealed that these profiles may differ in terms of NCCP prognosis. This study aims to prospectively assess how the 2-year course of NCCP-related impairment and quality of life differ according to the patients’ psychological profile.

## **Method**

Adult patients who consulted in two emergency departments with NCCP were consecutively recruited. They completed a baseline phone interview and questionnaires assessing the presence of AD, HFA as well as quality of life and NCCP-related impairment. Follow-up phone interviews and questionnaires were administered 6 months, 12 months and 2 years later. Chi-square tests and repeated measures ANOVAs were used to compare the 3 clinical profiles regarding the course of NCCP-related impairment and quality of life at 6, 12 and 24 months (AD group, elevated HFA group and low HFA group).

## **Results**

The sample comprised 472 patients (mean age 55.5 years, standard deviation = 14.5; 52.3% females). Patients with AD were more likely to report persistent NCCP-related impairment than those with elevated HFA (30.1% vs 19.2%,  $p < 0.01$ ). The rate of NCCP-related impairment was the lowest in patients with low HFA (12.4%,  $p < 0.01$ ). Physical quality of life (PQOL) improved significantly for all patients ( $p < 0.01$ ), although no significant group x time interaction was found ( $p = 0.10$ ). The mental quality of life improved over time in patients with AD and elevated HFA, but all groups remained statistically different (AD < elevated HFA < low HFA;  $p < 0.05$ ).

## **Discussion**

Given their differential prognosis, classifying patients with NCCP in clinically relevant subgroups may allow for a better understanding of their specific short and long-term needs. More precisely, results from this study suggest that elevated anxiety symptoms have a significant negative impact on the prognosis of patients with NCCP. Such data could be used to improve care and develop group-specific interventions in this population.

## **Social Anxiety Disorder in Children: Investigating the Relative Contribution of Automatic Thoughts, Repetitive Negative Thinking and Metacognitions**

**Monika Walczak, Barbara Hoff Esbjørn, Sonja Breinholst & Annette Falch, University of Copenhagen, Denmark**

### **Introduction**

Introduction: Social anxiety disorder (SAD) is common in youth. However, our understanding of SAD in children is inferior to that of our knowledge of SAD in adolescents. The aim of this study was to investigate maintenance mechanisms of childhood SAD by examining the relative contribution of social threat negative automatic thoughts (NAT-ST), positive automatic thoughts (PAT), repetitive negative thinking (RNT), and metacognitions in a clinical child sample presenting different types of anxiety disorders.

### **Method**

Method: A total of 122 clinically anxious children aged 7-13 years were included in the study. Of these 33 had a SAD diagnosis. Diagnostic status was determined using ADIS-c/p. SAD symptoms, positive and social threat negative automatic thoughts, repetitive negative thinking and metacognitions were obtained using child reports. Spearman's rho was used to investigate correlations between variables. Mann-Whitney U test was used to test for group differences between children with and without SAD. Hierarchical linear regression analysis was used to investigate prediction of social anxiety symptoms. Binary logistic regression analyses were conducted to investigate the specificity of the predictor variables in predicting the presence of a social anxiety diagnosis versus other anxiety diagnoses.

### **Results**

Results: SAD symptoms correlated positively with RNT, metacognitions, and NAT-ST, and negatively with PAT. Children with SAD reported significantly more NAT-ST than those without. Linear regression revealed that of the variables of interest only NAT-ST provided a unique contribution to the model. Logistic regression revealed that NAT-ST, a higher number of diagnoses, and RNT were the only significant predictors specific for a SAD diagnosis. Similar analyses using generalised anxiety disorder (GAD), separation anxiety disorder or specific phobia versus all other anxiety disorders as the outcome variable revealed that repetitive negative thinking was the only shared predictor for SAD and GAD.

### **Discussion**

We employed different analytic strategies to investigate the role of social threat negative automatic thoughts, positive automatic thoughts, repetitive negative thinking and metacognitions in the maintenance of childhood SAD. We investigated correlations, group differences and predictions of SAD symptoms and diagnoses. The only factor that was found to be specific for SAD symptoms and diagnoses was social threat negative automatic thoughts. Repetitive negative thinking was found to be a shared cognitive strategy in children with SAD and GAD.

## **When is a Phobia Not a Phobia? A Systematic Review of the Focus and Impact of Psychological Interventions for Emetophobia**

**Sasha Walters, Berkshire Child and Adolescent Mental Health Service and University of Reading, United Kingdom**

**Brynjar Halldorsson & Cathy Creswell, University of Reading, United Kingdom**

### **Introduction**

Emetophobia is a disabling condition with an estimated prevalence rate ranging from 0.2% life time prevalence to 7% point prevalence (Keyes et al, 2018). Despite the significant impact this disorder can have, it is not well understood and is considerably under-researched. Currently emetophobia is classified as a specific phobia which falls in the 'other' category within DSM-V. However, there are no treatment guidelines identified in NICE for treating specific phobia. Furthermore, it is often misdiagnosed as OCD or Panic Disorder and it is consistently identified as a hard to treat disorder by clinicians (Veale and colleagues, 2009; 2016). The aim of this review was to synthesize the small but emerging evidence base describing the content and impact of psychological interventions for emetophobia in order to improve awareness of treatment options.

### **Method**

Online search databases (PubMed, Scopus, PsychINFO, Google Scholar and WEB of SCIENCE) were explored using broad search terms related to emetophobia and fear of vomit. A manual search of individual reference lists was also completed identifying group, single case design and an RCT study that met pre-determined inclusion criteria.

### **Results**

Results indicate that CBT is the primary method of treatment but there is a lack of consistency across studies in terms of duration of treatment, targets for intervention and components of CBT that are incorporated. There is also a lack of consistency in measures used to evaluate the treatment.

## Discussion

There is a dearth of literature providing gold standard evaluation of treatment for emetophobia. Of the studies that exist, the majority report on a single case design with no comparator and limited generalisability. Interventions vary in their treatment of the specific phobia employing exposure therapy to the feared stimulus versus a transdiagnostic CBT approach to anxiety. Consistent with conclusions drawn by Keyes et al (2018), there is a need for more RCT studies in order to develop our understanding of effective treatment and clarify diagnostic criteria.

## Classical Conditioning of Odor and Relaxation in University Students

Mizuki Watanabe & Fumito Takahashi, Shinshu University, Japan

### Introduction

Previous research on olfactory conditioning has demonstrated that ambient odors could be conditioned by negative emotional reactions (Herz et al., 1999). Little is known, however, about whether olfactory stimulation could be conditioned by positive emotional reactions. In this article, we aimed to examine whether odors can become conditioned to relaxation, which is a typical positive response used in classical counter-conditioning to anxiety.

### Method

A total of 35 university students were randomly assigned to following three groups; same-odor group, different-odor group, and control group. Participants were asked to complete measurement, five-minute speech, and conditioning phase. This sequence of procedures was conducted twice per person. After the second sequence, participants completed third measurement. We used the State Trait Anxiety Inventory A-State (STAI: Spielberger et al., 1970), the Visual Analog Scale (VAS), heart rate, and number of blinks as the indices of anxiety. In the conditioning phase, the same-odor group and the different-odor group practiced progressive muscle relaxation in the Odor A Room, while the control group did not but stay sit in the same room. In the post measurement phase, the same-odor group and the control group completed measurements in the Odor A Room, while the different-odor group did in the Odor B Room.

### Results

Anxiety indices were into a 3 (group: same-odor vs. different-odor vs. control) by 3 (time: T1 vs. T2 vs. T3) mixed 2-way ANOVA. In the STAI, there was a marginally significant interaction between group and time,  $F(3.49, 55.85) = 2.19, p = .090$ . Bonferroni post-hoc comparisons confirmed that the different-odor group showed lower STAI score at T3 than at T2 ( $p = .003$ ) or T1 ( $p < .001$ ) and the score at T2 was lower than at T1 ( $p = .001$ ). In the control group, the STAI score at T3 was lower than at T1 ( $p = .008$ ). Regarding the VAS, there was only main effect of time,  $F(1.54, 49.14) = 24.81, p < .001$ . In the heart rate, there was a marginally significant interaction between group and time,  $F(2.78, 30.54) = 2.59, p = .075$ . The same-odor group showed lower heart rate at T3 than at T2 ( $p < .001$ ) or T1 ( $p = .026$ ). In the different-odor group, heart rate at T3 were lower than at T2 ( $p = .044$ ). In terms of the number of blinks, there was only main effect of time,  $F(2, 56) = 4.31, p = .018$ .

### Discussion

Our results did not provide clear evidence that relaxation was conditioned by ambient odor. Low number of pairing and low intensity of positive emotional response might explain present results. Further research should explore how many pairings will be needed to classical conditioning of olfactory stimulation to positive emotional responses.

## The Relationship Between the Negative and Positive Interpretation of Self Perception and Social Anxiety

Mikiko Watanabe & Kentaro Shirotaki, Musashino University, Japan

### Introduction

Video Feedback (VF) is suggested as an effective technique of improving negative self-perception in social anxiety. However, in VF sessions socially anxious individuals tend to overestimate their appearance in the video rather than underestimate it. The cognitive distortion related to the negative interpretation of the video is considered to be one of the negative factors of VF. In a previous study, we developed the Video Interpretation Questionnaire (VIQ) which assesses the negative (VIQ-N) or positive (VIQ-P) interpretation of video images (Shirotaki, 2013). In this study, we examined the relationship between VIQ and cognitive and behavioral factors of social anxiety.

### Method

In the current research, 509 college students agreed to complete a questionnaire (average age: 19.1 years,  $SD = 1.28$ ). The questionnaire consisted of the following scales: the Liebowitz Social Anxiety Scale Japanese version (LSAS-J; Asakura et al., 2002), the Short Fear of Negative Evaluation Scale Japanese version (SFNE-J; Sasagawa et al., 2004), the Speech Estimation Scale (SES; Shirotaki et al., 2009), the Fear of Positive Evaluation Scale Japanese version (FPES-J; Maeda et al., 2015), the Self-Rated Depression Scale Japanese version (SDS-J; Fukuda & Kobayashi, 1973), and VIQ-N, VIQ-P (Shirotaki, 2013). The present study was approved by the ethical committee.

### Results

First, a correlation analysis was conducted to reveal the relationship between VIQ and other scales. It was observed that VIQ-N showed a significant moderate positive correlation with LSAS-J, SFNE-J, SES, and FPES-J ( $r = .43, p < .001; r = .42, p < .001; r = .49, p < .001; r = .52, p < .001$ ). VIQ-P revealed a stronger positive correlation with RSES-J ( $r = .47, p < .001$ ). Second, a multiple regression analysis was performed using the stepwise method with LSAS-J as a dependent variable. As a result, the following independent variables were found to be significant: VIQ-N, SFNE-J, FPES-J, and SDS-J.

### Discussion

From the results it can be inferred that the negative, rather than the positive interpretation of self in a video image is related to social anxiety. As in previous studies, the negative interpretation was closely related to the measure of SAD symptoms while the positive interpretation was only weakly correlated with it. Therefore, negative interpretation is thought to be more important in promoting the reduction of SAD symptoms. In addition, the results of the multiple regression analysis, suggested that VIQ and LSAS-J have the same effect as SFNE and FPES-J which is an important maintenance factor.

## **The Attention Bias for Emotional Stimulation in Social Anxiety Disorder Comorbid Depression: An Eye Movement Study**

**Xu Wen, Peking University, China**

**Kishimoto Tomoko, Nankai University, China**

**Mingyi Qian, Peking University, China**

### **Introduction**

Social anxiety disorder and depression are two of common mental disorders, which could impair one's social function, and even threaten one's life. Current epidemiologic studies have shown that patients with comorbid SAD and depression are widely distributed in population. Meanwhile, the rate of comorbidity is relatively high. Attentional bias is one of the most important phenomena in human cognitive processing. Studying attentional bias could help researchers to understand how human cognitive systems process information. In order to understand the cognitive mechanism of comorbidity and provide support for further clinical therapy, researchers need to study comorbidity from multiple cognitive aspects.

### **Method**

By recording participants' eye movement through a free viewing task, Study investigated the pattern of over attention allocation to variety sorts of emotional information on patients with SAD, depression and comorbidity. Participants were asked to free view a pair of emotional faces presented on a monitor. The value of one of pair faces was emotional, the other was neutral. Emotional faces appear randomly on the left or right side of the screen. The emotions of those faces included anger, disgust, sadness and happiness. Eye movement indexes were compared between participants with SAD or depression and participants with comorbid SAD and depression.

### **Results**

The results found that that the pattern of attentional bias on participants with comorbid SAD and depression was different from such pattern on participants with SAD or depression. Compared with participants with SAD, participants with SAD and depression exhibited an advanced vigilance on the early stage and a stronger avoidance patterns of attention to threat faces. At the same time, participants with SAD and depression also exhibited the vigilance-avoidance pattern to sad faces. The pattern of attention allocation on participants with comorbid SAD and depression had two characteristics: (1) Evocation, participants with SAD and depression exhibited a stronger attentional bias towards to negative emotional faces and the vigilance stage was earlier than that of participants with SAD or depression, and (2) Superposition, participants with SAD and depression exhibited a new superposed pattern of attention on the later stage, a combination of subjective attention avoidance common in social

### **Discussion**

In conclusion, the current study investigated the influence of comorbidity on attentional bias. A Superposition and Evocation Hypothesis was proposed, which provided a novel theoretical framework for the cognitive mechanism of comorbidity. More importantly, the current study provided theoretical support for further studies on comorbidity.

## **Testing the Metacognitive Model of Generalised Anxiety Disorder in a Clinical Sample**

**Julia White & Maree Abbott, The University of Sydney, Australia**

**Ronald Rapee, Macquarie University, Australia**

**Lexine Stapinski, University of New South Wales, Australia**

### **Introduction**

Generalised Anxiety Disorder (GAD), characterised by excessive worry accompanied by physiological symptoms of anxiety, is a chronic condition with high levels of comorbidity and associated disability. The metacognitive model of GAD (Wells, 1995) proposes that problematic worry, meta-worry and distress result from the activation of both positive and negative beliefs about worry, and their interaction with ineffective coping strategies such as attempted thought suppression. Although some of the predictions of the model have been supported in community and analogue samples, evidence from clinical samples of people with GAD is lacking.

### **Method**

Adults aged 18-70 years seeking treatment for GAD at a university clinic were assessed with the Anxiety Disorders Interview Schedule for DSM-IV. Those who met criteria for GAD ( $n = 140$ ) completed a battery of self-report questionnaires prior to commencing treatment, including the Metacognitions Questionnaire (MCQ), Penn State Worry Questionnaire (PSWQ), White Bear Suppression Inventory (WBSI), Depression Anxiety Stress Scale – Short Form (DASS-21), Generalized Anxiety Disorder Questionnaire (GAD-Q), and Life Interference Scale for Generalised Anxiety Disorder (LIS-GAD).

### **Results**

Path analysis will be used to evaluate the fit of the data to the metacognitive model of GAD. Specifically, the specified non-recursive model predicts that the relationship between positive and negative beliefs about worry is mediated by worry levels, and that negative beliefs about worry mediate the relationship between worry levels and symptoms of GAD. Further, feedback loops are predicted between negative beliefs about worry and both thought suppression and distress. Goodness-of-fit indices including the comparative fit index (CFI), Tucker-Lewis index (TLI), incremental fit index (IFI), and root mean square error of approximation (RMSEA) will be examined.

### **Discussion**

The theoretical and clinical implications will be discussed, with a particular emphasis on how the results might inform the application of metacognitive therapy for GAD.

## **Women's Experiences of Anxiety During Pregnancy: A Qualitative Study Using Interpretative Phenomenological Analysis**

**Anja Wittkowski & Brendan Hore, The University of Manchester, United Kingdom**

**Debbie M. Smith, Leeds Trinity University and University of Manchester, United Kingdom**

### **Introduction**

Pregnancy encompasses physical, psychological and social changes resulting in a time of transition for women. For many, pregnancy can be a difficult period resulting in increased feelings of anxiety. Although some studies explored antenatal anxiety under the umbrella term of 'distress', an in-depth exploration of the lived experiences of anxiety during pregnancy has so far been lacking. Thus, we aimed to explore this fully as part of a qualitative study.

## **Method**

Seven women, who identified themselves as experiencing anxiety during their pregnancy, were recruited via a maternity service in the North West of England, UK. They participated in semi-structured qualitative interviews. An Interpretative phenomenological analysis (IPA) approach was used to explore these women's lived experiences and as such the sample size was sufficient was deemed suitable.

## **Results**

Four superordinate themes summarised the women's experiences: 1) Adjustment to pregnancy and motherhood and the experiences of anxiety, 2) Unfamiliarity, uncertainty and uncontrollability of pregnancy influences anxiety, 3) Personal and social expectations and pressures of pregnancy and motherhood, and 4) Relying on healthcare systems – the good and bad. Women reported that cognitive and emotional aspects of anxiety impacted their wellbeing in pregnancy. In addition, various personal and social expectations of pregnancy and motherhood increased their experience of anxiety. Women, who were primipara, within the first trimester or experiencing pregnancy complications experienced uncertainty, which subsequently led to increased anxiety. Women highlighted the importance of developing trusting relationships with healthcare staff, which would increase women's confidence in disclosing anxiety.

## **Discussion**

Our findings have clear clinical implications. Healthcare professionals could reduce pregnant women's anxiety by normalising and validating experiences and offering emotional support. Developing information for women regarding the range of physical and emotional experiences, which can occur during pregnancy, might be helpful in normalising experiences and reducing uncertainty and subsequently anxiety. Finally, our study suggests that more specific assessment tools are needed for the better identification of antenatal anxiety.

## **The Impact of Cognitive Restructuring on Post-Event Rumination Among Socially Anxious Chinese Adolescents: An Innovative and One-Session Intervention**

**Meng Yu & Jianping Wang, Beijing Normal University, China**

### **Introduction**

Post-Event Rumination (PER), defined as a consistent and repetitive cognitive process in a detailed review of one's performance, especially negative aspects, following a social event, has increasingly been studied in adults' population. According to the prominent cognitive and behavioral models, PER is viewed as one of the key factors in the maintenance of social anxiety(disorder) and could be effectively improved or treated by Cognitive Behavioural Therapy (CBT). However, research about the specific PER-targeted intervention has received little attention in adults with high level of social anxiety, much less in youth sample. Therefore, the main objective of the present study was to develop socially situation-specified (speech or interaction) realistic thoughts, an innovative and one-session intervention with the rationale of cognitive restructuring, to target PER.

### **Method**

Seventy-three high socially anxious Chinese adolescents (12-16 ages) were recruited and then randomly assigned to Speech (n = 37) or Interaction (n = 36) group. Depression was included as a covariate to control the comorbidity effect. Participants were asked to fill in a package of questionnaires at baseline, and then to report their PER and social anxiety level before and after the cognitive restructuring (i.e., reading the preprogrammed social situation-specified realistic thoughts after experiencing social occasions).

### **Results**

After receiving the PER-targeted intervention, results showed that the post-event rumination and social anxiety scores of participants were significantly decreased. However, compared to Interaction group, the participants who engaged in Speech Task did not show significant difference with respect to the level of rumination and social anxiety.

## **Social Anxiety and Cognitive Flexibility**

**Reut Zabag, Einat Levy-Gigi & Eva Gilboa-Schechtman, Bar-Ilan University, Israel**

### **Introduction**

Social anxiety (SA) is postulated to be associated with a pronounced and consistent tendency for avoidant coping. Despite this theoretical linkage, empirical studies examining the association of SA and cognitive flexibility are sparse.

### **Method**

To enhance fill this gap, we examined the association between SA and cognitive flexibility using a novel task which seeks to examine whether, and to what extent, individuals adapt their behaviour according to environmental changes. The main goal of the task is to learn which stimulus is associated with reward and which is associated with punishment. Correct learning is rewarded by (modest) economic gain. The task includes acquisition and reversal phases. In the acquisition phase, participants learn, by trial and error, that certain individuals differing in their facial expressions (happy, angry and neutral) are associated with punishment, reward, or neutral outcome. Following a successful learning, unbeknown to the participants, the outcome is reversed (reversal phase). Hence, a facial expression that was associated with a punishment is now associated with a reward outcome and vice versa.

### **Results**

Study 1 (n=80 students; 85% female, mean age = 22.4, sd=2.4) has found that SA is linked to an impairment in cognitive flexibility. Specifically, individuals with higher levels of SA exhibited a selective impairment in reversal learning. Whereas individuals low in SA were able to reverse their learning easily, high-SA individuals struggled to learn that a facial expression which was linked to punishment was later associated with a rewarding outcome. Moreover, SA was associated with slower response time in the reversal learning from punishment to reward. Study 2 partially replicated these results in an online diverse sample (n=250, 52% female, mean age =37, sd=10.6). In this study, high SA individuals struggled to learn that an angry facial expression which was linked to punishment was later associated with a rewarding outcome. These effects were found above and beyond the effect of depression.

### **Discussion**

Our studies results shed light on cognitive flexibility, a central psychological structure that was understudied in the context of SA. The results highlight the importance of cognitive flexibility in SA and may broaden current conceptualizations and therapeutic interventions for this disorder.

## **Anxiety in Sport Environment: A Cognitive Representation**

**Yiannis Zarotis & Vaggelis Vartopoulos, Hellenic Society of Cognitive Psychotherapies, Greece**

### **Introduction**

The cognitive approach is the most frequently reported among the therapeutic approaches treating dysfunctional situations in sport environment (Gould, Eklund, & Jackson, 1993). Sport is a field which "releases" dysfunctional thoughts and emotions (eating disorders, panic attacks disorder, social phobia and obsessive compulsive disorders). Anxiety in sport is conceived as a "multidimensional threat", which may be described in many ways through different circumstances. As performance anxiety is a part of the general schemas regarding fear of failure which people develop in performance situations. Sport anxiety is separated in Cognitive anxiety (thoughts for negative evaluation, failure, loss of appreciation) and Physiological anxiety (increased heart rate, body tension, breathing difficulties).

### **Method**

The purpose of this study was a) to interpret anxiety based on a new cognitive model (Papakostas, 2011) and b) to help athletes and specialists understand and copy with anxiety in sport environment. The interpretation of anxiety in the sports context appears to be based on the fraction of: the failure probability x the consequences of failure, divided by the sum of ability plus support. Thirty researchers were asked to group the questions and factors of four questionnaires (most reported in sport psychology literature) that assess anxiety levels in the sport environment. Then, a factor analysis was extracted.

### **Results**

The results revealed that the main competition worries based on cognitive model, included (a) Failure probability (very difficult competition, strange conditions, better opponent), (b) Failure Consequences (coaches/parents criticize, negative feelings-frustration), (c) Ability (well prepared, high level of ability), and (d) Support (my coach/staff/parents support).

### **Discussion**

Key points in this model are: (a) the interpretations of the ability, the perceived support, and the focus on the result. (b) The irrational thinking or cognitive distortions relating to the result and the personal ability - "I'm prepared" and "I feel good" (emotional reasoning). (c) The core beliefs about the value of participation and success. The fraction of anxiety appears to be a first attempt or the basis for the development of a cognitive model for describing the anxiety in sports.

## **Neural Activation During Cognitive Emotion Regulation Predicts Treatment Response to Cognitive Behavioral Therapy for Social Anxiety Disorder**

**Raphaela Isabella Zehner, Marie Kristin Neudert, Rudolf Stark & Andrea Hermann, Justus Liebig University Giessen, Germany**

### **Introduction**

An intense fear of being negatively evaluated by others is characteristic of individuals suffering from social anxiety disorder (SAD). Patients learn how to handle these social fears and anxieties during cognitive behavioral therapy (CBT), the first line treatment for SAD, via cognitive emotion regulation. Nevertheless, many patients remain symptomatic following treatment highlighting the need of reliable predictors of therapy response. Recent studies suggest that neuromarkers outperform predictions based upon behavioral and/or demographic data. Several studies have shown that individual baseline differences in neural response patterns during cognitive emotion regulation including the medial prefrontal cortex (mPFC) and the anterior cingulate cortex (ACC) may factor into symptom reduction following CBT. Thus, brain activation during cognitive emotion regulation seems to be a promising account to target therapy response.

### **Method**

Before a manualized CBT, 25 patients suffering from SAD underwent a functional magnetic resonance imaging session while performing an emotion regulation task. Patients were instructed to either look at or decrease their negative feelings towards aversive pictures and rated their negative feelings after each picture presentation.

### **Results**

On the behavioral level, neither demographic nor the habitual use of different emotion regulation strategies or online ratings foretold a reduction of social anxiety symptoms following treatment. On the neural level, however, results showed, that a higher activity in brain regions relevant for emotion processing (e.g., amygdala) and cognitive control during looking at aversive vs. neutral pictures predicted a higher reduction of social anxiety symptoms when controlled for initial symptom severity. Furthermore, decreased activation in the mPFC and the ACC during emotion regulation (vs. looking at aversive pictures) was associated with greater therapy response.

### **Discussion**

These results confirm assumptions of a predictive value of neuromarkers. Further research is essential to establish reliable neuromarkers to predict therapy response.

## **Transdiagnostic, Evolutionary Processes in Social Anxiety**

**Matteo Zuccala & Maree Abbott, University of Sydney, Australia**

### **Introduction**

The fear of death has been proposed to be an important construct underlying a wide range of anxiety disorders, and therefore a target for transdiagnostic treatment interventions (Iverach, Menzies, & Menzies, 2014). Empirical studies have highlighted its influence in disorders focusing on physical concerns, such as in obsessive-compulsive disorder (Menzies & Dar-Nimrod, 2017). However, whilst there is some evidence that death anxiety also plays a role in social anxiety (e.g. Finch, Iverach, Menzies & Jones, 2016), previous studies have been limited in their methodology. The present study aimed to examine the role of death concerns in social anxiety, and explore whether these processes differ from other anxiety disorders.

### **Method**

Two groups of participants (high vs low social anxiety, as determined by clinical interview) were randomly assigned to receive mortality salience priming or control (uncertainty) salience priming. Participants then completed a task designed to elicit social anxiety (spontaneous speech) and a task designed to elicit physical anxiety (CO<sub>2</sub> inhalation). Subjective ratings of distress, probability/cost estimates, and symptom severity, were recorded before and after each task. Self-reported levels of trait attachment anxiety, social anxiety, and physical anxiety were also collected.

### **Results**

Regression analyses of preliminary results (n=52) indicated that both social and physical anxiety were strongly associated with self-reported death anxiety. However, the relationship between social anxiety and death anxiety became non-significant when attachment anxiety was

controlled for. This was not the case for physical anxiety. Participants in the mortality salience condition were significantly more sensitive to their bodily sensations during the CO<sub>2</sub> inhalation task ( $p=.004$ ), regardless of anxiety group. Mortality salience did not affect anxiety ratings on the speech task for either group.

#### **Discussion**

Overall, preliminary results from this study indicate that, whilst the fear of death is associated with social anxiety, this relationship exists in the context of underlying attachment anxiety. Individuals with social anxiety may be fearful of death because it represents a permanent separation from attachment figures. Therefore, traditional mortality salience priming techniques may not be sufficient to examine the role of the fear of death in social anxiety. The fear of death has a more direct relationship with anxiety about physical consequences. These findings suggest that death anxiety is an important target for transdiagnostic treatment approaches towards anxiety disorders, however underlying attachment anxiety must be taken into account. Further theoretical and clinical implications of these findings will be discussed.

### **A Comparison of the Weakest Link and Additive Model Approach: Relations Between Intolerance of Uncertainty and Anxiety Sensitivity on Depression and Anxiety Symptoms**

**AnnMarie Huet, Ohio University, USA**

**Marija Volarov, University of Novi Sad, Serbia**

**Nicholas Allan, Ohio University, USA**

#### **Introduction**

Numerous models explicating the role of transdiagnostic risk factors in the development of internalizing psychopathology have been developed. One such model, the “weakest link” model posits that an individual’s most elevated risk factor contributes disproportionately to his or her internalizing symptoms. However, this model has only been considered in the context of depression. We posited that intolerance of uncertainty (IU) and anxiety sensitivity (AS) may confer risk for internalizing psychopathology via a weakest link model. The first aim of the study was to compare additive and WL models in the relations IU and AS share with depression. The second aim was to extend this comparison to anxiety symptoms.

#### **Method**

The sample was composed of 239 Amazon Mechanical Turk (Mturk) participants ( $M$  age = 37.97,  $SD$  = 12.06, 32% male) enrolled in an online longitudinal study. At baseline, participants completed the Intolerance of Uncertainty Scale Short Form (IUS-SF), Anxiety Sensitivity Index-3 (ASI-3), Patient Health Questionnaire-9 (PHQ-9), and Brief Penn State Worry Questionnaire (Brief PSWQ). Higher scores of self-reported IU, AS, PHQ-9, and Brief PSWQ indicated greater risk and symptoms.

#### **Results**

In two linear regressions when IU and AS scores were included as predictors of depressive symptoms,  $R^2 = .39$ ,  $p < .001$  ( $N = 239$ ), and anxiety symptoms,  $R^2 = .51$ ,  $p < .001$  ( $N = 239$ ), both models were statistically significant. The weakest link variable was formed based on the highest risk factor score, the additive composite was computed, and four regression models were calculated. In two models when additive scores were used as predictors of depressive symptoms,  $R^2 = .37$ ,  $p < .001$  ( $N = 239$ ), and anxiety symptoms,  $R^2 = .51$ ,  $p < .001$  ( $N = 239$ ), both models were statistically significant. Additionally, in two models when WL scores were used as predictors of depressive symptoms,  $R^2 = .31$ ,  $p < .001$  ( $N = 239$ ), and anxiety symptoms,  $R^2 = .43$ ,  $p < .001$  ( $N = 239$ ), both models were statistically significant. The models including WL scores as well as additive scores as predictors of the outcomes exhibited a suppression effect as WL coefficients’ signs changed. The correlation between

#### **Discussion**

Results suggest both IU and AS seem to play a role in the development/maintenance of symptoms of depression and anxiety. The additive composite of different factors of cognitive vulnerability successfully predicted anxiety and depression, which is in line with traditional perspectives. On the other hand, it would seem that the “weakest link” has its unique contribution as well when using transdiagnostic risk factors to depressive and anxious symptoms. Given the similar effect sizes, additive and WL models appear to predict symptoms of depression and anxiety equally. However, based on the idiographic approach taken in WL models, WL approaches may be more useful in practice as treatments can be tailored based on the risk factor that appears to be an individual’s weakest link.

## Poster Session 2 (12.00-14.30)

### Addictions - English Programme

- 1 **Effect of a Gender Sensitive Cognitive Behavior Therapy Program on Emotion Regulation and Distress Tolerance in Women with Substance Use Disorders: A Study from India**  
Hargun Ahluwalia, Nimhans, India
- 2 **Potions for Emotions: The Role of Impaired Response Inhibition in Emotional Drinking**  
Henry Austin, University of Western Australia, Australia
- 3 **Metacognitive Therapy for Alcohol Use Disorder: A Systematic Case Series**  
Gabriele Caselli, Sigmund Freud University, Studi Cognitivi, Italy and London South Bank University, , UK
- 4 **The Relationship Between the Compulsive Buying Tendencies and Early Maladaptive Schemas**  
Şeyma Çetin, Istanbul, Turkey
- 5 **Injunctive Norms Predict Alcohol Problems: The Impact of Situational Confidence and Gender as Moderators**  
Charlotte Corran, Concordia University, Canada
- 6 **Early Disadaptive Schemes and Alcohol Consumption in College Students**  
Karen Priscila Del Rio Szupszynski, Federal University of Grande Dourados, Brazil
- 7 **Impulsiveness and Emotion Regulation in Binge Watching**  
Lucia Di Guida, Istituto Miller Genova, Italy
- 8 **Groups 4 Belonging – A Group Intervention for People with Addiction that Integrates Social Identity and Cognitive Behavioural Approaches**  
Genevieve Dingle, University of Queensland, Australia
- 9 **The Level of Nicotine Dependence and Motivation to Stop Smoking Among Patients of the Stop Smoking Center Operating at the Lower Silesian Oncology Centre in Wroclaw (Poland) in 2015**  
Anna Dudek, Lower Silesian Oncology Center, Poland
- 10 **The Role of Clinicians' Mindfulness on Treatment Outcomes for Substance-Using Adolescents**  
Susan Evans, New York-Presbyterian Weill Cornell, USA
- 11 **Effectiveness of a Cognitive-Behavioural Treatment Programme for Drug-Addicted Patients with Physical and/or Sexual Lifetime Abuse**  
Javier Fernandez-Montalvo, Universidad Publica de Navarra, Spain
- 12 **Do Metacognitive Beliefs Moderate the Link Between Negative Repetitive Thinking and Alcohol Use Severity?**  
Tristan Hamonniere, Université Paris Descartes, France
- 13 **Metacognitive Beliefs in Problematic Cannabis Use: Preliminary Findings**  
Tristan Hamonniere, Université Paris Descartes, France
- 14 **The Pilot Study of Cognitive Behavioral and Positive Psychological Intervention for Alcohol Addiction**  
Suguru Iwano, Oita University, Japan
- 15 **Differences in Perceived Social Support and Psychological Recovery Through Participation in Self-Help Groups Among Drug Addicts**  
Yumi Kitagawa, Waseda University, Japan
- 16 **Efficacy of a Cognitive-Behavioral Intervention Focused on Support Networks for Addicted Patients in Treatment**  
Diana Laura López Navarro, University of Guanajuato, Mexico
- 17 **Gender Differences in Unidirectional and Bidirectional Intimate Partner Violence in Addictions**  
José J. López-Goñi, Universidad Pública de Navarra, Spain
- 18 **Virtual Approach-Bias Retraining for Smokers Motivated to Quit Smoking**  
Alla Machulska, University of Siegen, Germany
- 19 **Impulsivity and Cognitive Distortions in Different Clinical Phenotypes of Gambling Disorder: Profiles and Longitudinal Prediction of Treatment Outcomes**  
Núria Mallorquí-Bagué, Hospital de la Santa Creu i Sant Pau, Spain
- 20 **Executive Functions and Discounting Function in Adolescents Drug Users**  
Diana Mejía, Instituto Tecnológico de Sonora , Mexico
- 21 **Treatment Effect on Delay and Probability Discounting Rates in Participants with Cocaine Use Disorder**  
Diana Mejía, Instituto Tecnológico de Sonora, Mexico
- 22 **Substance Use Related Beliefs and Inclination for Substance Abuse versus Preventive Efforts Among Adolescents in South India**  
Rajeev Joseph Michael, St. Joseph's Hospital, India
- 23 **Comparison of Psychological Flexibility Between People on Probation for Alcohol-Related Crimes According to the Severity of Their Problematic Drinking**  
Euihyeon Na, Inchoen Chamsarang Hospital, South Korea
- 24 **Implementation of a Cognitive Behavioral Group Therapy Program in Rolling Form for Sexual Addiction Patients: A Pilot Study**  
Kazutaka Nomura, Waseda University, Japan
- 25 **Why Are Caffeinated Alcoholic Beverages Especially Risky?**  
Melissa Norberg, Macquarie University, Australia
- 26 **Challenge your Thinking: Protocol for an Online Unconscious Bias Training Program for Anxiety and Problematic Alcohol Use**  
Katrina Prior, University of Sydney, Australia
- 27 **Fluoxetine Treatment Reduces Alcohol Consumption in Females, but not in Males, Rats Exhibiting Reserpine-Induced Depression**  
Paul Ruiz, Universidad de la República, Uruguay
- 28 **Association Between Psychological Discomfort and Alcohol Consumption in Youth from Uruguay**  
Paul Ruiz, Universidad de la República, Uruguay

- 29 **Online Approach Bias Modification Training with Motivational Feedback in Problem Gambling: Preliminary Results**  
Leroy Snippe, University of Amsterdam, the Netherlands
- 30 **Is Problem Drinking Maintained by Positive Strengthening?**  
Midori Takesawa, Waseda University, Japan
- 31 **Gamification and Cognitive Behavioural Therapy: A Perfect Marriage that is Difficult to Start. A Preliminary Tentative in Addiction Treatment**  
Gabriel Thorens, Geneva University Hospital, Switzerland
- 32 **The Mediating Role of Cannabis Use in the Relationship Between Perceived Psychosocial Stress and Dissociative Experiences**  
Emily Trethowan, Cairnmillar Institute, Australia
- 33 **The Impact of Alcohol on Academic Performance in University Students**  
Mariska van der Hoff, University of Amsterdam, the Netherlands
- 34 **Women, Addiction and Domestic Violence: Are Substance-Dependent Women More Aggressive than Non-Dependents?**  
Irmgard Vogt, Frankfurt University of Applied Sciences, Germany
- 35 **Adolescents with Substance Use Disorder: Exploring Underlying Vulnerability Factors**  
Brenda Volkaert, University of Ghent, Belgium
- 36 **The Relationship Between Digital Game Addiction and Being Neglected By Parents in Adolescence**  
Utku Beyazıt and Aynur Bütün Ayhan, Akdeniz University, Turkey

### Eating Disorders - English Programme

- 37 **Risk Factors Under the Influence: A Cross-Cultural Examination of Eating Disordered Behaviours in the UK and India**  
Latika Ahuja, University of Exeter, United Kingdom
- 38 **The Body Image Matrix of Thinness and Muscularity - Male Bodies (BIMTM-MB): Development and Validation of a New Figure Rating Scale for Male Body Image**  
Rike Arkenau, Osnabrück University, Germany
- 39 **Self-Injurious and Suicidal Behavior in Child and Adolescent Inpatients with Eating Disorders**  
Sabine Arnold, Charité - Universitätsmedizin Berlin, Germany
- 40 **The Short-Term Course of Anorexia Nervosa in Adolescent Inpatients: A Follow-up Study**  
Sabine Arnold, Charité - Universitätsmedizin Berlin, Germany
- 41 **A Two-Hour Emotion Regulation Workshop in Early Adolescents with Obesity: A Feasibility Study**  
Elisa Boelens, Ghent University, Belgium
- 42 **Anorexia Nervosa Without Fear of Weight Gain: Do Implicit Association Tests Confirm Its Validity in a German-Speaking Sample?**  
Tiana Borgers, Osnabrück University, Germany
- 43 **Presentation of a Cognitive and Nutritional Group Intervention in Obese Women**  
Rania Boumi, Hellenic Society of Cognitive Psychotherapies/1st Psychiatric Department, N.K.U.A., Greece
- 44 **Investigation of Outcomes and Mechanisms of Change in CBT Interventions for Weight Loss: A Meta-Analysis of Randomized Clinical Trials**  
Loana Comsa, School of Evidence-based Assessment and Psychological Interventions Babes Bolyai University, Romania
- 45 **Stress and (Un)Healthy Food Behavior: The Moderating Role of Emotional Eating and Emotion Regulation; A Daily Diary Study**  
Taaïke Debeuf, Ghent University, Belgium
- 46 **Drunkorexia: The Role of Personality**  
Lucia Di Guida, Istituto Miller, Italy
- 47 **Building Resilience to Depressive Rumination: The Protective Role of Attentional Avoidance of Thin-Ideal Bodies**  
Laura Dondzilo, University of Western Australia, Australia
- 48 **Moderating Effect of Cognitive Fusion on the Relationship Between Perfectionism and Eating Disorder-Related Symptoms**  
Céline Douilliez, Université Catholique de Louvain, Belgium
- 49 **Attention and Body Dissatisfaction**  
Francisco Esteves, Mid Sweden University, Sweden
- 50 **“I’m Fat, Poor and Ugly. Can’t I even Have the Pleasure of Eating?” – A Case of CBT-E in Severe Obesity and Binge-Eating Disorder**  
Tammy Amaral Ferreira, Rede Mater Dei, Brazil
- 51 **Metacognitive Functioning and Insight in Eating Disorders**  
George Georgantopoulos, Eginition Hospital, 1st Psychiatric Dpt., Medical School, N.K.U.A., Greece
- 52 **Cognitive Mechanisms Underlying Individual Differences in Negative Emotional Consumption of Junk Food**  
Gemma Healey, University of Western Australia, Australia
- 53 **A Comprehensive Assessment of Different Facets of Body Image in Homo-, Hetero- and Bisexual Women and the Influence of Discrimination Experience**  
Alina Henn, Osnabrück University, Germany
- 54 **Issue of Gender? - Subjective Assumptions About the Causes to People’s own Obesity**  
Carmen Henning, Otto-Friedrich-University, Germany
- 55 **Impact of Comorbid Borderline Personality Disorder on Inpatient Treatment Outcome for Bulimia Nervosa: Analysis of Routine Data and Discussion of Transdiagnostic Aspects**  
Johannes Hessler, Schoen Clinic Roseneck, Germany
- 56 **Orthorexia Nervosa; Validation of the Eating Habits Questionnaire**  
Natalie Hirsch, Australian Catholic University, Australia
- 57 **The Effect of Reducing Implicit Approach Toward Foods on Eating Behavior**  
Marise Ishikawa, Waseda University, Japan
- 58 **Longitudinal Bidirectional Associations Between Depressive and Bulimic Symptoms Among High-Risk Female College Students: A Cross-Lagged Model**

- Yoon Hee Kim, Sungkyunkwan University, South Korea
- 59 **A Food-Specific Inhibition Training to Increase Inhibitory Control – A Randomized Controlled Pilot Study**  
Ines Kollei, University of Bamberg, Germany
- 60 **Testing an Integrative Model of Restraint and Emotion Dysregulation for Binge Eating**  
Katrin Kukk, University of Tartu, Estonia
- 61 **Which Factors Predict the Effects of Food Response Inhibition Training on Reduced Food Intake and Weight?**  
Natalia Lawrence, University of Exeter, United Kingdom
- 62 **The Underlying Motivations of Perfectionism with Eating Disorders**  
Pascale Mackay, Université du Québec à Trois-Rivières, Canada
- 63 **The Network Structure of Obsessive-Compulsive Symptoms in Patients with Eating Disorders**  
Marieke Meier, University of Muenster, Germany
- 64 **The Role of Attentional Control in Understanding Attention Biases for Food in Women and Men**  
Kate Mulgrew, University of the Sunshine Coast, Australia
- 65 **"Living the Exposure Lifestyle": A Binge-Eating Disorder Patient's Application of CBT and Exposure Principles to other Life Domains**  
Katrina Obleada, University of Hawaii at Manoa, USA
- 66 **Nutrition Education after Bariatric Surgery and Comparison of Cognitive Behavioral Therapy Techniques on the Effect of Body Mass Index and Problematic Eating Behaviors**  
Merve Öz, Yeditepe Üniversitesi İhtisas Hastanesi, Turkey
- 67 **The Effect of Inpatient Treatment to Inhibitory Control in Eating Disorder Subtypes – Possible Moderating Effects of Trait Impulsivity and Perfectionism**  
Elis Paasik, University of Tartu, Estonia
- 68 **Interventions for Reducing Food Cravings: A Systematic Literature Review**  
Sophie Schumacher, Flinders University, Australia
- 69 **Attention Bias for Eating Disorder Related vs. Social Stimuli in Adolescents with Anorexia Nervosa – an Eye-Tracking Study**  
Anca Sfârlea, Ludwig Maximilians Universität Munich
- 70 **Personality-based Profiles in Eating Disorders Predicting Short-Term Treatment Response: A Promising Way for Tailoring Treatment**  
Kärol Soidla, University of Tartu, Estonia
- 71 **Relationships Between Body- and Appearance-Related Self-Conscious Emotions and Self-Esteem, Psychological Well-Being, as Well as the Tendency Toward Social Anxiety Among Japanese Adult Females**  
Tomohiro Suzuki, Tokyo Future University, Japan
- 72 **Psychological Distress and Disordered Eating in Adolescents: The Moderating Role of Emotion Dysregulation**  
Nora Trompeter, Macquarie University, Australia
- 73 **Measuring Depression in College Students Using the Implicit Association Test (IAT)**  
Satsuki Ueda, Kwansai Gakuin University, Japan
- 74 **Computer Training of Attention and Inhibition for Youngsters with Obesity: A Pilot-Study**  
Sandra Verbeken, University of Gent, Belgium
- 75 **Relationships Between Body-Related Shame and Guilt and Maladaptive Eating Behaviors in Hungarian and Norwegian Non-Clinical Samples**  
Gabriella Vizin, Eötvös Loránd University and Semmelweis University, Hungary
- 76 **Attentional Processing of One's own Body in Women with High Body Concerns Investigated by Steady-State Visual Evoked Potentials (SSVEP)**  
Mona M. Voges, Osnabrück University, Germany
- 77 **Direct Autobiographical Memory Retrieval in Women with a Repulsive Body Image**  
Paula von Spreckelsen, University of Groningen, the Netherlands
- 78 **Measuring Inhibitory Control and Attentional Bias in Individuals with Bulimia Nervosa Using Emotional Go/No-Go Task**  
Sheryl Võsu, University of Tartu, Estonia
- 79 **Cognitive-Behavioral Therapy for Eating Disorders: What Constitutes Meaningful Clinical Change in Eating Attitudes?**  
Glenn Waller, University of Sheffield, UK
- 80 **Brief Cognitive-Behavioural Therapy for Non-Underweight Eating Disorders (CBT-T): All the Effects in Half the Time?**  
Glenn Waller, University of Sheffield, UK
- 81 **Transtheoretical Model and Metabolic Syndrome**  
Martha Wallig Brusius Ludwig, UNISINOS, Brazil
- 82 **Executive Dysfunctions and Eating in the Absence of Hunger in Adolescents with Binge-Eating Disorder: An Experimental Test Meal Study**  
Henrike Wandrer, Integrated Research and Treatment Center (IFB) AdiposityDiseases, Germany
- 83 **Do Veiled and Unveiled Muslim Women, Christian women, and Atheist Women Differ Regarding Body Checking, Body Dissatisfaction, and Eating Disorder Symptoms?**  
Leonie Wilhelm, Osnabrück University, Germany
- 84 **Analyses of Emotional States Before, During and After a Body Checking Episode in Normal Weight Females with Higher and Lower Eating, Weight and Shape Concerns**  
Leonie Wilhelm, Osnabrück University, Germany
- 85 **The Relationship Among BIS/BAS, Healthy Diet Strategies, Drive for Thinness, and Well-Being, Focusing on Intentional Dieting**  
Mikako Yazawa, Musashino University, Japan
- 86 **Combination of Pharmacotherapy and CBT in Eating Disorders - Retrospective Case Series**  
Eren Yildizhan, Bakırköy Research and Training Hospital for Psychiatric and Neurological Diseases, Turkey
- 87 **Randomized Trial of a Dissonance-Based Group Treatment for Eating Disorders: An Evaluation of Target Engagement**  
Sonja Yokum, Oregon Research Institute, USA

**88 ProYouth OZ: An Online Peer-to-Peer Support Prevention and Early Intervention Program for Young People at Risk of Eating Disorders**  
Kathina Ali, Australian National University, Australia

## Poster Session 2: Addictions and Eating Disorders

### Addictions

#### **Effect of a Gender Sensitive Cognitive Behavior Therapy Program on Emotion Regulation and Distress Tolerance in Women with Substance Use Disorders: A Study from India**

**Hargun Ahluwalia, Prabhat Chand & Suman L.N., National Institute of Mental Health and Neurosciences, India**

##### **Introduction**

The association of emotion regulation (ER) and distress tolerance (DT) with substance use disorders (SUDs) has been evidenced abundantly in literature. Several theories posit the role of a lack of ability to tolerate negative states and a lack of skills to cope with it as being responsible for substance use motives and frequency. These variables gain greater importance in cases of comorbid borderline personality disorder (BPD) and SUDs. Low DT and ER have been associated with drop – outs from treatment and relapse as well. Studies have recommended that ER and DT be addressed as a part of SUD treatment. However, only a handful of programs have been designed that specifically address DT and ER in psychotherapy for SUDs.

##### **Method**

Aim of the present study was to examine the effect of a gender – sensitive 12 – 15 session Cognitive – Behavior Therapy (CBT) program developed for women with substance use disorders (wSUDs) in India on ER and DT. A sample of 20 wSUDs, with a mean age of 28.32 years (S.D = 6.81), were recruited from the Centre for Addiction Medicine in a tertiary care hospital in Bengaluru, India. The patients' diagnoses were arrived at using the Mini International Neuropsychiatric Interview (MINI 6.0) and the Structured Clinical Interview for DSM IV Diagnoses - II (SCID II). The Difficulties in Emotion Regulation Scale (DERS) and the Distress Tolerance Scale (DTS) were administered before and after the therapy program. The data obtained was analyzed using SPSS 16.0.

##### **Results**

Results of the study will be presented and discussed in terms of baseline differences in the domains of DERS and DTS. Further, results obtained in pre and post – therapy scores between wSUDs with BPD (n = 12) and without BPD (n = 8) will also be discussed.

##### **Discussion**

The paper highlights the use of this adapted CBT program for wSUDs in a cultural sensitive and gender - responsive manner. It emphasises the role of CBT in modifying and enhancing ER and DT in SUDs.

#### **Potions for Emotions: The Role of Impaired Response Inhibition in Emotional Drinking**

**Henry Austin & Lies Notebaert, University of Western Australia, Australia**

**Elske Salemink & Reinout Wiers, University of Amsterdam, the Netherlands**

**Colin MacLeod, University of Western Australia, Australia**

##### **Introduction**

People commonly report drinking alcohol in response to positive emotion (positive-emotional drinking) and negative emotion (negative-emotional drinking). However, there are individual differences in the degree to which people engage in such emotional drinking. Those who report a tendency to engage in emotional drinking are more likely to experience alcohol-related problems, and emotional states (particularly negative) are reported to increase relapse susceptibility among recovering alcoholics. As yet, only limited research has examined the cognitive processes that could underlie individual differences in drinking in response to emotion. Impaired response inhibition has been found to contribute to problematic alcohol consumption, but it is unknown whether it also contributes to emotional drinking. The current study aimed to determine whether impaired response inhibition to alcohol cues explains the relationship between heightened emotion and alcohol consumption in emotional drinkers.

##### **Method**

Beer drinkers reported on their tendency to engage in positive and negative-emotional drinking. Using the Stop-signal Task, participants first completed an assessment of response inhibition to alcohol and soft-drink stimuli. Using visual analogue mood scales, participants reported the degree to which they were experiencing positive and negative mood. They then completed a video-watching task designed to induce either positive or negative emotion. During this video-watching task, participants completed a second assessment of response inhibition to alcohol and soft-drink stimuli to assess for changes in their ability to inhibit a response in the context of an alcohol cue while in an emotional situation. This was followed by further mood rating scales and, finally, an alcohol “taste test” to serve as a measure of alcohol consumption.

##### **Results**

The emotion induction successfully induced differential mood between the two emotion induction conditions. Conditional process analyses revealed that self-reported individual differences in positive-emotional drinking were not associated with increased alcohol consumption or impaired response inhibition in the positive emotion induction condition. On the other hand, self-reported individual differences in negative-emotional drinking predicted poorer response inhibition to alcohol stimuli in the negative emotion induction condition, though this effect was not related to alcohol consumption.

##### **Discussion**

The current study provides the first investigation of the role of response inhibition in emotional drinking. Findings implicating impaired response inhibition in negative-emotional drinking have implications for the processes to be targeted in treatment, and the emotional context within which cognitive and behavioural therapies should be conducted. The lack of support for hypothesis one will be discussed in relation to possible design improvements that could be made to further investigate the processes implicated in positive-emotional drinking.

## **Metacognitive Therapy for Alcohol Use Disorder: A Systematic Case Series**

**Gabriele Caselli, Sigmund Freud University and Studi Cognitivi, Italy, and London South Bank University, United Kingdom**

**Francesca Martino, StudiCognitivi, Italy, and London South Bank University, United Kingdom**

**Marcantonio Spada, London South Bank University, United Kingdom, and Sigmund Freud University, Italy**

**Adrian Wells, University of Manchester and Manchester Mental Health and Social Care NHS Trust, United Kingdom**

### **Introduction**

Alcohol Use Disorder (AUD) is a debilitating condition with serious adverse effects on health and psycho-social functioning. The most effective psychological treatments for AUD show moderate efficacy and return to dysregulated alcohol use after treatment is still common. The aim of the present study was to evaluate Metacognitive Therapy (MCT) as applied to Alcohol Use Disorder (AUD).

### **Method**

Five patients were treated using a non-concurrent multiple baseline design with follow-up at 3- and 6-months time points. Each patient received twelve one-hour sessions of MCT.

### **Results**

Following MCT all patients demonstrated large and clinically meaningful reductions in weekly alcohol use and number of binge drinking episodes that were upheld at follow-up in almost all cases. Metacognitive beliefs, as secondary outcome, also changed substantially.

### **Discussion**

The findings from this study offer preliminary evidence of the effectiveness of MCT for AUD and support the need for a more definitive trial of MCT in addictive behaviours.

## **The Relationship Between the Compulsive Buying Tendencies and Early Maladaptive Schemas**

**Şeyma Çetin, Kim Psychology Consulting Center, Turkey**

**Dilara Altunbaş, Kelebek Etkisi Danışmanlık, Turkey**

### **Introduction**

In today's world, shopping behaviour became something beyond to satisfy basic needs of human being. A growing number of people constantly buy an excessive amount of products even they do not need them. Compulsive buying disorder (CBD) is defined as a strong urge to purchase unnecessary consumer goods chronically and repetitively (Harnish and Bridges, 2014).

Compulsive buying behaviour occurs to cope with negative feelings and life stressors (O'Guinn and Faber, 1989), and the uncontrollable urge of buying leads to distress.

Generally, CBD has similarities with Addictive disorders (gambling, substance use disorders, impulsive control spectrum, internet gaming disorders, etc.), eating disorders (food addiction), obsessive-compulsive disorders, and decision-making difficulties (Harnish and Bridges, 2014).

In the purpose of predicting consumer behaviour, a lot of studies have been conducted to identify the association between personality traits and compulsive buying behaviour. Mowen and Spears (1999) was the first researchers who investigated the relationship between CB and personality traits. According to their findings, low conscientiousness, high agreeableness and high neuroticism predict compulsive buying directly.

Schemas are cognitive structures that help the individual to organize the information about self and environment. Early Maladaptive Schema (EMS) Theory was developed by Young (Young et al., 1998; Young et al., 1993) and according to his definition EMS are "broad, pervasive theme regarding oneself and one's relationship with others, developed during childhood and elaborated upon throughout one's lifetime, and dysfunctional to a significant degree" (Young et al., 1998).

In the current study, we aimed to investigate EMS among people who show compulsive buying behaviour. In our knowledge, there is no study was conducted about the role of EMS on people who were diagnosed with CBD. With the determination the weight of EMS on CB, new treatment options might be developed; also, building a better therapeutic relationship might be easier for clients and clinicians. On the other hand with the knowledge of EMS and CB association, pathogenesis of the disorder can be understood better.

### **Method**

#### **Participants**

This study was conducted with 107 participants who are age of 18-40. They were selected randomly. In addition, people who have psychiatric disorders before and now were not include in this study.

#### **Material**

Compulsive Buying Scale. This self-report instrument (Valence, d'Astous, & Louis Fortier, 1998) assesses intensity of one's compulsive buying tendency. This scale contains 13 items. Turkish version including 11 items was standardized by Eren, Eroglu and Hacıoglu in 2012. Items are based on a 5 Likert-type Scale and higher scores indicate a greater compulsive buying tendency.

Early Maladaptive Schemas Short Form Questionnaire (YSQ). This scale was developed by Young in 1990. It measures the 18 early maladaptive schemas. Turkish standardization was made by Soygüt, Karaosmanoğlu and Çakır in 2009. There are 90 questions in total, including 5 questions for each schemas. YSQ is 6 Likert type scale. For each group items, greater scores are associated with higher early maladaptive schemas.

#### **Procedure**

After taking ethical committee approval, the subjects were shared link. Firstly, these participants were given consent form and participants accepted to participate the study by signing the consent form. Then, these participants filled the questionnaires on the internet. All procedure lasted 20 minutes.

### **Results**

The positive correlation between the score of total compulsive buying tendencies and enmeshment/dependency, insufficient self control, approval seeking, pessimism and punitiveness,  $p < 0.05$ .

### **Discussion**

The findings of this study supported the hypotheses. When the people have high score of dependency, insufficient self control, approval seeking, pessimism and punitiveness, they tend to compulsive buying. According to Hoffart et al., when a psychopathology is activated, its own schemas become activated as well (Hoffart et al., 2002). As an example to this, Imperatori et al. applied a study to determine the relationship food addiction (FA) and EMS, moreover the findings indicated that there is a significant relationship between FA symptoms and

5 basic schema domains. Also, the study demonstrated that binge eating severity was associated with disconnection/rejection, impaired limits, and other directedness domain (Imperator et al., 2017).

### **Injunctive Norms Predict Alcohol Problems: The Impact of Situational Confidence and Gender as Moderators**

**Charlotte Corran & Roisin O'Connor, Concordia University, Canada**

#### **Introduction**

Theory of planned behaviour posits that perceived approval by others of risky drinking (injunctive norms) predicts one's own problematic drinking. Research also demonstrates that individuals with low situational confidence have difficulty resisting the urge to drink in social situations. The current study investigated the moderating effect of situational confidence on the injunctive norms-problematic drinking association. We hypothesized that injunctive norms would positively predict alcohol problems, and this effect would be particularly strong among those low in situational confidence. Gender has been shown to moderate the effect of injunctive norms on alcohol use, thus it was considered as an additional moderator.

#### **Method**

Students [N = 165, Mean age (SD) = 19 (1.11), 67% female] from the Montreal area self-reported on injunctive norms (Injunctive Norms Questionnaire; Peer, Father, Mother, Friend reference groups), situational confidence (Social Anxiety-Situational Confidence Questionnaire), and alcohol problems (Brief Young Adult Alcohol Consequences Questionnaire). Study participants were students enrolled in CEGEP. This is a transitional – and inherently stressful – two-year period post-high school, where emerging adults are faced with making critical decisions regarding their future career and education goals. CEGEP is unique to the province of Quebec and provides a snap-shot of emerging adulthood in Canada. Moderated regression was used for data analysis.

#### **Results**

A moderation model was supported such that peer injunctive norms positively predicted alcohol problems, but only for men with low levels of situational confidence ( $B = 1.609$ ,  $p = .04$ ,  $R^2 = .212$ ). Similar support was found for father injunctive norms ( $B = 1.445$ ,  $p = .07$ ,  $R^2 = .218$ ). Further, father injunctive norms negatively predicted alcohol problems for women with low levels of situational confidence ( $B = -.815$ ,  $p = .03$ ,  $R^2 = .212$ ), but situational confidence did not moderate the effects of peer injunctive norms on alcohol problems in women.

#### **Discussion**

Our results found that men who perceived their peers and fathers as approving of risky drinking were at elevated risk for having alcohol problems, but only when low in situational confidence. Women who perceived their fathers as approving of risky drinking, however, were at decreased risk for having alcohol problems, but only when low in situational confidence. Perhaps young men who are particularly responsive to perceived approval from their fathers and peers care more about what they think and thus may be inclined to drink to cope (given their low situational confidence). This finding is consistent with social influence theory

### **Early Disadaptive Schemes and Alcohol Consumption in College Students**

**Karen Priscila Del Rio Szupczynski & Flávia Salomoni Mansano, Federal University of Grande Dourados, Brazil**

#### **Introduction**

The Schema Therapy was developed by Jeffrey Young as a systematic approach and emerged as an alternative for patients with personality disorders related issues treatment. Integrating techniques derived from several Psychology schools, this approach emphasizes the psychological problems developed in childhood and adolescence, as well as greater attention to imagery techniques, therapeutic relationship and maladaptive coping styles. The aim of this study is to understand the relation between Early Maladaptive Schemes (EMS) and alcohol consumption among university students; identify which EMS are more frequent in university students; and identify risk levels of alcohol consumption among university students.

#### **Method**

This research will include a systematic review of literature on the subject and an empirical research. A transversal study with quantitative character will be conducted. The sample will be selected from university students aged 18 and over, of different areas of knowledge of undergraduate courses. A Sociodemographic Questionnaire, the Young Schemes Questionnaire (YQS-L3) and the Alcohol Use Disorder Identification Test (AUDIT) were the instruments selected to be applied on this research.

#### **Results**

The data from the systematic review can already be highlighted. The research was carried out in databases such as Scielo and Capes Periodicals, using the following keywords: Early Disadaptive Schemes, alcoholism and university students. As a result, only two articles with direct relation to the topic were found, those being studies conducted in Brazil's southern region. The first findings indicate a scarce production related to the theme in Brazil. In one of the studies found in the literature review, a comparison was made between a sample of alcoholics and a sample that stated that they did not consume alcohol. It was possible to observe significant differences regarding the domains of Schemes, so there was an influence on alcohol consumption. Studies on university students who consume alcohol and the relation with the EMS demonstrate that this population has a higher score in some specific schemes such as: self-sacrifice, failure to achieve, abandonment and punitiveness.

#### **Discussion**

Data collection is ongoing. However, those results indicates that the EMS identification on these students will allow us to understand which schemes have the highest frequency and what is their relation with risk alcohol consumption. This may influence the structure of treatments offered and tailor interventions directed to this population.

### **Impulsiveness and Emotion Regulation in Binge Watching**

**Lucia Di Guida, Susanna Pizzo & Paola Pagano, Istituto Miller, Italy**

#### **Introduction**

Binge watching (seeing multiple episodes of the same TV series) is an emerging phenomenon. This behavior is closely related to behavioral addiction.

The role of psychological factors underlying this behavior is unclear. This study explores the relationships between psychological variables, impulsiveness and emotion regulation, and binge watching.

This study also examines the differences between binge viewers and non-binge viewers on those key psychological variables.

## **Method**

An Italian sample, aged 18 -50, anonymously completed a survey including Barratt Impulsiveness Scale-11 (BIS-11), Difficulties in Emotion Regulation Scale (DERS) and a questionnaire assessing binge watching.

The aim of this study is to investigate the association of binge watching, impulsiveness and emotion regulation and to estimate the frequency of streaming binge watching in an Italian sample.

## **Results**

The present survey is currently in progress.

## **Discussion**

This research can give more information about the diffusion of binge watching in Italy and about factors to predict binge watching behavior among adults.

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## **Groups 4 Belonging – A Group Intervention for People with Addiction that Integrates Social Identity and Cognitive Behavioural Approaches**

**Genevieve Dingle, University of Queensland, Australia**

**Isabella Ingram, University of Wollongong, Australia**

**Catherine Haslam, University of Queensland, Australia**

**Peter Kelly, University of Wollongong, Australia**

## **Introduction**

Previous research has established that moving away from one's substance using groups and changing one's social identification from "member of substance using groups" to "member of recovery groups" are factors strongly related to positive outcomes from residential addiction treatment (e.g., Dingle, et al., 2015). Yet a lack of social group memberships that are free from substance misuse is a common issue among people recovering from addictions and loneliness is widespread in this population (Ingram, et al., 2018). Groups 4 Health – a brief group intervention based on a social identity approach to health - has been shown to be effective in reducing loneliness, and improving mood and wellbeing among adults experiencing social isolation (Haslam et al; 2016; 2019). In this project, the authors have developed a program specifically for people in addiction treatment and called it Groups 4 Belonging.

## **Method**

The intervention draws from the authors' earlier work on loneliness and addiction, and on social identity and addiction recovery. The six sessions integrate modules from Groups 4 Health such as education about how group memberships exert an important influence on health and recovery, with elements of Cognitive Behaviour Therapy such as addressing thoughts about being worthy of belonging to a group, trusting others in a group, and mindfulness exercises for tolerating the feeling of being alone.

## **Results**

This paper will explore the new program and describe the protocol for the first trial of Groups 4 Belonging that has commenced with individuals in two residential rehabilitation services in Queensland and New South Wales, Australia.

## **Discussion**

The Groups 4 Belonging group intervention is an example of 'CBT at the Cross Roads' because it represents an integration of CBT approaches with social strategies designed to address issues of social identification and loneliness that are known to affect outcomes from addiction treatment.

## **The Level of Nicotine Dependence and Motivation to Stop Smoking Among Patients of the Stop Smoking Center Operating at the Lower Silesian Oncology Centre in Wrocław (Poland) in 2015**

**Anna Dudek & Elżbieta Tkaczyszyn-Mika, Lower Silesian Oncology Center, Poland**

**Adam Maciejczyk, Lower Silesian Oncology Center and Wrocław Medical University, Poland**

**Kamila Majchrzak, Lower Silesian Oncology Center, Poland**

## **Introduction**

In recent years, the popularity of smoking in Poland has been decreasing. Nevertheless, nicotine dependence is still responsible for one fifth of all deaths (Zgliczyński, 2017). It is necessary to continue activities leading to reduction in the number of addictive behaviours. In 2015, a Stop Smoking Center was established at the Lower Silesian Oncology Centre in Wrocław (Poland) which offered the most effective form of psychological treatment to addicts—cognitive behavioural therapy (Pragłowska, Popiel, 2009; Marks, Sykes, 2000). The clinic measured the level of nicotine dependence and the motivation to stop smoking among smokers. Factors contributing to the decision to quit smoking were also identified.

## **Method**

The clinic was visited by 60 people, 43 of whom decided to start cognitive-behavioral therapy. Each smoker received a questionnaire with basic questions about their nicotine addiction. The Fagerström's Nicotine Addiction Test was used to measure the level of nicotine dependence, while the Schneider's Test of motivation to give up smoking was used to assess the motivation to stop smoking.

## **Results**

The majority of people reporting to the Smokers' Help Desk were people with secondary education (47%) and elementary education (23%). Women (60%) and people from large cities (91%) were more likely to seek help. More than half of the group surveyed (53%) smoked between 10 and 20 cigarettes a day. Another large group (33%) smoked up to 10 cigarettes per day. Most smokers had non-pharmacological tobacco dependence (79%) and a high motivation to quit smoking (93%). Both non-pharmacological tobacco dependence and high motivation to quit smoking were identified as good predictors of successful cognitive behavioural therapy. Smokers indicated concern about their own health as the main factor in wanting to give up smoking (65%).

## **Discussion**

The data collected confirms the need to create more Stop Smoking Centers in the future. As a result of cognitive behavioural therapy, 70% of smokers reduced the number of cigarettes smoked and 14% quit smoking completely.

## **The Role of Clinicians' Mindfulness on Treatment Outcomes for Substance-Using Adolescents**

**Susan Evans, Virginia Mutch & Katarzyna Wyka, New York-Presbyterian Weill Cornell, USA**

**David Stewart, Cambridge Health Alliance, Harvard Medical School, USA**

### **Introduction**

Adolescent substance use is a public health crisis associated with detrimental outcomes that extend into adulthood. Although the use of Motivational Interviewing (MI) in brief interventions for substance use is efficacious for a preponderance of teens, 33% of adolescents in these programs do not respond to treatment (Barnett et al., 2012). Treatment for adolescents who use substances may be enhanced by an empathic, nonjudgmental, person-centered approach, which are qualities that are cultivated through mindfulness practice (Escuriex & Labbé, 2011; Rollnick & Miller, 1995; Venner et al., 2006). Adopting a mindfulness practice may equip clinicians serving this population and positively impact treatment outcomes. This pilot study examined the relationship between clinicians' mindfulness practice and adolescent clients' substance use outcomes within a school-based, MI intervention.

### **Method**

Clinicians providing this intervention were six doctoral-level clinical psychology graduate students trained in MI. These clinicians participated in mindfulness training and were encouraged to practice mindfulness regularly. Mindfulness practice was measured by clinicians' weekly logs of quantity (duration of practice in minutes) and frequency (instances of mindfulness practices) of a variety of practice types, including body scan, mindful eating, formal sitting meditation and yoga. Alcohol and marijuana use by adolescent clients (n = 22) were measured by self-reported quantity and frequency.

### **Results**

Clinicians' mindfulness practice statistically significantly predicted adolescent clients' post-treatment alcohol use ( $B = -0.114, p = 0.024$ ) and marijuana use ( $B = -0.406, p = 0.040$ ).

### **Discussion**

The findings of this study support the potential of incorporating mindfulness training into doctoral-level psychology programs as it may improve outcomes for clients. Future studies should apply more rigorously designed approaches to further substantiate these findings. Endeavors to identify with greater specificity the minimum requirement for mindfulness "dose" (e.g., the duration and frequency of mindfulness practice) would also enhance understanding for the scientific community. Emphasis will be placed on study design in order to further develop programs that expand on the use of clinician mindfulness within treatments for adolescent substance use as well as other evidence-based practices.

## **Effectiveness of a Cognitive-Behavioural Treatment Programme for Drug-Addicted Patients with Physical and/or Sexual Lifetime Abuse**

**Javier Fernandez-Montalvo, Begoña Haro, Jose J. Lopez-Goñi & Alfonso Arteaga, Universidad Publica de Navarra, Spain**

### **Introduction**

There is a high prevalence of lifetime physical and/or sexual abuse among patients in treatment for addiction problems. However, only few rigorous evaluations of the effectiveness of integrated treatment programmes for both conditions have been carried out. The main goal of this study was to determine the effectiveness of a cognitive-behavioural intervention programme aimed at treating the consequences of lifetime physical and/or sexual abuse in patients with addiction problems.

### **Method**

The sample of this study was composed of 50 patients seeking help at the Proyecto Hombre de Navarra (Spain) treatment programme for a drug addiction problem. The sample was divided into two groups: 1) intervention group of 25 patients with lifetime abuse, who received the standard treatment for addictions, as well as a specific psychological intervention aiming at overcoming the consequences of lifetime abuse; and 2) comparison group, composed of 25 drug-addicted patients with lifetime abuse, who only received the standard treatment of the addiction programme but without receiving any specific intervention for the consequences of lifetime abuse. The results obtained in the 2 groups are compared and the effectiveness of the intervention programme was assessed in the posttreatment and in the 6-month follow-up.

### **Results**

Patients in the intervention group showed a treatment dropout rate significantly lower than patients in the comparison group. Moreover, comparisons between both groups in the associated variables (posttraumatic stress disorder symptoms severity, psychopathological symptoms, maladjustment and impulsivity) showed statistically significant differences. Patients in the integrated treatment group improved significantly more in these variables than patients who only received the standard treatment for addiction.

### **Discussion**

The presence of physical and/or sexual abuse histories in patients seeking treatment for addiction problems should be assessed in drug addiction programmes. Moreover, this study provides new support for the effectiveness of the combined cognitive-behavioural treatment of addiction and consequences of traumatic experiences in specialized treatment addiction centres.

## **Do Metacognitive Beliefs Moderate the Link Between Negative Repetitive Thinking and Alcohol Use Severity?**

**Tristan Hamonniere, Université Paris Descartes, France**

**Alexandra Dereux, Hôpital Fernand-Widal, France**

**Katia Illel & Xavier Laqueille, Centre Hospitalier Sainte-Anne, France**

**Florence Vorspan, Hôpital Fernand-Widal, France**

**Isabelle Varescon, Université Paris Descartes, France**

### **Introduction**

Several studies have shown the existence of a positive relationship between depressive rumination or anxious worry and alcohol use, both in clinical and non-clinical populations. In addition, problem drinkers present significantly higher levels of rumination and worry compared to controls (Nolen-Hoeksema, Harell, 2002, Caselli et al., 2008, 2010, Devynck et al., 2016). However, rumination and worry are today

considered as a common process and gathered under the generic concept of "Negative Repetitive Thinking" (NRT), defined as negative, intrusive, and relatively uncontrollable thoughts, from which it is difficult to disengage. Specific NRT measures have been developed (Devynck et al., 2017), independent of any diagnosis, and these measures are now essential for the study of NRT (Ehring, Watkins, 2008). On the other hand, according to the metacognitive model of psychological disorder, NRT is underpinned by metacognitive beliefs (positive and negative) that would contribute to their maintenance, as well as to individual's attempts to control or suppress their thoughts especially with substance use (Wells, 2015, Spada, Caselli, Wells, 2013).

To date, no study has examined NRT from content-independent measure in relation to alcohol use and taking into account metacognitive beliefs. The aim of our work is therefore to study NRT using a transdiagnostic measure, and to test the moderating effect of metacognitive beliefs on the relationship between NRT and alcohol use severity. The assumption behind our study is that the higher the metacognitive beliefs, the stronger the link between NRT and alcohol use severity.

#### **Method**

A sample of 79 alcohol-dependent patients (mean age =  $46 \pm 10,8$ ; 48 % female) completed the following questionnaires: the Alcohol Use Disorder Identification Test (AUDIT), the Perseverative Thinking Questionnaire (PTQ), the Metacognitions Questionnaire (MCQ-30), the Positive Alcohol Metacognition Scale (PAMS), the Beck Depression Inventory (BDI-II) and the State Trait Anxiety Inventory - Trait (STAI-B).

Correlation and regression analysis were performed on the data. Moderation regression analysis was also conducted, to test the hypothesis of the moderating role of metacognitive beliefs in the relationship between negative repetitive thinking and alcohol use severity.

#### **Results**

Results indicated positive relationships between alcohol use severity and negative repetitive thinking even after controlling for anxiety and depression. Moderation analysis showed that the effect of NRT on alcohol use severity is moderated by general and specific metacognitive beliefs. This model explains a greater proportion of the variance in the alcohol use severity scores than in the model which does not include the moderation effect.

#### **Discussion**

These results suggest that metacognitive beliefs are a relevant variable to consider for understanding the relationship between negative repetitive thinking and problematic drinking. Consistent with the metacognitive model of addictive behaviors (Spada et al., 2014), it is possible that individuals using alcohol as a means of cognitive self-regulation strategy hold high levels of general (utility or danger to rumination, high awareness of thoughts ...) and specific ("alcohol is useful to reduce negative thoughts") metacognitive beliefs. These beliefs could play a role in triggering alcohol use and would be, with negative repetitive thinking, an interesting intervention target.

### **Metacognitive Beliefs in Problematic Cannabis Use: Preliminary Findings**

**Tristan Hamonniere & Isabelle Varescon, Université Paris Descartes, France**

#### **Introduction**

Metacognitive beliefs refer to beliefs about thinking and the ways in which thinking can be controlled (Wells, 2000). In the last decade many studies have suggested that metacognitive beliefs may play a role in the initiation and perseveration of addictive behaviour because they promote harmful thinking styles and dysfunctional coping strategies, which in turn increase the likelihood of engaging in addictive behaviour (Hamonniere, Varescon, 2018). However, current evidence concerns only alcohol use, nicotine use, gaming and gambling. To date, no study has investigated the role of metacognitive beliefs in problematic cannabis use. The present study examined metacognitive beliefs in internet community sample of problematic cannabis users.

#### **Method**

The Cannabis Use Disorder Identification Test (CUDIT), The Marijuana Problem Scale (MPS), The Metacognition Questionnaire (MCQ-30), The Beck Depression Inventory (BDI-II) and the State Trait Anxiety Inventory - Trait (STAI-B) were administered to a sample of 161 participants (90 men and 71 women, mean age  $\pm$ SD =  $26.8 \pm 9.5$ ) with a CUDIT score greater than 8 (cut-off to identify problematic cannabis use). Correlation and regression analysis were performed on the data.

#### **Results**

Correlation analyses showed that anxiety, depression and the five sub-scale of MCQ-30 were positively and significantly correlated with CUDIT and MPS scores ( $.18 < r < .50$ ;  $p < .001$ ). Hierarchical regression analysis showed that beliefs about cognitive confidence and beliefs about the need to control thoughts predicted problem smoking scores (CUDIT scores) independently of anxiety and depression. Moreover, cognitive self-consciousness was independent predictor of cannabis-related problem severity (MPS scores) over and above anxiety and depression.

#### **Discussion**

These results are in line with findings regarding other addictions that have been related to metacognitive beliefs, and support the metacognitive model of addictive behaviour (Spada et al., 2014), in which substance abuse can be considered as a strategy for controlling negative internal states (negative repetitive thinking, negative emotions...) that is potentially driven by metacognitive beliefs (need to control thoughts, cognitive self-consciousness). These preliminary results revealed that an unhelpful relationship with mental events could be involved in problematic cannabis use, and suggest that taking patients' metacognitive beliefs into account in their treatment might be of use.

### **The Pilot Study of Cognitive Behavioral and Positive Psychological Intervention for Alcohol Addiction**

**Suguru Iwano, Oita University, Japan**

**Toshiki Tsuruoka, Masako Yasumi, Miki Takao & Nobuhiko Hoaki, Hoaki Hospital, Japan**

#### **Introduction**

Alcoholism is a chronic disease leading to poor quality of life. Even if they alcoholics succeed in achieving sobriety, their well-being remains negatively affected by the addiction. Therefore, treating alcohol addiction must include not only cessation of alcohol consumption, but also enhancing well-being. In this study, we developed a cognitive behavioral therapy-based positive psychological intervention (Restart and Enhance Life Intervention for Every Person with Alcohol Addiction: RELIFE-A), and evaluated its efficacy as an adjunctive treatment for alcoholics.

#### **Method**

RELIFE-A was a quasi-experimental pilot study in which a ten-session group interventional program aimed to reduce harmful behaviors and enhance psychological well-being for individuals with alcohol addiction. The program consisted of four components: psychoeducation, relapse prevention (coping skills training), information about social resources, and positive psychological intervention. Participants were 23

alcoholics ( $m = 20$ ,  $f = 3$ ; mean age = 54.9, SD 10.9). Eleven were assigned to the interventional group and 12 were assigned to the control group (treatment as usual). All participants completed the self-efficacy scale for substance use (Morita et al., 2007), the Japanese short version of the Psychological Well-Being Scale (Iwano et al., 2015), and the Alcohol Relapse Risk Scale (Ogai et al., 2009). The Alcohol Relapse Risk Scale has five subscales: stimulus-induced vulnerability (SV), emotionality problems (EP), compulsivity for alcohol (CA), lack of negative expectancy for alcohol (NE), and positive expectancy for alcohol (PE). This work was supported by the Japan Society for the Promotion of Science KAKENHI Grant Number JP17K13941.

### Results

Four members of the control group dropped out of the study (33.3%), as did one member of the intervention group (9.0%). When dependent variables were each changing score from pre-intervention to post-treatment, the result of t test showed interventional group's self-efficacy was higher than control group ( $t = 2.10$ ,  $p = 0.05$ ). However, there were no significant differences in the Psychological Well-Being Scale ( $t = 0.77$ ,  $p = 0.45$ ) or Alcohol Relapse Risk Scale (SV:  $t = 0.65$ ,  $p = 0.53$ , EP:  $t = 0.03$ ,  $p = 0.98$ , CA:  $t = 0.58$ ,  $p = 0.57$ , NE:  $t = 0.83$ ,  $p = 0.42$ , PE:  $t = 1.40$ ,  $p = 0.18$ ).

### Discussion

In this pilot study, the RELIFE-A improved self-efficacy only for alcohol consumption. Unfortunately, the psychological well-being and risk factors for relapse were not affected. However, fewer members of the interventional group dropped compared to the control group. Future studies in positive psychological interventions for alcoholics should include not only complete case analyses but also explanations for any missing data.

## Differences in Perceived Social Support and Psychological Recovery Through Participation in Self-Help Groups Among Drug Addicts

Yumi Kitagawa, Yuki Tanaka, Midori Takesawa, Kazutaka Nomura & Hironori Shimada, Waseda University, Japan

### Introduction

People recover after participating in self-help groups because they perceive social support from other members. From the view of the self-help group, it is possible to perceive empathy and affirmation, and we can estimate that perceiving emotional support from other members facilitates recovery in participants. It is assumed that the longer you participate, the more you perceive support and eventually recover psychologically. However, this is not empirically certain. The purpose of this study is to investigate whether perceived social support and psychological recovery differ according to length of participation in self-help groups.

### Method

In this study, 22 people using self-help group participated. Apart from the demographic data, we assessed emotional support using the Social Support Scales for Japanese college students, stress with Stress Response Scale (SRS-18), reward perception with the Reward Probability Index (RPI), and relapse risk with the Stimulant Relapse Risk Scale (SRRS). The method was approved by the local ethics committee.

### Results

We created two groups, including people who had participated in a self-help group for three years or less as the short-term use (STU) and people who had participated for three years or more as the long-term use (LTU). With group as a factor, we analyzed variation dispersion of the emotional-belonging scores, SRS-18, RPI, and SRRS subscale scores. Results showed that the scores of SRRS's "anxiety and intention to use drugs",  $F(1,15)=12.43$ ,  $p<.01$ , "emotionality problems",  $F(1,15)=2.73$ ,  $p<.05$ , and "compulsivity for drug",  $F(1,15)=14.12$ ,  $p<.05$  subscales were significantly different, and STU had a lower risk of relapsing than LTU.

### Discussion

We found that people using self-help groups for shorter periods of time had lower risks of relapsing. From this fact, we can surmise that people with slight drug addictions leave self-help groups during early stages, while those with severe drug addictions continue participating in self-help groups; this leads to the difference. Therefore, we can speculate that self-help groups are important for people who have experienced drug addiction, especially for severe drug addicts.

## Efficacy of a Cognitive-Behavioral Intervention Focused on Support Networks for Addicted Patients in Treatment

Diana Laura López Navarro, Herlinda Aguilar Zavala, Yazmín Alejandra Quintero Hernández, University of Guanajuato, Mexico  
Juan Manuel Bravo Sierra, CETTAD, Mexico

### Introduction

The use of psychoactive substances has become increased in the last century. This is a world problem of health and has a magnitude that it seems that the professionals have not been enough to satisfactorily combat the addictions, in spite of the theoretical and practical material that has been able to generate throughout several years of work in this area. This panorama forces at the professionals to continue searching for effective and brief strategies for the management of addictions and the therapeutic use of protective factors. The Cognitive-Behavioral model has acquired an important reputation in clinical practice for its advanced degree of effectiveness in the treatment of diverse clinical conditions. On the other hand, the function of social support is to reduce the harm caused by stressful life events and to act as a buffer. Some authors converge on the idea that a positive consequence of social support is the formation of support networks.

### Method

In the present study, we evaluated the efficacy of a Cognitive-Behavioral intervention program focused on social support networks for the improvement of psychosocial factors in addicted patients. We included 12 substance-dependent adults attending outpatient professional treatment (Youth Integration Centers, YIC) and attached to 24-hour A.A. centers. Participants were inquired about Multidimensional Perceived Social Support Scale (MSPSS), a mini mental state examination (MMSE), a General Self-Efficacy Scale (GSES), a Brief Situational Confidence Questionnaire (BSCQ), and an Early Trauma Inventory (ETI). To compare post-intervention changes, the student t test was used, and the Sign test in the case of data with non-normal distribution

### Results

We found statistically significant improvements in the experimental group, in Specific self-efficacy (44.0 VS 69.0,  $p=0.02$ ), perception of General Social Support (53.0 VS 68.0,  $p=0.04$ ) and perception of Support by friends (13.0 VS 26.0,  $p=0.04$ ). In the other variables, we found only strong trends that do not reach statistical significance. In the case of the control group, some of these same variables did not show any improvement, and even some were reduced, such as the perception of General Social Support (60.0 VS 56.0  $p=0.62$ ) and Social Support from friends (16.0 VS 8.0,  $p=1$ ).

## **Discussion**

Although the literature mentions the prolonged times of the anti-addictive treatment (Souza and Machorro, 2007), our intervention turned out to be effective for the improvement of the perception of General Social Support and Social Support by Friends, as well as the Specific Self-efficacy in a time not greater than three months, which proves the effectiveness of the mutual support as a therapeutic element in the recovery of the addiction. As do the groups of Alcoholics Anonymous (Polcin and Korcha, 2017) and the "Houses of sober life" (Polcin and Henderson, 2008), who emphasize the therapeutic role of interpersonal relationships. In Mexico and Latin America, it is necessary to update and revise the treatment programs for addictions in order to reinforce the protective factors that play an important therapeutic role and that have been left as an optional tool in the implementation of prevention and treatment strategies.

## **Gender Differences in Unidirectional and Bidirectional Intimate Partner Violence in Addictions**

**José J. López-Goñi, Javier Fernández-Montalvo, Begoña Haro & Alfonso Arteaga, Universidad Pública de Navarra, Spain**

### **Introduction**

Violence and addictions are two closely related phenomena. Several studies have shown high rates of violent behaviours among patients with drug addiction problems. This study analysed the specific behaviours of intimate partner violence (IPV) perpetrated and suffered by patients with drug addiction problems, considering gender-based differences. Moreover, the prevalence rate of unidirectional (perpetration or victimization) and bidirectional violence was established, and the differential profiles of patients according to the direction of violence were studied.

### **Method**

A cross-sectional study with a sample of 122 patients (91 male and 31 female) who sought treatment in an addiction treatment centre was conducted. Information on violent behaviours, sociodemographic factors, distorted thoughts about women and violence, impulsiveness, and anger was collected.

### **Results**

Bidirectional violence was reported in 63.1% of the sample and in significantly more women than men; 28.7% were only perpetrators, and more perpetrators were men than women; and 8.2% did not perpetrate or suffer any type of IPV. No one in the sample was solely a victim of IPV. When only physical and/or sexual violence was considered, bidirectional violence affected 32% of the sample; 23.8% were only victims, and 3.3% were only perpetrators (all of them men). Comparisons between groups showed statistically significant differences in most of the variables studied, and the group with bidirectional violence generally showed higher scores.

### **Discussion**

The results of the current study indicate that both IPV perpetration and victimization are prevalent phenomena in patients with addiction problems. Moreover, there is a high rate of addicted patients who present bidirectional violent behaviours.

## **Virtual Approach-Bias Retraining for Smokers Motivated to Quit Smoking**

**Alla Machulska, Tanja Joan Eiler, Armin Grünewald, Rainer Brüch, Katharina Jahn, Björn Niehaves & Tim Klucken, University of Siegen, Germany**

### **Introduction**

Treatment programs for addictive behaviors, including cigarette smoking, still face the problem of low response rates, high dropouts and frequent relapses. One possible explanation for poor treatment outcomes might be that contemporary interventions fail to target implicit cognitive processes that drive addictive behavior. Automatic processes to approach smoking-related cues have been repeatedly linked to smoking status, intensity of smoking and cigarette craving. Moreover, recent findings suggest that targeting those tendencies directly by means of approach-bias modification has merit in changing maladaptive approach tendencies for drug cues and reducing drug consumption. However, findings have not always been clear-cut and the effects tend to be rather small to moderate in size. Thus, there is a growing need to improve training efficacy. Embedding the training into virtual reality (VR) technology could be a promising new way to improve ecological validity, realism and immersion and t

### **Method**

Participants take part in a brief behavioral support for smoking. Afterwards, smokers are randomly allocated either to the experimental (VR-avoidance training) or the placebo (VR-placebo training) group. Smokers allocated to the experimental group are implicitly instructed to make an avoidance movement in response to smoking-related objects (i.e., cigarettes) and an approach movement in response to alternative objects (i.e., healthy food). Smokers allocated to the placebo group respond to smoking-related and alternative objects without making any approach or avoidance movements. Smokers in both conditions complete six training sessions within two weeks. Training effects on automatic approach tendencies and smoking behavior are measured immediately after training and at a four-week follow-up.

### **Results**

We report preliminary effects of VR-approach bias retraining as an add on to a brief behavioral support for smoking on a) changes in cognitive biases, b) reductions of nicotine consumption and smoking intensity, and c) abstinence rates.

### **Discussion**

This RCT is the first to test the effectiveness of a VR-approach bias retraining as an adjunct to a brief smoking cessation intervention in smokers motivated to quit smoking.

## **Impulsivity and Cognitive Distortions in Different Clinical Phenotypes of Gambling Disorder: Profiles and Longitudinal Prediction of Treatment Outcomes**

**Núria Mallorquí-Bagué, Hospital de la Santa Creu i Sant Pau, Spain**

**Cristina VINTRÓ-ALCARAZ, Hospital Universitari Bellvitge, Spain**

**Antonio Verdejo-García, Monash University, Australia**

**Roser Granero, Universitat Autònoma de Barcelona, Spain**

**Fernando Fernández-Aranda, Susana Jiménez-Murcia & José M. Menchón, Hospital Universitari Bellvitge, Spain**

### **Introduction**

Impulsivity and cognitive distortions are hallmarks of gambling disorder (GD) but it remains unclear how they contribute to clinical phenotypes. This study aimed to (1) compare impulsive traits and gambling-related distortions in strategic versus non-strategic gamblers and

online versus offline gamblers; (2) examine the longitudinal association between impulsivity/cognitive distortions and treatment retention and relapse.

#### **Method**

Participants seeking treatment for GD (n=245) were assessed for gambling modality (clinical interview), impulsive traits (Urgency, Premeditation, Perseverance and Sensation Seeking [UPPS] scale) and cognitive distortions (Gambling Related Cognitions Scale) at treatment onset, and for retention and relapse (as indicated by the clinical team) at the end of treatment. Treatment consisted of 12-week standardized cognitive behavioral therapy, conducted in a public specialized clinic within a general public hospital. We conducted analyses of variance to compare impulsivity and cognitive distortions scores between strategic and non-strategic, and online and offline gamblers, and logistic regression to examine their relationship with retention and relapse.

#### **Results**

Strategic gamblers had higher lack of perseverance and gambling-related expectancies and illusion of control than non-strategic gamblers, and online gamblers had generally higher distortions but similar impulsivity to offline gamblers. Lack of perseverance predicted treatment dropout, whereas negative urgency and distortions of inability to stop gambling and interpretative bias predicted number of relapses during treatment.

#### **Discussion**

Individuals with online and strategic GD phenotypes have heightened gambling related biases associated with premature treatment cessation and relapse. Findings suggest that these GD phenotypes may need tailored treatment approaches to reduce specific distortions and impulsive facets

### **Executive Functions and Discounting Function in Adolescents Drug Users**

**Diana Mejía, Jorge Acosta & Laura Hernandez, Instituto Tecnológico de Sonora, Mexico**

#### **Introduction**

Drug-dependent users have shown low performance in the executive functions of the prefrontal lobes of the cortex, particularly in domains of set shifting, updating and inhibition. The alteration of these capacities can entail problems of initiation, modification, control or interruption of the complex behavior, and derive in an increased perseveration and impulsivity (to prefer the small reward over large delayed reward).

#### **Method**

The current study was aimed to evaluate the performance in three updating tasks (Keep track, Tone Monitoring, Letter Memory) and six delay discounting tasks of monetary gains and losses considering three magnitudes (3000, 6000, 9000) for each condition in adolescents (clinical and community sample). We worked with 20 adolescents (10 drug users and 10 controls), control subjects were in school environments, while the clinical sample was in treatment centers for drug use problems.

#### **Results**

We found a positive correlation between gain discounting tasks and the three updating tasks, no correlation was found with loss discounting tasks. In the community sample, a magnitude effect was found with discounting gains but not for losses. The clinical sample did not show any magnitude effect in discounting of gains and losses. Low performance was observed in all three tasks updating and steeply delay discounting in drug users.

#### **Discussion**

These findings suggest a deficient cognitive-behavioral process in adolescent consumers that should be considered for the design and implementation of treatments.

Key words: Antisocial behavior, Adolescents, updating, Discounting

### **Treatment Effect on Delay and Probability Discounting Rates in Participants with Cocaine Use Disorder**

**Diana Mejía, Instituto Tecnológico de Sonora, Mexico**

**Silvia Morales-Chainè, Universidad Nacional Autónoma de México, Mexico**

**Leonard Green & Joel Myerson, Washington University, USA**

#### **Introduction**

Several studies have shown that individuals with dependence on psychoactive drugs show a steeply delay discounting with monetary rewards in contrast to non-consumers. This finding is clinically useful as a behavioral trait likely to be modified by psychological treatments. This study evaluated changes pre-post measures of delay and probability discounting, somatic symptoms, anxiety, depression, psychosis and self-efficacy in participants with crack use disorder severe who received one of two types of psychological treatment.

#### **Method**

We worked with ninety two participants, 31 for each treatment and 30 in the control group. We evaluated the three groups pre-post, the post was held after 40 days for the three groups, and during that time the cocaine users received one of the two forms of treatments, except control who only received post evaluation.

#### **Results**

The results showed that the pre-post evaluation with probability and delay discounting procedures did not change in any of the three groups. This finding suggests that the discounting is not sensitive to identify short-term changes as result from psychological interventions. In contrast both treatments increased self-efficacy, and reduced symptoms of somatization, anxiety, depression and psychosis. Not a main effect for treatment type was found.

#### **Discussion**

This study showed the stability of discounting measures with psychological treatment. While other variables they were subject to change due to the treatment, so the clinical utility of the discounting as a variable indicating the success of the intervention should be further explored in future research.

## **Substance Use Related Beliefs and Inclination for Substance Abuse versus Preventive Efforts Among Adolescents in South India**

**Rajeev Joseph Michael, St. Joseph's Hospital, India**

**Roshin John Kunnel, University of Basel, Switzerland**

### **Introduction**

Beliefs and perceptions about substance use contribute significantly to initiation and maintenance of addictive behaviors in adolescents. There has been consistent reports of a marked increase in substance abuse among teenagers in South India in recent times. Available data suggests that the age of initiation to abuse of substances such as tobacco, alcohol and cannabis has steadily decreased to early adolescence during the last decade.

### **Method**

We sought to explore the beliefs and perceptions related to using tobacco, alcohol, and cannabis among school going adolescents from three schools in South India. An exploratory survey method was used. On the basis of review of available literature as well as observations from focus group discussions with school going adolescents, we developed a brief survey which chiefly comprised of true or false items targeting common misconceptions with respect to the use/abuse of the three substances: alcohol, tobacco, and cannabis. These items elicited general observations rather than direct questions, with the aim of overcoming the stigma of self-reporting about substance abuse. Besides, there were a few direct items in the survey which explored inclination to using the substances, perceptions about preventive measures in the school context, and willingness to volunteer in school-based preventive initiatives. The survey was administered to 362 students, in the age range of 15-17 years, of which 56% identified themselves as male and the others as female.

### **Results**

Inclination to substance abuse was found in 8% of the participants, while 85% of the students endorsed that the peer-initiated programs in schools would be effective in preventing or decreasing teenage substance abuse. Also, 82% conveyed their willingness to actively engage in such an initiative. Inclination to volunteering in preventive initiatives were inversely associated with both self-reported misconceptions about substance abuse as well as inclination to substance abuse. Gender differences were observed on these variables.

### **Discussion**

In the discussion, we elaborate on the responses to specific survey items of substance use related beliefs, their relation to the self-reported inclination to substance use, and the implications for preventive intervention, motivation enhancement and cognitive behavioral interventions. We also highlight the utility of the indirect approach used in our survey for eliciting information on substance abuse among the Indian adolescents.

## **Comparison of Psychological Flexibility Between People on Probation for Alcohol-Related Crimes According to the Severity of Their Problematic Drinking**

**Euihyeon Na, Inchoen Chamsarang Hospital, South Korea**

**Mi Jung Rho, The Catholic University of Korea, South**

**GeumDan Yi, Maumsarang Hospital**

**Kye-Seoung Lee, Inchoen Chamsarang Hospital**

### **Introduction**

Within the psychological flexibility model of Acceptance and Commitment Therapy (ACT), addiction is conceived as a learned pattern of behavior driven by experiential avoidance and cognitive fusion. The purpose of this study is to compare clinical psychopathologies and psychological flexibility of two groups of probationers who have committed alcohol-related crimes according to the severity of their problematic drinking.

### **Method**

Participants (n = 28) who were on probation for their alcohol-related crimes were assessed for sociodemographic status and psychopathological characteristics including the severity of problematic drinking on the ASAM patient placement criteria (PPC) and the Hanil Alcohol Insight Scale (HAIS), mood symptoms on the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI), and psychological flexibility on the Acceptance and Action Questionnaire (AAQ-II) and the Valuing Questionnaire (VQ).

### **Results**

None of the participants had good insight into their alcohol-related problems even though the majority (n=23) of them reported that they changed their problematic drinking patterns. The group who needed inpatient services (n=12) had more severe clinical features such as depression and anxiety than the group who needed outpatient services (n=16). Furthermore, the participants who needed inpatient services showed more significant psychological inflexibility in each response style of ACT model than the participants who needed outpatient services did (all  $p < .05$ ).

### **Discussion**

The findings of this study suggest that the level of psychological inflexibility in problematic drinking probably correlates with the severity of problematic drinking. In addition, the development of strategies for the prevention of alcohol-related criminal recidivism may require consideration of these distinct characteristics.

## **Implementation of a Cognitive Behavioral Group Therapy Program in Rolling Form for Sexual Addiction Patients: A Pilot Study**

**Kazutaka Nomura, Waseda University, Japan**

**Yuki Tanaka, Waseda University and Oishi Clinic, Japan**

**Hironori Shimada, Waseda University, Japan**

**Hiroyo Oishi & Masayuki Oishi, Oishi Clinic, Japan**

### **Introduction**

Cognitive behavioral group therapy (CBGT) can be conducted in various ways, such as closed form, open form, and rolling form. Rolling form can be participated implemented in at any time. Therefore, rolling form would be advantageous for participants who is difficult to stably participate in a program that aimed to progress through the use of group cohesion (Ware & Bright, 2008). In Japanese private medical institutions, for those hospitalized with sexual addiction, it is considered the most effective implementation method for CBGT program.

However, currently there is not enough practical evidence available to substantiate this. Therefore, this study aimed to report on the effectiveness of rolling form CBGT for sexual addiction in a Japanese private medical institution.

#### **Method**

The sample included 9 sexual addiction patients. For those included in the research on participation in the CBGT program at the psychiatry outpatient clinic, and from whom informed consent was gained, an observation of the situation, and two sets (pre- and post-implementation) of questionnaire data (demographic items, empathic response scale (Nomura, 2017), sexual attitude measure (Wada & Nishida, 1992), multidimensional empathy scales (Tobari, 2003), distress tolerance scale (Oe, 2010), environmental reward observation scale Japanese version (Kunisato et al., 2011), stress response scale-18 (Suzuki et al., 1997), and Sheehan Disability Scale Japanese version (Yoshida, 2004)) were analyzed. The rolling form CBGT was carried out once a week for 90 minutes each. Participants could take part in the program at any time, and each participant went through 12 sessions. All investigational procedure is approved by the Ethics Committee on Human Research of Waseda University.

#### **Results**

For 9 participants (1 rapist, 1 molester, 2 using sex establishment user, 4 secret photographing user, 1 dating site user, average age 41.89 (SD = 11.29)), the results of t-test analyses for 2 questionnaire data (pre, post) revealed that empathy significantly increased ( $t(8)=2.64, p=.05$ ). In addition, "modeling" efforts have been confirmed among participants, with each session progressing differently through the group interaction process.

#### **Discussion**

In this study, sexual addiction patients performed rolling form CBGT, and various descriptive features were examined. Although changes in their reactivity to scenes, and an increase in empathy to others, were confirmed by psychological indicators, only a small number of studies were considered. Therefore, an analysis of the changes in the symptoms and psychological indicators, through further accumulation of data, should be a future task of other studies.

### **Why Are Caffeinated Alcoholic Beverages Especially Risky?**

**Melissa Norberg, Macquarie University, Australia**

**Amie Newins, University of Central Florida, USA**

**Lindsay Ham, University of Arkansas, USA**

**Alastair Henry, Macquarie University, Australia**

**Llew Mills, University of Sydney, Australia**

**Paul Dennis, Duke University, USA**

#### **Introduction**

Evidence suggests that people drink more alcohol and experience more adverse alcohol-related consequences (ARCs) on occasions when they also consume caffeine. The current study examined whether this increase in risk is a result of caffeine attenuating the subjective effects of alcohol intoxication (i.e., the masking hypothesis).

#### **Method**

Undergraduate students ( $n = 148$ ) reported their drinking patterns using a modified Timeline Followback approach. For each recalled drinking occasion, alcohol consumption, caffeine consumption, perceived blood alcohol concentration, and ARCs were assessed. Generalized linear mixed models were used to examine the influence that alcohol and caffeine consumption had on perceived intoxication and the experience of ARCs.

#### **Results**

At the occasion level, greater caffeine consumption was associated with increased consumption of alcohol and increased ARCs. There was also a significant curvilinear relationship between the amount of alcohol consumed and perceived intoxication, such that the more alcohol was consumed on each occasion the less each additional drink increased perceived intoxication. Increased caffeine consumption weakened the association between alcohol consumption and perceived intoxication and it also weakened the association between alcohol consumption and ARCs. Specifically, the weakest relationship between ARCs and alcohol consumption existed at the highest level of caffeine consumption (240+ mg).

#### **Discussion**

These findings indicate that the masking hypothesis requires revision. Caffeine exerts a powerful influence on ARCs when consumed at high doses and this effect does not appear to be the result of drinking more alcohol or underestimating one's blood alcohol content. Efforts to reduce caffeinated alcohol beverage use are greatly needed.

### **Challenge your Thinking: Protocol for an Online Unconscious Bias Training Program for Anxiety and Problematic Alcohol Use**

**Katrina Prior & Lexine Stapinski, The University of Sydney, Australia**

**Reinout Wiers, The University of Amsterdam, the Netherlands**

**Nicola Newton, Briana Lees, Maree Teesson & Andrew Baillie, The University of Sydney, Australia**

#### **Introduction**

Alcohol use disorders are highly prevalent and debilitating, affecting one in ten young Australians aged 16-24 in any given year. They have enormous economic and societal costs, with tremendous global and national impact. Young people with anxiety are particularly susceptible to the use of alcohol to cope with emotional symptoms and are at 6-times the risk of developing an alcohol use disorder later in life. Concerningly, up to 60% of young people who receive treatment for their alcohol use quickly relapse to heavy drinking. This is particularly the case for people who drink to alleviate anxiety symptoms. In view of the high alcohol relapse rates among young people with anxiety, novel and complementary treatment approaches that enhance existing clinic-based alcohol treatments, such as CBT, are urgently needed. One innovative intervention that has shown to be an effective adjunct to CBT for alcohol use and anxiety individually is cognitive bias modification (CBM). By direc

#### **Method**

Sixty young people aged 17-25 years with heightened anxiety and harmful alcohol use will be randomly allocated into the intervention group (CBM+standard care at youth services) or control group (standard care). The intervention group will complete 6 internet-delivered CBM

sessions over 8 weeks that combine established CBM protocols for alcohol-approach and interpretation biases (delivered using Inquisit Web). Feasibility of the CBM program will be measured by recruitment and follow-up rates and treatment adherence, while and perceived acceptability will be assessed through questions surrounding clarity and ease of use, innovation, value and need, usability, and quality. Efficacy of the CBM program in reducing alcohol consumption (use, dependence and related-harms) and anxiety symptoms will be measured post-intervention (8 weeks), as well as 6-month post-baseline to assess the durability of the intervention effects.

#### **Results**

Pending.

#### **Discussion**

This world-first cognitive re-training program carries enormous potential to help young people lead healthier lives by disrupting the vicious feed-forward cycle between anxiety and alcohol use. It has the potential to optimise future early intervention initiatives targeted at youth and can significantly reduce disease burden by interrupting the progression into chronic, life-long disorders. The findings of the present study will contribute significantly to understanding the types of programs effective in treating the anxiety-alcohol comorbidity. This is likely to be of interest not only to the scientific and clinical community in Australia, but also internationally.

### **Fluoxetine Treatment Reduces Alcohol Consumption in Females, but not in Males, Rats Exhibiting Reserpine-Induced Depression**

**Paul Ruiz & Aldo Calliari, Universidad de la República, Uruguay**

**Ricardo Pautassi, Universidad Nacional de Córdoba, Argentina**

#### **Introduction**

Mood disorders exhibit comorbidity with alcohol use disorders (AUD), especially in adolescence. The reasons underlying the association between mood disorders, notably depression, and AUD are not well understood, although a long-standing theory (the self-medication hypothesis) suggests that alcohol intake in depressed individuals is driven by the pharmacological effects of the drug, as a mean to restore normal mood functioning.

#### **Method**

We analyzed this hypothesis in a pre-clinical model of adolescence. Specifically, we pharmacologically induced depression in adolescent rats, males and females, by administering reserpine (RES 0.0 or 1.0 mg/kg/day, i.p.) on postnatal days (PDs) 30 to 33; and aimed at inhibiting the effects of RES by treatment with fluoxetine (FLUOX, 0.0 or 10.0 mg/kg/day, i.p.), on PDs 34-37. Experimental depression was confirmed via a behavioral screening and the rats were subsequently tested for ethanol (alcohol) intake in two-bottle choice (5% ethanol vs. water) tests.

#### **Results**

Ethanol intake on a gram per kilogram basis was greater in female, but not in male, rats treated with RES than in their corresponding controls. This sex-dependent effect was inhibited by FLUOX. An ANOVA yielded a significant effect of Sex and a significant RES treatment x FLUOX treatment x Sex interaction. Males drank significantly lower quantities of ethanol than did females. More important, the Fisher post-hoc tests indicated that females given RES followed by vehicle on PDs 34-37 drank more than females also treated with RES but then administered FLUOX on PDs 34-37. The ANOVA for ethanol percent preference yielded significant main effects of Sex, Reserpine and Session.

#### **Discussion**

These results are consistent with several pre-clinical studies showing that, in a variety of test situations and unlike the pattern found in humans, female rats drank more in gram per kilogram basis than male counterparts. The results also show that experimental depression enhanced ethanol intake in the females and that the selective serotonin reuptake inhibitor fluoxetine was useful to block this effect. This finding is clinically relevant for the designs of new pharmacological therapies for AUD.

### **Association Between Psychological Discomfort and Alcohol Consumption in Youth from Uruguay**

**Paul Ruiz, Universidad de la República, Uruguay**

**Angelina Pilatti & Ricardo Pautassi, Universidad Nacional de Córdoba, Argentina**

#### **Introduction**

The long-standing "tension-reduction hypothesis" suggests that alcohol intake mitigates feelings of anxiety or depression (adverse psychological states that we will hereinafter refer to as psychological discomfort) and therefore promotes, via negative reinforcement, subsequent alcohol intake.

#### **Method**

We conducted a survey in Uruguayan youth (18 to 30 years old). The final sample was composed of 1505 participants (25% men, Mean age=23.5±3.5 years). We asked about alcohol use and applied the AUDIT and YAACQ questionnaires to study alcohol consumption and consequences, and a psychological discomfort scale (Kessler) and an emotional contagion scale.

#### **Results**

There was a significant correlation between psychological discomfort and AUDIT and YAACQ scores, and between psychological discomfort and emotional contagion, but not between the latter scale and the AUDIT or YAACQ scores. Total volume of alcohol consumed was positively associated with heavy episodic and binge drinking, and with AUDIT and YAACQ scores.

#### **Discussion**

These results, which hold relevance for therapists interested in the confluence of mood and substance abuse disorders, support the hypothesis postulating mood variations, but not emotional contagion, as a predisposing factor for alcohol consumption.

## **Online Approach Bias Modification Training with Motivational Feedback in Problem Gambling: Preliminary Results**

**Leroy Snippe, University of Amsterdam, the Netherlands**

**Marilisa Boffo, Erasmus University Rotterdam, the Netherlands**

**Elske Salemink, Utrecht University, the Netherlands**

**Pam Collins & Sherry Stewart, Dalhousie University, Canada**

**Reinout Wiers, University of Amsterdam, the Netherlands**

### **Introduction**

Introduction: The reclassification of gambling disorder as an addictive disorder in the latest DSM-5 has yielded the question which innovations in addiction treatment can benefit the treatment of problem gambling (PG). One particular innovation that has shown promise in other addictive behaviors, is the use of cognitive bias modification (CBM) techniques to retrain relatively automatic cognitive motivational processes, such as approach tendencies towards motivationally salient cues in the environment. Especially promising is a sub-type of CBM named approach bias modification (AppBM), targeting such approach bias towards addiction-related stimuli. In parallel to the development of new intervention methods, is the development of new routes of administering interventions, predominantly over the internet, which may offer 'solutions' to known barriers for problem gamblers to seek treatment (Monaghan & Blaszczynski, 2009). AppBM is one such intervention that can be delivered online.

### **Method**

However, one known issue with CBM, especially when administered online, is the substantial attrition rate (Wittekind et al., 2019). This study utilizes motivational interviewing (MI) techniques in an effort to boost adherence. In a multi-site (Canada and the Netherlands) design, this study sets out to test whether MI-supported online AppBM is feasible and potentially effective in down-regulating gambling-related approach bias and decreasing problem gambling behavior.

Method: Participants are 176 (88 per site) active problem gamblers currently not in treatment or trying to abstain. After baseline assessment, participants are randomly assigned to complete 4 sessions of either AppBM or sham training. Each session starts with automated personalized MI-based motivational feedback. Two weeks after the last session, participants are invited to complete a follow-up.

### **Results**

Primary outcomes are past-two-weeks involvement in gambling (Gambling Time Line Follow Back) and participation in a gambling-type game (Card Cutting Task) at follow-up. Secondary outcomes include change in gambling-related approach bias (Approach Avoidance Task) and implicit associations (Single Category Implicit Association Test).

Results: To date, 96 participants have participated in the study (71 Dutch; 83 males; mean age 32.64, SD = 11.86), of whom 68 completed the study (attrition rate 29%). Participants on average performed 3.32 training sessions (SD = 0.88). The preliminary data have so far indicated no effects of training condition on any of the outcomes, except for a marginally significant effect on time spent gambling: participants assigned to the AppBM condition reported a decrease in time spent gambling at follow-up whilst participants assigned to the sham training condition reported no change.

### **Discussion**

Final analyses on the complete sample will also explore the role of problem gambling severity, readiness to change and explicit gambling beliefs on training effects.

Discussion: This study is the first to explore the feasibility and potential effects of MI-supported online AppBM training in PG across multiple sites. Results will provide insights both into a deeper understanding of automatic processes in PG and into novel treatment venues.

### **LITERATURE**

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## **Is Problem Drinking Maintained by Positive Strengthening?**

**Midori Takesawa, Yuki Tanaka, Yuka Asami, Kazutaka Nomura & Hironori Shimada, Waseda University, Japan**

### **Introduction**

In the treatment of alcohol use disorder, the effectiveness of decreasing "attentional bias" to alcohol has been indicated. On the other hand, the effect of decreasing the impact of drinking behavior due to the reduction in attentional bias is not consistent. Regarding this point, it is theoretically pointed out the person who has an attentional bias triggers impulsive drinking is only a person who tends to drink alcohol due to enhancement motives (equivalent to positive strengthening). The purpose of this study was to clarify the influence of reducing attention bias on impulsive drinking, considering the "function" of drinking behavior.

### **Method**

Experiments were conducted with 41 university and graduate students who were heavily drunk (26 women and 15 men with mean age  $\pm$  SD of 22.3  $\pm$  2.0). Questionnaire (drinking motive, characteristic impulsiveness) and cognitive tasks (measuring attentional bias and impulsive behavior) were used, and attentional bias modification was conducted only for the experimental group. After that, the participants performed the cognitive task again. Part of the dataset of this study was duplicated from that of Takesawa et al. (2018), but this report mainly reports unpublished data for a different research purpose. The method was approved by the local ethics committee.

### **Results**

Results of the partial correlation analysis revealed no significant correlation between drinking motives and changes in impulsive behaviors before and after intervention. On the other hand, a positive correlation was shown between the amounts of changes in the attentional bias scores in biases in maintained attention and the degree of difficulty in suppressing response to alcohol stimulation ( $r = .40, p < .05$ ). This result means that if the biases in maintained attention is reduced, it is easier to suppress the reaction to alcohol.

### **Discussion**

From the results of this study, the difference in "function" of drinking behavior did not necessarily clearly differentiate the improvement in impulsive behaviors by reducing attentional bias. On the other hand, it is suggested that reduction in biases in maintained attention may contribute to reduction in impulsive drinking behavior. In future, it is thought that it is important that research examines the clinical picture which is in an effective state to reduce attentional bias, considering not only the micro factors such as "function" of drinking behavior, but also the macro factors such as "personal life" of the individual.

## **Gamification and Cognitive Behavioural Therapy: A Perfect Marriage that is Difficult to Start. A Preliminary Tentative in Addiction Treatment**

**Gabriel Thorens, Sophia Achab, Louise Penzenstadler, Stephane Rothen, Gerard Calzada & Daniele Zullino, Geneva University Hospital, Switzerland**

### **Introduction**

S. Deterding defines gamification as “The use of game design elements in non-game contexts”. Gamification is broadly described, used and validated as an important tool to promote engagement and realisation of tasks in various domains such as economics, education, industry, military, politics and health. On the contrary, mental health and particularly CBT do not seem to implement and use gamification tools in psychotherapy practice or in academic research. A basic enquiry on Web of Science yielded 1295 occurrences for gamification and only 12 occurrences for gamification and CBT. One explanation might be either the false impression that gamification is a difficult or expensive process to implement, or therapists use gamification tools but they lack to report it in formal academic researches

### **Method**

In Geneva Addiction outpatient clinic, a simple CBT gamification strategy was tested. Patients suffering from drug and alcohol addiction were proposed to participate in an online photography contest consisting of illustrating the most drug craving inducing places.

### **Results**

The objective of this contest was to encourage the addicted patient to actively confront themselves to potential deleterious places and finding alternative rewarding behaviour (taking a potential successful picture rather than consuming drugs)

### **Discussion**

Gamification could easily be implemented with simple means in daily CBT practice. A good example is CBT “homework”, which has already been criticized as the term reminding the client annoying school homework and changed to action plan. The more the goal looks pleasurable and challenging to the client, the more he will be disposed to fulfil the task and progress in his therapy. Gamification strategies seem to be tailored for CBT but underused

## **The Mediating Role of Cannabis Use in the Relationship Between Perceived Psychosocial Stress and Dissociative Experiences**

**Emily Trethowan, Andrew Francis & Kevin Peel, Cairnmillar Institute, Australia**

### **Introduction**

Cannabis is the most commonly used illicit drug in Australia, with 35% of individuals over 14 years of age having used the substance at least once in their lifetime and 10.4% having used in the past 12 months (Australian Institute of Health and Welfare [AIHW], 2017). In recent years, amongst other cognitive impacts, dissociation has been investigated as an outcome of drug use. Dissociation can be defined as “an involuntary reaction to traumatic experiences which leads to changes in or a retreat from consciousness in order to reduce the influx of stimulants and the effect of overwhelming emotions” (Fiedler, 2008, p. 92, as cited in Goetzmann, Siegel & Ruettnier, 2019). Therefore, the chemical dissociation hypothesis (Somer, 2009) posits that an individual may be utilising substances in order to induce a dissociative state. Given that individuals report using cannabis as a form of distress tolerance and stress reduction (Appiah-Kusi et al., 2016), it was hypothesised th

### **Method**

The Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983), Cannabis Use Disorders Identification Test – Revised (Adamson et al., 2010) and the Dissociative Experiences Scale II (Carlson & Putnam, 1993) were administered to 138 Australian adult cannabis users (83 males, 52 females, 3 non-binary, with mean age 32.12 years, SD = 10.62 years).

### **Results**

A mediation model was run using PROCESS v3.3 macro for SPSS (Hayes, 2019) to test the relationship between perceived stress and dissociative experiences as mediated by cannabis use. Results indicated that perceived stress was a significant predictor of cannabis use ( $F(1,136) = 9.57, R^2 = .07, b = .22, t(136) = 3.09, p < .01$ ) and that cannabis use was a significant predictor of dissociative experiences ( $b = 1.13, t(135) = 3.42, p < .001$ ). The relationship between perceived stress and dissociative experiences was partially mediated by cannabis use ( $F(2, 135) = 26.38, R^2 = .28, b = 1.50, t(135) = 5.32, p < .001$ ) and explained more of the variance than the direct relationship between perceived stress and cannabis alone ( $F(1,136) = 38.10, R^2 = .22, b = 1.75, t(136) = 6.17, p < .001$ ).

### **Discussion**

The findings from the present study confirm that cannabis use may be involved in the relationship between perceived psychosocial stress and the experience of dissociation. Further research is needed in order to clarify the nature of this relationship and whether individuals are using cannabis as a maladaptive coping strategy to assist with symptoms of stress, or whether a motivating factor for cannabis use may be its dissociative properties.

## **The Impact of Alcohol on Academic Performance in University Students**

**Mariska van der Hoff, Anke Klein, Reinout Wiers, Claudia van der Heijde, Peter Vonk & Nine Wolters, University of Amsterdam, the Netherlands**

### **Introduction**

Alcohol consumption is common among university students and a large percentage of this group engages in binge drinking (or heavy episode drinking), i.e. consuming 5 or more drinks on one occasion within the last month. This drinking behavior among university students is often considered as part of ‘normal’ student life. However, early heavy drinking can result in negative (mental) health consequences, such as cognitive impairments, medical issues and addiction at a later age. Moreover, it has been shown that alcohol has a negative effect on brain development in youth, which may cause permanent brain damage and thereby affect school or academic performance. In addition, alcohol misuse has been related to certain mental health problems, such as depression, anxiety and sleeping problems. However, little is known about the effect of alcohol use and concurrent mental health problems on academic performance.

### **Method**

The first aim of this study is to describe the prevalence of various common mental health problems (e.g., anxiety- and depressive symptoms, sleeping problems) among university students. Secondly, the influence of these health problems and alcohol use (AUDIT) on academic achievement will be examined. It will be analyzed whether and to which degree these factors can predict study performance and how these factors interact with each other. In total, 1500 university students between the age of 17 and 25 years were asked to complete an online

questionnaire about their mental health. Academic performance was measured by a subjective measure (thoughts and feelings about grades and study pace) and an objective measure (study delay, BSc/MSc separation, negative binding recommendation). Additionally, study problems and study satisfaction were taken into account.

#### **Results**

A hierarchic regression analysis, controlled for gender and age, will be performed to analyze which of these factors have unique effect on academic performance. It is hypothesized that both drinking behavior and mental health problems will have an influence on study performance. Additionally, alcohol consumption is expected to have a unique effect on study performance above and beyond variance explained by mental health problems. Data collection is finished and the results will be presented during the poster presentation.

#### **Discussion**

With this study, we hope to examine if alcohol use indeed has a negative effect on study results and how this is related to mental health symptoms. Moreover, the current study could contribute to the development of more effective interventions for students with drinking problems focusing on alcohol use and concurrent mental health complaints.

### **Women, Addiction and Domestic Violence: Are Substance-Dependent Women More Aggressive than Non-Dependents?**

**Irmgard Vogt, Frankfurt University of Applied Sciences, Germany**

#### **Introduction**

Studies in domestic and intimate partner violence show convincingly that men under the influence of alcohol and other psychoactive substances can be highly aggressive. The association between men with substance use problems and domestic violence is established. The knowledge on women with substance use disorders and violent behavior is much more limited. In our study, we explore the role of women with substance use disorder in domestic and intimate partner violence.

#### **Method**

We carried out 59 structured interviews with women with substance use disorders. We recruited the subjects in institutions which care for addicts (in- and outpatient institutions). Besides others we asked the women if they experienced domestic partner violence and if so, how it got started and developed and who was the victim. The interviews were transcribed and codes with MAXQDA. We adopted qualitative content analysis methods to structure our findings.

#### **Results**

Of the 59 women 55 reported of at least one incident of violent fight, most often at home but also in public spaces. At home, women under the influence of alcohol and other drugs often started to quarrel and insult their partners which often evolved in physical fights. A rather large number of them were actively involved in hitting, biting, and use of a knife or other weapons. However, since most of them were not as fit as their partners, they often ended up as victims. The fights were more intense when both partners were intoxicated and when the level of intoxication was high.

#### **Discussion**

The results show that many women under the influence of alcohol and other drugs indeed engage in quarrels which eventually will develop in violent fights at home and in public spaces. They are not only victims but also those who started the quarrels and fights. The findings differ from those of women without substance use disorders who are victims of intimate and domestic partner violence who are said not to quarrel and not to defend themselves physically. The results indicate that addicted women have a higher level of aggression (or a lower level of impulse control) than non-addicted women, which has to be taken into account to better understand addicted relationships. Alcohol and other psychoactive drugs seem to have rather similar effects on aggressive impulses/ impulse controls of men and women. To support our findings, more studies are needed which investigate levels of aggression/ impulse control capacities of women under the influence of alcohol and other drugs.

### **Adolescents with Substance Use Disorder: Exploring Underlying Vulnerability Factors**

**Brenda Volkaert, Marie-Lotte van Beveren & Eva van Malderen, University of Ghent, Belgium**

**Pascale Leclercq & Joris Cracco, RKJ De Sleutel, Belgium**

**Caroline Braet, Ghent University, Belgium**

#### **Introduction**

Substance use disorder in adolescence (SUD) has extremely detrimental effects on both the user and society, and identifying underlying vulnerability factors is crucial for effective interventions. Previous research showed that deficits in both attachment (e.g. Dosier et al., 2008) and emotion regulation (e.g. Pickover et al., 2014) are associated with substance use among adolescents. Nevertheless, research integrating both attachment and emotion regulation in investigations of underlying factors in adolescents' SUD is absent. Moreover, investigation of comorbidity, yet potentially very informative, is lacking as well due to being limited to non-clinical samples.

#### **Method**

The current study explored the presence of comorbid psychiatric disorders and the relationship between attachment, emotion regulation and SUD in a sample of 43 adolescents ( $M = 16.22$ ,  $SD = .89$ ) between 14 and 18 years old, institutionalized in a residential SUD treatment center. Adolescents filled out questionnaires to assess attachment style, emotion regulation and the severity of the suffering associated with the SUD. Furthermore, the semi- Structured Clinical Interview for DSM-5 Disorder For Children was used to assess the number and severity of present psychiatric problems. Descriptive statistics and mediation analysis were used to examine results.

#### **Results**

Results showed that more than 75% adolescents with SUD are diagnosed with comorbidity, reported more attachment anxiety (40.5%), compared to attachment avoidance (18.5%) and showed rather a lack of adaptive emotion regulation strategies (20%) compared to the overuse of maladaptive emotion regulation strategies (7.5%). No significant associations were found between attachment, emotion regulation and SUD. However, additional analyses indicate that there is an important relationship between emotion regulation and the reported depressive symptoms, reflecting the suffering associated with the SUD. Surprisingly, only the use of adaptive emotion regulation strategies is negative related, while the use of maladaptive strategies is not.

#### **Discussion**

The unexpected results underline the need for further research in clinical samples of adolescents with SUD. Furthermore, the high comorbidity rates and severity of suffering highlight the importance of a transdiagnostic focus on assessment and treatment interventions for

adolescents with SUD. Moreover, current results implicate that prevention and intervention programs need to focus on adaptive emotion regulation in order to reduce the severity of suffering.

### **The Relationship Between Digital Game Addiction and Being Neglected By Parents in Adolescence**

**Utku Beyazıt, Akdeniz University, Turkey**

**Aynur Bütün Ayhan, Ankara University, Turkey**

#### **Introduction**

Digital game addiction is defined as an impulse control disorder involving characteristics such as “feelings of restlessness and/or irritability when unable to play”, “isolation from others in order to spend more time gaming”, and “the inability to control the time spent on game-playing”. Although it is not yet recognized as a distinguished disorder, digital game addiction is a severe problem for adolescents. It is thought that the children who are neglected by their parents may experience feelings of loneliness, isolation and depression, and may lean to digital games as a means of socialization.

#### **Method**

In this study, it is aimed to examine the relationship between digital game addiction and being neglected by parents in adolescence. The study is planned to be implemented to a number of at least 300 adolescents attending to high schools and their parents in Antalya, Turkey. As the data gathering instruments a socio-demographic information form, Digital Game Addiction Scale and Multidimensional Neglect Scale will be administered. In order to conduct the study, permissions will be taken from the Ministry of National Education and the administrations of the schools that the study is planned to be conducted.

#### **Results**

Prior to the onset of the analysis of the data, a normality test will be conducted. The data collected will be analysed by using SPSS and the results will be presented in tables.

#### **Discussion**

The results of the study will be discussed in terms of the relevant literature and suggestions will be made in regards with the avoidance of digital game addiction.

### **Eating Disorders**

#### **Risk Factors Under the Influence: A Cross-Cultural Examination of Eating Disordered Behaviours in the UK and India**

**Latika Ahuja, Heather O'Mahen, Huw Williams, Ian Frampton, University of Exeter, United Kingdom**

#### **Introduction**

Binge eating is a globally prevalent mental condition. While the nature of the problem has primarily been investigated using Western constructs in Non-Western cultures like India, the role of culture specific factors in binge eating behaviours is unclear. For example, perfectionism, need to achieve, control and inability to express thoughts and emotions (suppression of self) are Western predictors of binge pathology. However, how they interact and relate to binge eating remains unexamined in India; where cultural beliefs about suppression of self are highly prevalent. Therefore, this study cross-culturally examined perfectionism, need to achieve, need to control (universal factors), and beliefs around suppression of self (culture-specific factor) as predictors of binge eating behaviour across India and the UK, investigating whether country moderated these factors.

#### **Method**

In this online study, 476 high-risked individuals between 18 - 40 years, were recruited from India and the UK. Individuals who had experienced changes in their eating due to stress, for at least 2-3 consecutive days, completed measures of perfectionism, need to achieve and control. We adapted the measure of suppression of self to include cultural reasons for suppression (e.g., “it is important to uphold family tradition”) and who the suppression occurred with (family, marital partner).

#### **Results**

Binge eating behaviours were positively correlated with perfectionism, need to achieve, control, and suppression related beliefs with parents. British participants endorsed more binge eating behaviours than Indian participants. When simultaneously entered in a hierarchical multiple regression, British nationality, need to control, and the need to suppress one's beliefs in front of one's parents were related to binge eating behaviours. Country moderated the effects of suppression of self in marriage and with parents on binge eating behaviours, such that in India, the relationship of suppression with parents was stronger than that relationship in the UK, the opposite pattern occurred for suppression of self in marriage. These relationships were further qualified by a three-way interaction which demonstrated that perfectionism was associated with binge eating behaviours when individuals also had high needs for achievement, and endorsed the need to suppress themselves in marriage.

#### **Discussion**

The current findings indicate that both cross-cultural and culture-specific factors are associated with binge eating. British nationality, high need to control and suppression of oneself with of parents was directly related binge eating behaviours. As predicted, Indian nationality moderated the relationship between need to suppress oneself in front of parents and high binge eating behaviours. In contrast, individuals who endorsed suppressing the self in marriage were more likely to report greater binge eating behaviours if they were from the UK. Across both cultures, individuals who endorsed higher levels of perfectionism were more likely to report binge eating behaviours if they also had high needs for achievement, but endorsed beliefs that they should suppress their self-based needs in marriage.

#### **The Body Image Matrix of Thinness and Muscularity - Male Bodies (BIMTM-MB): Development and Validation of a New Figure Rating Scale for Male Body Image**

**Rike Arkenau, Silja Vocks, Christoph Taube, Manuel Waldorf & Andrea Hartmann, Osnabrück University, Germany**

#### **Introduction**

Previous research indicates that body dissatisfaction in men has increased over the last decades and can already be found among male adolescents. In contrast to women, who more often strive for a thin body ideal, men tend to be dissatisfied with their muscularity and wish to have a more muscular and trained body with low body fat. To adequately address male body image concerns in research and clinical practice, the development of validated, gender-specific diagnostic instruments is necessary. Therefore, the present study focuses on developing and

validating a two-dimensional figure rating scale that can be used to assess men's estimation of their own actual, felt, and ideal body, considering both muscularity and body fat as relevant aspects.

#### **Method**

The BIMTM-MB was designed using the Rendering Software DAZ Studio 4.9 and the 3D model Michael 6.0. Based on expert consensus, 64 body figures were arranged in an 8 × 8 grid with stepwise increasing gradations in muscularity on the vertical axis and in body fat on the horizontal axis. Convergent and discriminant validity of the BIMTM-MB were assessed using questionnaire data of n = 356 men participating in an online survey. Test-retest reliability was calculated using questionnaire data of a second, community-based sample of n = 96 men, who completed the BIMTM-MB twice across a mean time interval of 16.49 days (SD = 6.02).

#### **Results**

Participants' estimations of their own actual, felt, and ideal body on the BIMTM-MB muscularity and body fat dimensions significantly correlated with the respective items of another two-dimensional figure rating scale ( $.443 \leq r \leq .809$ , all  $p \leq .001$ ). Furthermore, drive for muscularity, drive for leanness, frequency of physical training, and disordered eating showed significant positive correlations with ideal muscularity scores ( $.153 \leq r \leq .293$ , all  $p \leq .025$ ) and significant negative correlations with ideal body fat scores ( $-.144 \leq r \leq -.354$ , all  $p \leq .024$ ). Ideal muscularity scores ( $U = 2901$ ,  $p = .035$ ) and ideal body fat scores ( $U = 2788.5$ ,  $p = .012$ ), respectively, discriminated significantly between weight-training and non-weight-training men. Test-retest reliability for participants' estimations of their actual, felt, and ideal body was high ( $.725 \leq r \leq .876$ , all  $p \leq .001$ ).

#### **Discussion**

The BIMTM-MB is a reliable and valid instrument which – by including a muscularity and body fat dimension – enables an assessment of central features of male body image. Due to its mainly language-free procedure, the BIMTM-MB can be easily administered and evaluated in diverse language areas. As it displays sufficiently extreme bodies at the endpoints of the matrix, e.g. an extremely underweight body, the application of the BIMTM-MB might also be useful within a clinical context. Future research should therefore consider validating the BIMTM-MB in a clinical sample.

### **Self-Injurious and Suicidal Behavior in Child and Adolescent Inpatients with Eating Disorders**

**Sabine Arnold, Christoph Correll & Charlotte Jaite, Charité - Universitätsmedizin Berlin, Germany**

#### **Introduction**

Among patients with eating disorders (EDs), self-injurious and suicidal behavior are a potentially serious clinical problem. However, epidemiological data on the frequency of self-injurious and suicidal behavior in ED patients during childhood and adolescence is scarce. Moreover, characteristics of ED patients with self-injurious and suicidal behavior, including ED subgroup comparisons, are lacking. Also, research on a possible effect of self-injurious and suicidal behavior on the treatment outcome of the underlying ED is needed. Therefore, the aim of the present study was to investigate in inpatients with EDs during childhood and adolescence 1) the prevalence of self-injurious and suicidal behavior, 2) clinical characteristics, and 3) whether treatment outcomes of ED were moderated by self-injurious and suicidal behavior.

#### **Method**

Retrospective cohort study at a tertiary care University inpatient department including all patients with EDs treated with an eating disorder-specific CBT-based inpatient program between 1992 and 2018. Data were retrieved manually by independent coders from patient records utilizing both data from a departmental basic documentation database supplemented by hand searched information from admission, intra-treatment and discharge documentation. Prevalence rate of self-injurious behavior (lifetime, before and during treatment), type of self-injurious behavior, suicidal thoughts (lifetime, before and during treatment), suicidality during treatment, and suicide attempts (lifetime, before and during treatment) were compared between ED subgroups. Further, clinical characteristics, such as age of disease onset, comorbidities and psychiatric medication use were contrasted between ED patients with vs. without self-injurious and with vs. without suicidal behavior. Moreover, treatment outcomes, ass

#### **Results**

Of altogether 462 female and male inpatients aged 7-18 years with an ED diagnosis according to ICD-10 criteria, ED subgroups were as follows: anorexia nervosa (AN), restricting type (n = 189, 40.9%), AN, binge-purge type (n = 62, 13.4%), AN, atypical (n = 67, 14.5%), bulimia nervosa (n = 89, 19.6%), bulimia nervosa, atypical (n = 17, 3.7%), ED not otherwise specified (n = 38, 8.2%). Prevalence results of self-injurious and suicidal behavior, correlates with clinical characteristics, and treatment outcomes in this sample will be presented at the conference.

#### **Discussion**

The results are discussed to better understand the relationship between ED and self-injurious as well as suicidal behavior aiming to identify targets for improved outcomes.

### **The Short-Term Course of Anorexia Nervosa in Adolescent Inpatients: A Follow-up Study**

**Sabine Arnold, Laura Winkelmann, Ernst Pfeiffer & Ulrike Lehmkuhl, Charité - Universitätsmedizin Berlin, Germany**

**Harriet Salbach, Freie Universität Berlin, Germany**

**Christoph Correll, Charité - Universitätsmedizin Berlin, Germany**

#### **Introduction**

Anorexia nervosa (AN) is a severe psychiatric disorder associated with high rates of chronicity, morbidity, and mortality. Even among rehabilitated patients, relapse is common in up to 50%. While numerous studies focused on weight restoration as the primary outcome for AN recovery, eating disorder-specific dimensions of cognition and behavior should also be examined as central disease-maintaining factors. Therefore, the aim of this study was to investigate in female adolescent inpatients with AN the short-term course of 1) BMI percentiles, 2) self-reported eating disorder-specific psychopathology, 3) general psychopathology, and 4) eating disorder diagnoses.

#### **Method**

Prospective study of female adolescent inpatients aged 12 to 18 years with a diagnosis of AN according to DSM-IV criteria, treated with an eating disorder-specific CBT-based inpatient program and assessed at admission (T0), discharge (T1) and ten months post inpatient treatment (T2). Outcome measures included body mass index (BMI), eating disorder-specific psychopathology (SIAB-EX, EDI-2) as well as general psychopathology (SCL-90-R).

## Results

Altogether, 51 females with AN (age = 15.8±1.3) showed a significant body weight increase during treatment (BMI percentile Mean±SD: 1.6±2.5 to 9.1±6.3,  $p<.001$ ). However, ten months after discharge, no further significant changes were observed (9.1±6.3 to 13.7±19.8,  $p=0.83$ ). The eating disorder-specific psychopathology significantly decreased from admission to discharge regarding patients' drive for thinness (30.1±10.1 to 25.7±9.7,  $p<.001$ ), bulimic behavior (13.0±8.0 to 10.2±4.6  $p<.001$ ), interoceptive awareness (30.9±9.1 to 27.0±9.7,  $p<.001$ ), and maturity fears (26.7±6.7 to 24.1±7.4,  $p<.001$ ). At the ten-month follow-up, again no further significant declines were detected ( $p$ -values 0.42-0.98). Finally, general psychopathology significantly decreased during treatment (SCL-90-R global index 1.1±0.6 to 0.6±0.5,  $p<.001$ ), but no further significant changes were observed at the follow-up time (0.6±1.5 to 0.7±0.6,  $p=0.10$ ). The prevalence of eating disorder diagnoses decreased from 100% at ad

## Discussion

Adolescent females with AN showed significant improvements in body weight, eating disorder-specific as well as general psychopathology during inpatient treatment. However, patients did not improve further after discharge. Moreover, 47.3% of those who did not have an eating disorder diagnosis at discharge had a relapse, meeting AN criteria at the 10-month follow-up again. Thus, the short-term course of AN in adolescent inpatients is not only characterized by improvements, but also by stagnation and relapse. Factors associated with each illness trajectory require careful attention in order to identify additional target for improving outcomes in adolescents with AN.

## A Two-Hour Emotion Regulation Workshop in Early Adolescents with Obesity: A Feasibility Study

Elisa Boelens, Taaik Debeuf, Sandra Verbeken, Brenda Volkaert & Caroline Braet, Ghent University, Belgium

### Introduction

Obesity is a widespread and ever-growing problem that has both short and long-term side-effects. Adolescents with obesity do not only experience physical consequences, but also suffer from psychological problems. Psychological mechanisms linked to obesity have been thoroughly investigated. An important mechanism in reducing stress or negative affect, is emotional eating. Emotional eating is defined as 'eating in response to a range of negative emotions' and correlates positively with the Body Mass Index. Recent studies show that emotional eating is associated with the use of maladaptive emotion regulation (ER) strategies and a deficiency in emotional awareness.

### Method

This study aims to investigate the feasibility of an ER training in adolescents ( $n = 50$ ) with obesity ( $M_{age} = 12.26$ ). Participants were enrolled in an inpatient obesity treatment program. Adolescents were randomly assigned to one out of three conditions and learned one adaptive ER strategy (distraction, cognitive reappraisal or acceptance). Before learning the ER strategy, the participants briefly had to be aware of their feelings and body sensations. During the workshop, adolescents rated their emotions. After the training, participants were presented a sad mood induction and had to use the learned ER strategy to reduce negative affect.

### Results

Feasibility was evaluated and reported for both the workshop and each of the strategies based on different parameters of multiple informants. Results show, for all three conditions, a significant increase in negative affect after the sad mood induction and a significant decrease in negative affect after using the learned strategy. Furthermore 75% of the educators reported the training to be an added value to care as usual and 73% of the early adolescents responded positively to the workshop. Finally, only 54% of the children started their homework with only 14% completing it.

### Discussion

Results of this study show that early adolescents are capable of learning adaptive emotion regulation strategies, but simultaneously imply that homework compliance is an important intervention barrier. Furthermore, emotional awareness is an important (first) step in using adequate emotion regulation strategies but was only superficially trained during the workshop. Moreover, emotional flexibility is also an important skill in regulating emotions in an adaptive way, but was not included in this workshop.

## Anorexia Nervosa Without Fear of Weight Gain: Do Implicit Association Tests Confirm Its Validity in a German-Speaking Sample?

Tiana Borgers, Nathalie Krüger, Claire-Marie Giabbiconi & Silja Vocks, Osnabrück University, Germany

Jennifer J. Thomas & Franziska Plessow, Eating Disorders Clinical and Research Program, MGH and Harvard Medical School, USA

Andrea S. Hartmann, Osnabrück University, Germany

### Introduction

One hallmark feature of anorexia nervosa (AN) and a main target of interventions is the body-image disturbance. It manifests, e.g., as fear of weight gain despite being at a low weight. However, research shows that 20% of individuals with AN do not report fear of weight gain. It remains unclear if these individuals do not experience fear of weight gain, do not have explicit access to it, or simply deny it, e.g., due to social desirability. Research to date, due to its reliance on self-report, has not answered this question, and other methods need to be employed in order to assess the validity of a non-fat-phobic (NFP-) subtype of AN. We hypothesized that individuals with fat-phobic AN (FP-AN), but not individuals with NFP-AN and healthy controls (HCs) exhibit implicit fear of weight gain or drive for thinness in implicit association tests (IATs).

### Method

A total of 64 individuals ( $n = 28$  FP-AN,  $n = 7$  NFP-AN,  $n = 29$  HCs) took part in two IATs. In a questionnaire-based IAT (qIAT), individuals were asked to categorize statements as pro-dieting versus non-dieting and true versus false using the same two response keys for both categorizations. In one half of the experiment, pro-dieting and true as well as non-dieting and false were assigned the same response. In the other half, the pairing was reversed. Faster responses in one pairing versus the other pairing condition indicate an implicit association of the concepts assigned to the same response button. In a picture-based IAT (pIAT), pictures of underweight versus normal-weight models were paired with positive versus negative words following the procedure of the qIAT.

### Results

Groups significantly differed in both the qIAT ( $p < .001$ ) and the pIAT ( $p < .01$ ). In the former, the FP-AN group showed greater association between true and pro-dieting, while HCs exhibited a stronger association between true and non-dieting ( $p < .001$ ;  $d_{AN-KG} = -1.39$ ). In the pIAT, individuals with FP-AN did not exhibit a positive bias toward underweight models, while HCs had a stronger negative association between underweight models and negative words compared to individuals with FP-AN ( $p < .001$ ;  $d_{AN-KG} = -1.13$ ). The NFP-AN group did

not differ significantly from the two other groups ( $p \geq .05$ ;  $qIAT$ :  $dKG-NFP= 0.778$ ,  $dAN-NFP= -0.636$ ;  $pIAT$ :  $dKG-NFP= 0.375$ ,  $dAN-NFP= -0.547$ ). Descriptively,  $NFP-AN$ 's D-scores are between those of the two other groups.

### **Discussion**

Results illustrate the usefulness of the IAT questionnaire- and picture-based, to assess implicit fear of weight gain, and to differentiate between individuals with  $FP-AN$  and HCs. Individuals with  $NFP-AN$ , in line with their self-report, might not show implicit fear of weight gain, at least not to the extent of individuals with  $FP-AN$ .

## **Presentation of a Cognitive and Nutritional Group Intervention in Obese Women**

**Rania Boumi, Aggeliki Kordali, George Georgantopoulos & Anastasia Soureti, National and Kapodistrian University of Athens, Greece**

### **Introduction**

In Greece, 7 out of 10 people are considered obese, while many others ignore the basic rules of a balanced diet. Cognitive Psychotherapy has demonstrated evidence-based effectiveness in weight loss, as well as in changing cognitions about nutrition. Dieticians and nutritionists are faced with deadlocks in their daily practice, which cannot be overcome with purely nutritional interventions. Respectively, psychiatrists and psychologists confront difficulties such as the lack of nutrition-related knowledge. In order to address the above difficulties, a pilot Cognitive and Nutritional Group Intervention programme for people with obesity was designed. The aim of the intervention was to explore and modify dysfunctional cognitions related to nutrition and to improve the eating habits, by combining cognitive techniques and nutritional education in groups of obese adults.

### **Method**

The programme was coordinated by a Cognitive Psychotherapist and a Dietician-Nutritionist with specialised in Eating Disorders. The duration of the intervention was 10 sessions, 90' per session. The first assessment included individual interviews and all participants were asked to complete the questionnaire TFEQ-R18 (Three Factor Questionnaire-R18) both at the first and last session. Till date, the programme has been implemented to 22 women, aged between 28 and 70 (mean age = 46,2 years), divided in 4 groups. The structure of the programme included cognitive and nutritional interventions. The cognitive intervention included: 1) presentation of the programme and acquaintance of the participants, 2) explanation, to the participants, of the motivator's role and familiarisation with basic cognitive reasoning (eating as a behaviour, vicious circle of a restrictive diet), 3) induction to self-observation (through logbooks, discussion on diary logs and practice on consciousness diet), 4) intr

### **Results**

The most common cognitions that were identified are related to the following: Self-restraint (e.g. "I cannot stop eating"), Amount of food consumption (e.g. "I have to finish it"), Connection of the food with the feeling (e.g. "only if I eat something sweet, I will calm down"), Cognitive distortions (e.g. all or nothing thinking, "must" phrases, arbitrary conclusions and mental filter). After cognitive and nutritional interventions, more realistic and functional thoughts emerged and the following were observed: Improvement in self-restraint, Increased ability to distinct hunger from craving, Decrease of the amount of food consumed, Less emotional eating ("If I eat, my worries will worsen"), "Demystification" of incorrect beliefs about food, Improvement in food quality, Enhanced Self-regulation of emotions, Increased motivation and Weight reduction or Retention of the existing body weight.

### **Discussion**

The first results from the groups where the programme was implemented are encouraging as per its effectiveness. Some proposals for its future improvement are to extend the duration of the program so that more emphasis is put upon Cognitive Analysis and Cognitive Reconstruction, to integrate body image interventions, to introduce techniques for the dissociation of weight to self-esteem, to encourage weight loss through personalised diet, introduction of follow-up sessions to assess the maintenance of changes and to use of more appropriate psychometric tools among others.

## **Investigation of Outcomes and Mechanisms of Change in CBT Interventions for Weight Loss a Meta-Analysis of Randomized Clinical Trials**

**Loana Comsa, Oana David & Daniel David, Babes Bolyai University, Romania**

### **Introduction**

Finding evidence-based interventions to reduce obesity is important since about 4 of 10 people are overweight. A new direction in studying weight loss is the identification of psychological factors that can influence the results which we call mechanisms of change (Teixiera et al., 2015).

This meta-analysis has two objectives. The first is to evaluate the efficacy of CBT on weight loss and on psychological components such as cognitive, behavioral and emotional outcomes and the second is to analyze the relation between alleged mechanisms of change and weight loss.

### **Method**

We considered eligible studies only (1) randomized clinical trials, (2) wrote in english, (3) which include and report a quantitative assessment of change in weight, (4) include and report a quantitative assessment of potential cognitive mechanisms (mediators, moderators or predictors) of successful change in weight (5) provide sufficient data to allow calculation of effect sizes, (6) comparing at least one active CBT intervention (7) with a control: non CBT intervention, education, no intervention, self help for (8) healthy, (9) adults, (10) overweight or obese grade I ( $25 < BMI < 40$ ). In our search we followed the steps recommended by Preferred Reporting Items for Systematic reviews and Meta-analyses: the PRISMA statement (Moher et al., 2009). We included 16 studies (18 contrasts) with 1.746 healthy adults participants with a mean BMI of 34.45 kg/m<sup>2</sup>, and a mean age of 42.9 years.

### **Results**

The pooled ESs of the 18 contrasts in which a CBT-intervention was compared to a control condition in terms of weight loss, was Hedges'  $g = 0.31$  (95% CI 0.04 to 0.58),  $NNT = 5.75$ , favoring CBT-interventions,  $Q(17) = 119.81$ ,  $p < .001$ ;  $I^2 = 86\%$  and in terms of cognitive factors was  $g = 0.37$  (95% CI 0.22 to 0.45),  $NNT = 4.85$ ,  $Q(17) = 25.31$ ,  $p = 0.157$ ;  $I^2 = 25\%$ . From all the proposed cognitive mechanisms of change, results indicated a significant association only between motivation outcomes ESs (slope= 0.992, 95% CI 0.13 to 1.85,  $p = 0.02$ ) and self-efficacy ESs (slope= 1.59, 95% CI 0.24 to 2.94,  $p = 0.02$ ) and weight outcomes at the end of intervention. None other significant association between other cognitive factors (body image and self regulation), behavioral or emotional factors were found.

## **Discussion**

Current evidence suggests that CBT is effective in weight loss. Clinicians will be more effective if they add in their weight loss interventions components for increasing motivation and self-efficacy of their patients.

## **Stress and (Un)Healthy Food Behavior: The Moderating Role of Emotional Eating and Emotion Regulation; A Daily Diary Study**

**Taaike Debeuf, Sandra Verbeken, Marie-Lotte Van Beveren, Nathalie Michels & Caroline Braet, Ghent University, Belgium**

### **Introduction**

Pediatric obesity is a growing problem, definitely because of the bad prognosis of the illness. An important mechanism in the vicious cycle of obesity is emotional eating. 'Eating your negative emotions away' is assumed to act as a maladaptive way of regulating daily stress and emotions. However, ecologically momentary analyses like the daily variations between stress and eating is far less studied. Herein, the specific role of (mal)adaptive emotion regulation strategies should be studied as it might be crucial for prevention and treatment.

### **Method**

The present study aims to investigate the momentary relationship between stress and unhealthy eating behavior as well as the moderating role of emotion regulation, and especially the role of emotional eating.

The present study recruited 109 average weighted youngsters between the age of 10 and 16 years. The youngsters fill out trait-questionnaires on emotion regulation and emotional eating before starting the study, and answer an online diary after school, during seven days. The online diary contains questions on the daily stress amount, hunger eating - and desire to eat motives and snacking.

### **Results**

Using multilevel analyses results revealed that daily stress is significantly associated with trajectories of desire to eat motives and hunger eating motives. No evidence was found for the moderating role of maladaptive ER in these relationships; marginally significant evidence was found for the moderating role of emotional eating in the trajectories of desire to eat and snacking.

### **Discussion**

These results stress the importance of looking into the daily relationship between stress and eating behavior parameters, as both are related with change over and within days. More research is needed to draw firm conclusion on the moderating role of ER strategies and emotional eating.

## **Drunkorexia: The Role of Personality**

**Lucia Di Guida & Elisa Cavallini, Istituto Miller, Italy**

### **Introduction**

In Italy "happy hour" is considered a part of social life, but in recent years the co-occurrence of disordered eating and alcohol use has been highlighted in literature.

Drunkorexia, a specific pattern of inappropriate compensatory eating behaviors in order to avoid or minimize weight gain or calories assumption/consumption from drinking alcohol (referred to as ICB-WGA), is an emerging phenomenon. In literature, there are a few studies that have investigated the prevalence of these behaviors in Italy, mainly among adolescents and young adults. Moreover, previous studies provide relevant information about the relationship between personality and eating disorders (ED). The involvement of personality factors in the etiology and maintenance of ED indicates the need of emphasizing the study of personality in drunkorexia

### **Method**

The aim of this study is to investigate the association of drunkorexia with disordered eating behaviors and alcohol consumption in a sample of Italian male and female (65 participants aged 18-57).

Furthermore, this study examine the motivations underlying alcohol related behaviour and the relationship with personality characteristics. Participants anonymously completed a set of self-reported questionnaires including Alcohol Use Disorders Identification Test (AUDIT), Millon Clinical Multiaxial Inventory-II (MCMI-II), Compensatory Eating and Behaviors in Response to Alcohol Consumption Scale (CEBRACS), the Eating Disorder Inventory - III (EDI- III) and socio-demographic data.

### **Results**

The present survey is currently in progress.

### **Discussion**

This research can give more information about motivation and prevalence of compensatory eating behaviors in a sample of adults. Results could enhance prevention and intervention programs.

## **Building Resilience to Depressive Rumination: The Protective Role of Attentional Avoidance of Thin-Ideal Bodies**

**Laura Dondzilo, Rebecca Shao & Jason Bell, University of Western Australia, Australia**

### **Introduction**

Ruminative thinking is considered a vulnerability factor for body image and eating disturbances. Thus, it is crucial to identify the underlying mechanisms of this maladaptive form of emotion regulation. The current study aimed to determine the direct causal influence of attentional bias towards thin-ideal bodies on both depressive and eating disorder (ED) rumination. Additionally, this study sought to evaluate the efficacy of attentional bias modification (ABM) utilising a touchscreen device.

### **Method**

A well-established ABM protocol, the modified dot probe task, was used for both attentional assessment and training. Female undergraduate students (N = 110) completed an ABM session where attention was trained either towards, or away from, thin-ideal images. Pre- and post-attentional training, participants completed the dot probe task, as well as state measures of rumination.

### **Results**

Results revealed that the intended attentional bias change was achieved. Further, participants trained to avoid thin-ideal bodies reported significantly reduced depressive rumination, compared with participants trained to attend to thin-ideal bodies. On the other hand, attentional bias towards thin-ideal bodies did not causally impact ED-specific rumination.

### **Discussion**

The current findings suggest that touchscreen-based ABM is successful in manipulating attentional bias, and that this has a consequent conducive impact on depressive rumination. Further, attentional avoidance of thin-ideal bodies is implicated as a potential protective

mechanism against depressive rumination. Importantly, these findings pave the way to the potential development of an ABM-based smartphone application with a view of building psychological resilience in young women. In turn, this may serve to protect against the development of body image and eating disturbances.

### **Moderating Effect of Cognitive Fusion on the Relationship Between Perfectionism and Eating Disorder-Related Symptoms**

**Céline Douilliez, Université catholique de Louvain, Belgium**

**Hélène Doutriaux, Centre hospitalier de boulogne sur Mer, France**

#### **Introduction**

A wealth of studies suggests that perfectionism—a personality trait involving the setting of high standards accompanied by tendencies to be overly self-critical—could be a causal factor in the development of eating disorders. Moreover, more recent research has also identified cognitive fusion—“a tendency for overt and covert behaviour to be overly regulated by cognition, compared to direct contingencies” (Gillanders et al., 2014)—as a key mechanism in the persistence of dysfunctional attitudes and behaviors regarding weight and diet. We could assume that rigid rules held by perfectionists would be more likely to lead to eating disorder-related symptoms when they are high in cognitive fusion. Therefore, the aim of this study was to explore the moderating role of cognitive fusion on the relationship between perfectionism and eating disorder-related symptoms.

#### **Method**

Two hundred and three women, aged between 18 and 30 years old, participated in an online study. They completed three questionnaires in order to measure their level of perfectionism (Multidimensional Perfectionism Scale, HMPS), their proneness to cognitive fusion (Cognitive Fusion Questionnaire, CFQ) as well as their problematic eating behaviours (Eating Disorder Inventory-2, EDI 2). Moderated multiple regressions were conducted on three EDI-2 subscales (i.e., bulimia, drive for thinness, and body dissatisfaction). In a first set of analyses, self-oriented perfectionism (SOP), cognitive fusion and their interaction were included as predictors with socially prescribed perfectionism (SPP) as covariate. In the second set of analyses, SPP, cognitive fusion and their interaction were included as predictors, with SOP as covariate.

#### **Results**

The first set of analyses showed that nor the effect of SOP nor the interaction between SOP and cognitive fusion were significant, but cognitive fusion and SPP predicted bulimia, in the one hand, and body dissatisfaction, in the other hand. Drive for thinness was only marginally predicted by SOP and SPP. The second set of analyses showed a marginally significant effect of SPP and a significant interaction between SPP and cognitive fusion on bulimia. The relationship between SPP and bulimia was only significant when cognitive fusion was high. Drive for thinness was only predicted by the interaction between SPP and cognitive fusion: The relationship between SPP and drive for thinness was only significant when cognitive fusion was high. Finally, we observed significant effects of SPP and cognitive fusion on body dissatisfaction but the interaction between both was not significant.

#### **Discussion**

The results suggested that cognitive fusion only moderated relationships between socially prescribed perfectionism and bulimia and drive for thinness. Those results will be discussed as well as their implications for prevention and intervention in the context of eating disorders.

### **Attention and Body Dissatisfaction**

**Francisco Esteves, Billy Jansson, Jens Bernhardsson & Örjan Sundin, Mid Sweden University, Sweden**

#### **Introduction**

Body dissatisfaction has been considered an important factor in the development and maintenance of eating disorders. The comparison with the thin ideal prevalent in different media channels, including social media, can be one of the factors that contribute to widespread of dissatisfaction with the own body. Thus, even people not meeting the criteria for eating disorders, might show a very problematic way to cope with their food intake. The present study aimed to investigate the attentional pattern evoked when young women were exposed to pictures of female bodies varying in their body shape.

#### **Method**

Eighty-one women, aged 19 to 37 years, viewed a series of pictures, each one containing four photos of women. The photos were generated and manipulated digitally in order to get different body shapes, ranging from a slim to a heavy body shape. The photos were exposed in a 2x2 array during 4 seconds. Body Shape Questionnaire was used to divide participants into two groups; high and low body dissatisfaction. The direction and fixation of the gaze were recorded continuously by means of an eye-tracker.

#### **Results**

In general, an attentional bias in the body dissatisfaction group was observed, i.e., women looked longer to the slimmest picture in the array and less time to the heaviest one. Women in the control group (low body dissatisfaction) showed distributed attention to the four body shapes.

#### **Discussion**

These results suggest promising possibilities of using easy ocular tracking tests in the early detection of symptoms associated with eating disorders, and perhaps possibilities of improving clinical and preventive interventions.

### **“I’m Fat, Poor and Ugly. Can’t I even Have the Pleasure of Eating?” – A Case of CBT-E in Severe Obesity and Binge-Eating Disorder**

**Tammy Amaral Ferreira, Rede Mater Dei, Brazil**

**Renata Borja Pereira Ferreira de Mello, Cognitiva Centro de Terapia, Brazil**

**Rodrigo de Almeida Ferreira, Rede Mater Dei, Brazil**

#### **Introduction**

Binge-eating disorder and obesity require transdisciplinary treatment, for their underlying causes are multifactorial. Addressing emotional and behavioral issues is critical, with broad enhanced cognitive-behavioral therapy for eating disorders (CBT-E) being the treatment of choice. Uncontrolled eating is related to lower cognitive control, higher negative affect and alteration of reward circuitry sensitivity. The core psychopathology is overevaluation of shape and weight and their control. Failed attempts to adhere to extreme dietary rules are viewed as evidence of poor self-control. Binge eating can also become a way of coping with mood changes. The main point of this case report is to

emphasize thoughts and behaviors related to the reward circuitry as maintainers of binge-eating, the relevance of understanding this complex process in individual and environmental contexts, in order to establish more effective and long-lasting strategies for weight loss.

#### **Method**

Liz is a 23-year-old patient with a diagnosis of grade III obesity, binge-eating disorder, generalized anxiety disorder and depressive episode. She had multiple related comorbidities to weight gain and had an indication of bariatric surgery after multiple failed attempts to lose weight since childhood. Liz sees herself as fat and ugly. All her family members are obese, unsupportive and own a food store where they live. The initial assessment was designed to help the patient to become hopeful about changing and to encourage her to take ownership of treatment. Cognitive conceptualization identified helplessness, worthlessness and unlovability schemas, as well as perfectionism. She began CBT-E aiming to reduce anxiety symptoms, lose weight and be more confident.

#### **Results**

The therapist identified potential barriers for benefiting from CBT-E: pervasively negative self-evaluation, intolerance of negative mood states coupled with engaging in any behavior that provided rapid relief, magnified concerns about controlling eating, shape and weight by family members and interpersonal difficulties. Behavioral activation and problem-solving strategies were used to develop previously marginalized domains of self-evaluation, identify event-triggered changes in eating, develop skills to directly tackle such events and to accept and modulate intense moods.

The following stage of therapy aimed to educate the patient about the cognitive model, derive a collaborative case conceptualization, implement weekly weighing, guide regular eating, reformulate dysfunctional thoughts and behaviors related to feeding and change reinforcement cues of patient's reward circuitry. At this stage, Liz was started on a diet, began losing weight and was physically more active.

#### **Discussion**

Key mechanisms for maintaining the patient's eating disorder were then addressed by providing education about overevaluation of shape and weight and its consequences, reducing unhelpful body checking and avoidance, exploring the origins of overevaluation, changing inflexible dietary rules into flexible guidelines and addressing perfectionism. Liz began exercising, remains engaged and is more active in therapy. The improvement of eating disorders' treatment requires integration of cognitive-behavioral interventions with realistic neurobiological mechanisms, in individualized ways. This case report demonstrates how particular patient features and schemas can difficult improvement and how the understanding of her biological and psychological functioning in a broader perspective could guide therapy. A question remains for future research: could changes in cognition modify biologically-mediated reward pathways?

### **Metacognitive Functioning and Insight in Eating Disorders**

**George Georgantopoulos & Fragiskos Gonidakis, Eginition Hospital, National and Kapodistrian University of Athens, Greece**

**Ioannis Michopoulos, Attikon Hospital, National and Kapodistrian University of Athens, Greece**

**Dimitris Dikeos, Eginition Hospital, National and Kapodistrian University of Athens, Greece**

#### **Introduction**

Metacognition as a process and metacognitive knowledge and regulation as products are considered fundamental components of a well-developed cognitive function and prerequisites for behavioural change. Self-Reflection and Insight refer to the inspection/evaluation and clarity of understanding, respectively, of one's thoughts, feelings and behaviour. They relate to the self-monitoring of performance which is part of the self-regulatory cycle towards goal attainment. Accumulating results from recent studies show that eating disorders patients present with dysfunctional metacognitions, while metacognitive techniques start being integrated in therapeutic manuals. It is also proven that some of these patients present lack of clinical insight, and even beliefs of delusional intensity. To our knowledge, no study has been undertaken till date pursuing the potential correlation of the above metacognitive, cognitive and clinical factors.

#### **Method**

In order to study this correlation in eating disorders, a sample of ninety female patients suffering from Anorexia Nervosa (AN) or Bulimia Nervosa (BN) who were accepted for outpatient therapy in the Eating Disorders Unit, along with sixty matched healthy participants, were assessed with the following tools: Eating Disorder Examination Questionnaire (EDE-Q), Metacognition Questionnaire-30 (MCQ-30), Self-Reflection and Insight Scale (SRIS), Schedule for the Assessment of Insight in Eating Disorders (SAI-ED) and Brown Assessment of Beliefs Scale (BABS).

#### **Results**

Through the undertaken statistical analysis, eating disorder patients showed higher scores than the healthy individuals in the SRIS. They were also proven as more prone to dysfunctional metacognitions, as examined through the MCQ-30. Restricting type AN patients showed the least clinical insight and scored higher in delusional beliefs than all of the other groups.

#### **Discussion**

The results of this study indicate that metacognitive functioning might be related to clinical factors in women with eating disorders. These results remain to be generalised in larger-sample, polycentric studies. It is of great importance to assess how these factors can be modified through the current therapeutic interventions, in future longitudinal studies.

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### **Cognitive Mechanisms Underlying Individual Differences in Negative Emotional Consumption of Junk Food**

**Gemma Healey & Jason Bell, University of Western Australia, Australia**

**Eva Kemps, Flinders University, Australia**

**Colin MacLeod, University of Western Australia, Australia**

#### **Introduction**

Consumption of junk food is an identified risk factor for being overweight or obese. Negative emotions are an identified driver of junk food consumption. The aim of this study was to test two models of negative emotional consumption of junk food (NECJF). The first model proposes that individuals prone to NECJF experience greater elevations in negative mood in response to a stressor, compared with those who

are not prone to NECJF, because they have a dispositional attentional bias to negative emotional information, and elevations in negative mood drive increased consumption. The second model proposes that once in a negative mood, those prone to NECJF have an attentional bias to junk food information, compared with those not prone to NECJF, and that this attentional bias mediates the association between negative mood and consumption.

#### **Method**

Participants were undergraduate women who were randomly assigned to one of two groups. One group completed a high stress anagram task designed to induce negative mood, and the other group completed a low stress anagram task designed not to induce negative mood. Participants completed measures of attentional biases to food and emotionally valenced pictures before and after being exposed to the anagram task. Junk food consumption was assessed using the “bogus” taste test. Participants completed the Dutch Eating Behaviour Questionnaire and a new self-report measure of NECJF.

#### **Results**

The anagram task successfully induced differential negative mood state between the two groups. However, those endorsing NECJF did not react to the high stress condition with greater elevations in negative mood, and nor did attentional bias scores to negative emotional information moderate the association between stress condition and negative mood. Moreover, elevated negative mood in those endorsing NECJF, and exposed to the high stress condition, did not predict junk food consumption and an attentional bias to junk food information did not mediate the association between negative mood and consumption in those endorsing NECJF.

#### **Discussion**

This study sought to test two models of NECJF each implicating a cognitive processing bias in underlying individual differences in the tendency to consume junk food in response to negative emotional states. The lack of support for the two models of NECJF will be discussed in relation to difficulties measuring individual differences in this eating style. Research illuminating the cognitive mechanisms contributing to NECJF serves to inform clinical interventions aimed at remediating problematic patterns of consumption.

### **A Comprehensive Assessment of Different Facets of Body Image in Homo-, Hetero- and Bisexual Women and the Influence of Discrimination Experience**

**Alina Henn, Silja Vocks & Andrea Hartmann, Osnabrück University, Germany**

#### **Introduction**

Body image disturbance is a symptom of several disorders and even a hallmark feature for others such as eating disorders and body dysmorphic disorder. Given its relevance for a broad range of disorders, it is essential to understand influential factors, e. g. sexual orientation. Previous studies have shown inconsistent findings regarding the body image of women of different sexual orientations, and bisexual women were often neglected. Furthermore, past research on this topic has mostly focused on body dissatisfaction as the cognitive-affective facet of body image disturbance, and a comprehensive assessment of the broad range of facets (i.e., also perceptual and behavioral) is missing, and potentially mediating factors such as discrimination experiences have largely been disregarded.

#### **Method**

A total of 617 women (homosexual:  $n = 180$ , heterosexual:  $n = 322$ , and bisexual:  $n = 115$ ), aged 18-66 participated in an online survey consisting of a battery of validated questionnaires assessing different facets of body image (disturbance), eating and body dysmorphic pathology, and current discrimination experience.

#### **Results**

Controlled for age, homosexual showed a significantly lower drive for thinness ( $p < .05$ ) and leanness ( $p < .01$ ), chose a significantly bigger body ideal ( $p < .001$ ) than heterosexual women, and reported significantly lower investment and checking behavior than bisexual women (both  $p < .01$ ). There were no group differences in body dissatisfaction and avoidance behavior. Additionally, groups did not differ in discrimination experiences, but across groups, there was an association with overall body image disturbance, eating and body dysmorphic pathology (all  $r \geq .138$ , and all  $p < .05$ ). Interestingly, in heterosexual women, more body image facets (6/8) were significantly correlated with discrimination experiences than in homosexual or bisexual women (both 2/8).

#### **Discussion**

Significant differences in several body image facets between women of different sexual orientation were found within this larger German-speaking sample. Possible explanations for reported variances include differences in the internalization of socio-cultural norms by the three groups, and differential identification and involvement of homo- and bisexual women with lesbian communities. Elevated levels of body checking behavior in bisexual women might be due to the “bisexual identity-finding” and experienced discrimination (i. e., biphobia).

### **Issue of Gender? - Subjective Assumptions About the Causes to People's own Obesity**

**Carmen Henning, Stefanie Schroeder & Caroline van der Velde, Otto-Friedrich-University, Germany**

**Stephan Herpertz, LWL University Hospital and Ruhr-University Bochum, Germany**

**Jörg Wolstein & Sabine Steins-Löber, Otto-Friedrich-University, Germany**

#### **Introduction**

The Common-Sense-Model (CSM) of self-regulation suggests that subjective assumptions about the causes of a person's own chronic illness can have an influence on coping behavior and adherence, thus course of the disease and the outcome of the treatment are being affected. First preliminary findings suggest gender differences in causal assumptions, although this has not been systematically researched so far in regard to obesity. This study investigated to what extent the subjective causal assumptions are obesity specific according to the CSM, while also determining gender differences.

#### **Method**

360 women and 51 men with obesity ( $BMI 42.3 \pm 9.0$ ) took part in an online survey. Attendances rated 19 possible causes of chronic diseases in regard to their subjective assumptions about causes for their own obesity (Illness Perception Questionnaire-R, 5-point Likert scale). In order to extract main factors for the single causes a principal component analysis with varimax rotation had been applied. For exploring gender differences independent student t-tests have been carried out.

#### **Results**

Women believed significantly stronger in items causes like “family issues, worries”, “emotional well-being”, and “inheritance” than men did (Hedges  $g = .36$ -.44). Men on the other hand believed in “aging processes” (Hedges  $g = -.41$ ) stronger than women did. Five major factors which had been extracted from the single causes were as follows: “behavioural habits” ( $M = 4.40$ ;  $SD = .60$ ; 2 items; Cronbach's  $\alpha = .785$ ),

“psychological factors” (M=3.53; SD=.80; 6Items,  $\alpha$ =.807), “physiological causes” (M=2.85; SD=.85; 3 items,  $\alpha$ =.456), “external causes and age” (M=2.13; SD=.70; 5 items,  $\alpha$ =.703), and “health impairment” (M=1.78; SD=.84; 3 items;  $\alpha$ =.652). For the last factor health impairment ( $t(409) = 2.79, p = .01, g = .42$ ) men showed significantly higher results than women.

#### **Discussion**

The analysis showed a specific factor structure for obesity according to the CSM in contrast to other chronic diseases. For therapy purposes and the motivational aspect of treatment it is advisable to consider the mentioned gender differences, e.g. sensitization of men for psychological causes. Further research considering the CSM is required to test, if there are gender effects which can have an impact on adherence and the progress of the disease due to subjective causal assumptions.

### **Impact of Comorbid Borderline Personality Disorder on Inpatient Treatment Outcome for Bulimia Nervosa: Analysis of Routine Data and Discussion of Transdiagnostic Aspects**

**Johannes Hessler & Jörg Heuser, Schoen Clinic Roseneck, Germany**

**Sandra Schlegl, University Hospital Munich, Germany**

**Tabea Baumann, Martin Greeffeld & Ulrich Voderholzer, Schoen Clinic Roseneck, Germany**

#### **Introduction**

A substantial rate of patients with bulimia nervosa (BN) also suffers from Borderline personality disorder (BN+BPD). While BN and BPD share core symptoms such as emotional instability, impulsivity, and dysfunctional emotion regulation, it is widely unknown how these comorbid patients with BN+BPD present and respond to inpatient treatment. Aims of the study were to examine (1) specific characteristics of patients with BN+BPD at admission, discharge, and during treatment, and (2) differential effects of inpatient treatment for BN vs. BN+BPD.

#### **Method**

We analyzed routine data of inpatients admitted for the treatment of BN between 2013 and 2017 in a specialized hospital for eating disorders. (1) Cross-sectional differences were examined with independent t-tests and  $\chi^2$ -tests; and (2) treatment effects pertaining to eating disorders symptoms, depression, psychosocial functioning and general psychopathology with repeated measures analysis of variance.

#### **Results**

Of 1298 inpatients (96% female), 13.2% also had a diagnosis of BPD. (1) Patients with BN+BPD had more previous inpatient treatments ( $p=0.001$ ), had a longer length of stay ( $p=0.003$ ), gained more weight during treatment ( $p=0.006$ ), and were more often irregularly discharged ( $p=0.018$ ) as well as rated as unfit to work at discharge ( $p=0.003$ ). (2) Both groups improved in all examined variables (all main effects treatment  $p<0.001$ ). Patients with BN+BPD showed worse symptoms aggregated across admission and discharge (all main effects diagnosis  $p<0.05$ ). Patients with BN+BPD showed smaller improvements (interaction treatment $\times$ discharge) in depressive symptoms ( $p=0.018$ ), perfectionism ( $p=0.009$ ), and asceticism ( $p=0.035$ ) and discharge scores mostly lay in the range of the admission scores of the BN-only group.

#### **Discussion**

Patients with BN+BPD improve during intense and specialized inpatient treatment, yet, retain pronounced impairment at discharge despite longer treatment. Treatment needs to be improved and should focus on transdiagnostic symptoms of BN and BPD.

### **Orthorexia Nervosa; Validation of the Eating Habits Questionnaire**

**Natalie Hirsch, Australian Catholic University, Australia**

#### **Introduction**

Orthorexia nervosa is a condition proposed to be characterised by a pathological obsession with healthy eating, restrictive eating practices, ritualised eating patterns, and a rigid avoidance of foods perceived as unhealthy or impure. The behaviours associated with orthorexia appear similar to the symptoms of eating disorders and obsessive-compulsive disorder. Knowledge of orthorexia has been constrained as a result of limited assessment tools. The Eating Habits Questionnaire (EHQ) is a recently developed measure that has shown promising initial psychometric properties. This paper has two aims: (1) to present psychometric information pertaining to the EHQ in an Australian community sample, and (2) to examine its construct validity.

#### **Method**

This study recruited a sample of adults ( $N = 430$ ). All participants completed an online questionnaire.

#### **Results**

Hypotheses were tested through reliability, correlational, and exploratory factor analyses. Contrary to prior research, a 4-factor solution emerged, although this was consistent with theoretical understandings of orthorexia. Internal consistency of the EHQ total score and factors were moderate to high. The EHQ demonstrated good convergent validity with clinically-related measures of eating disorder and obsessive-compulsive symptoms, and discriminant validity was established through finding no correlation with theoretically dissimilar constructs (shape and weight concern). Psychometric information related to the EHQ will be presented, followed by associations with symptoms of related mental health disorders.

#### **Discussion**

This study provided preliminary psychometric support and construct validity for the EHQ in English-speaking community samples. The paper will contribute to a limited field of research examining the validity of the construct of orthorexia nervosa and its relation to other disorders such as obsessive-compulsive disorder and eating disorders.

### **The Effect of Reducing Implicit Approach Toward Foods on Eating Behavior**

**Marise Ishikawa, Midori Takasawa, Yuki Tanaka, Kazutaka Nomura & Hironori Shimada, Waseda University, Japan**

#### **Introduction**

Recent studies have suggested that when exposed to food-related stimuli, those who are rated high on implicit approach toward foods tend to overeat. However, it is not clear whether reducing implicit approach will improve eating behavior. Some research has shown that external eating in response to external food stimuli is associated with high implicit approach, among eating style relating to binge eating. Therefore, we suggest that reducing implicit approach may be effective for external eaters in improving their eating behavior. The present study aims to examine whether reducing implicit approach improves eating behavior, with regard to the eating style.

## Method

Fifty-three students who were 20 years or older were randomly assigned to the experimental group, in which treatment: designed to reduce implicit approach toward foods was provided, or the control group. The experimental group consisted of 14 men and 21 women with a mean age of 21.5 years ( $SD = 1.0$ ). The control group consisted of 8 men and 10 women with a mean age of 21.7 years ( $SD = 0.8$ ). Experiments were conducted over two days, in which eating style, implicit approach toward foods, and chocolate cookie consumption were measured. The method was approved by the local ethical committee.

## Results

Eating style, implicit approach, and consumption were analyzed using  $2 \times 3$  mixed factorial ANOVA (group: experimental, control by time: pre, post, follow-up). Correlation coefficients between the variations in implicit approach, consumption from pre-training to post-training, and eating style were calculated. In both groups, the variation in implicit approach did not correlate with the variation in consumption. However, in the experimental group, external eating was positively correlated with the variation in implicit approach toward foods ( $r = .37, p < .05$ ).

## Discussion

The results of the data analysis revealed that external eaters experienced reduced implicit approach toward foods following the treatment. Therefore, there is evidence to suggest the treatment is effective in reducing implicit approach for external eating behavior. However, eating behavior did not improve as implicit approach reduced, suggesting that reduced implicit approach does not directly improve eating behavior. Future studies may consider other factors in addition to implicit approach which affect eating behavior.

## Longitudinal Bidirectional Associations Between Depressive and Bulimic Symptoms Among High-Risk Female College Students: A Cross-Lagged Model

YoonHee Kim, Sujin Lee, YoonHee Kim, HyunJung Hur & Hyein Chang, Sungkyunkwan University, South Korea

### Introduction

Depression and eating disorders are known as highly prevalent disorders among females in adolescence and young adulthood, and prior studies have shown substantial comorbidity between two disorders (Godart et al., 2007). However, the temporal nature of this relationship remains unclear and thus, elucidating the direction of effects between depressive and bulimic symptoms would provide useful information on potential processes that underlie the comorbidity between the two problems. Furthermore, such knowledge would offer clinical implications as to whether interventions for one disorder may help reduce symptoms of the other and may contribute to choosing potential targets for cost-effective interventions. Accordingly, this study aimed to examine longitudinal and bidirectional relationships between depressive and bulimic symptoms among female college students across a 2-year time span.

### Method

Participants were 117 female college students who were at risk for bulimia nervosa (Mean age = 19.3 years,  $SD = 1.26$ ). They completed a series of self-report inventories assessing bulimic symptoms, depressive symptoms, negative affect, and emotion dysregulation at baseline (T1) and at six-month (T2) and one-year (T3) follow-ups. Using Mplus, the relationships between depressive and bulimic symptoms were estimated in an autoregressive cross-lagged model to examine whether levels of each problem predicted levels of the other problem accounting for temporal stability of each problem over time. For a more rigorous test, we also controlled for emotional-related factors such as negative affect and emotion dysregulation that are considered as important predictors of both depressive and bulimic symptoms.

### Results

The proposed autoregressive cross-lagged model demonstrated excellent fit:  $\chi^2(10) = 12.39, ns., CFI = .992, RMSEA = .046, SRMR = .047$ . Results indicated that depressive symptoms at T1 and T2 significantly predicted bulimic symptoms at T2 ( $\beta = .24, p < .05$ ) and T3 ( $\beta = .32, p < .05$ ), respectively, controlling for the temporal stability of each construct as well as the effects of individual variability in emotion processes (i.e., negative affect, emotion regulation). However, bulimic symptoms were not significantly associated with depressive symptoms at subsequent time points.

### Discussion

The results suggest that depressive symptoms may exacerbate bulimic symptoms over time in female college students who are at heightened risk for developing eating disorders. This study is unique in that we considered common factors that might contribute to well-established associations between bulimic and depressive symptoms by incorporating emotion-related factors in the analysis. The findings that depressive symptoms may predict variability in future bulimic symptoms above and beyond the effects of negative affect and emotion regulation highlights depressive symptoms as a potential target for early identification and prevention of bulimic symptoms in emerging adulthood.

## A Food-Specific Inhibition Training to Increase Inhibitory Control – A Randomized Controlled Pilot Study

Ines Kollei, Stefanie Schroeder & Caroline van der Velde, University of Bamberg, Germany

Charlotte E. Wittekind, University of Munich, Germany

Sabine Steins-Löber, University of Bamberg, Germany

### Introduction

The prevalence of obesity worldwide has nearly doubled since 1980 and it continues to increase in many countries. Obesity is associated with a large number of serious health problems and high medical costs. Therefore, effective interventions to reduce excessive body weight are necessary. However, many people have difficulties to change their lifestyles, lose weight, or maintain weight loss. Inhibitory control may be a crucial factor as it refers to the ability to inhibit impulsive actions and helps to resist impulses to consume tasty and high-caloric food. Interventions to increase inhibitory control have shown robust, but only small effects on food intake and food choice in the laboratory. Consequently, researchers have suggested several possibilities to improve these trainings. Based on their suggestions, we have developed a novel food-specific go/no-go training to increase inhibitory control and aim to conduct a randomized controlled pilot study to evaluate this intervention.

### Method

Our food-specific go/no-go training incorporates several changes to enhance learning compared to previous go/no-go trainings: We have made the contingencies between food images and requested behavioral responses explicit; we have included individual food stimuli; and we have added positive and negative feedback. To evaluate the intervention, we will select participants with vulnerability factors for overeating and overweight. Participants will complete two sessions of either food-specific go/no-go training or control training in one week or they will be allocated to the waiting list. Before and after training, participants will complete daily records of loss of control eating, snacking

frequency, and energy intake using ecological momentary assessment. We will also assess inhibitory control and food intake in the laboratory.

#### **Results**

The randomized controlled pilot study is currently in progress. We will recruit  $n = 20$  individuals in the go/no-go intervention group,  $n = 20$  in the control training group and  $n = 20$  in the wait list group. We expect that the go/no-go training group will show a greater improvement than the two control groups in inhibitory control and food intake in the laboratory. We also expect a greater reduction in snacking frequency, energy intake and loss of control eating in their daily lives. At the World Congress of Cognitive and Behavioral Therapies in July 2019 we will be able to present first results of our study.

#### **Discussion**

Previous studies evaluating go/no-go trainings have a number of limitations including implicit training rationales with participants not being informed about the purpose of the intervention and laboratory measures that do not necessarily translate to the real world. The present study attempts to address these limitations by evaluating a novel food-specific go/no-go training that has been modified based on previous studies and theoretical suggestions. Should our results be promising, we will evaluate the intervention in a larger sample of individuals with overweight or obesity.

### **Testing an Integrative Model of Restraint and Emotion Dysregulation for Binge Eating**

**Katrin Kukk & Kirsti Akkermann, University of Tartu, Estonia**

#### **Introduction**

Two of the most prevailing binge eating (BE) models are emotion regulation (ER) and restraint models. The former posits BE may be elicited by negative emotions and the need to regulate them (Heatherton & Baumeister, 1991). The restraint theory suggests that people who restrain their eating are more vulnerable to binge eating due to their rigid rules and diminished self-control (Herman & Polivy, 1993). Although both theories have found considerable empirical support there is a need to integrative models to explore the interrelations between these aspects as well as other risk factors in predicting binge eating. There are models such as dual-pathway model that tries to explain the associations between restraint, negative affect (NA) and body dissatisfaction (Stice, 2001; 2019) but these have received inconsistent support. Nevertheless, it is important to develop binge eating models that take into account how state and trait level aspects associate with each other in predicting BE.

#### **Method**

We aim to test how emotion regulation (ER) difficulties, momentary NA, dietary restraint, and preoccupation with bodyweight interplay together in predicting BE among female and men using mediation analysis. 97 women (mean age 21.4, SD = 3.04) and 104 men (mean age: 27.32, SD = 8.02) participated in the experience sampling study. Data about participants' emotional experience, BE episodes and momentary urge to restrain eating was gathered in real-time measurements. We also used self-report measures to assess ER difficulties and eating disorder symptoms. We hypothesize that both ER difficulties and urge to restrict mediate the effect of NA on binge eating. We also hypothesize that preoccupation with bodyweight predicts urge to restrict.

#### **Results**

Preliminary analysis indicated that ER difficulties and urge to restrict significantly mediate the effect of NA on BE but ER difficulties and urge to restrict didn't associate with each other among men. Preoccupation was found to mediate the effect of BMI on BE. Data is currently being analyzed for modeling BE in women using the same hypothesized model.

#### **Discussion**

As BE is a significant predictor of eating disorders and mental health issues in general, understanding the interplay between risk factors of BE both in female and male have practical implications for prevention and treatment, and may contribute to further elaboration of eating disorder models.

### **Which Factors Predict the Effects of Food Response Inhibition Training on Reduced Food Intake and Weight?**

**Natalia Lawrence, Samantha VanBeurden, Mahmood Javaid & Mohammad Mostazir, University of Exeter, United Kingdom**

#### **Introduction**

Excess energy intake is very common and is linked to obesity and poor health. Computerised food response inhibition training, which requires people to repeatedly inhibit motor responses (keyboard presses) to food pictures, has been shown to reduce energy intake, decrease food liking and facilitate weight loss (Lawrence et al., 2015). This low-cost digital intervention has also been shown to be highly acceptable. However, food response inhibition training is not effective in everyone. Findings suggest stronger training effects in individuals with greater food-related impulses, e.g. higher dietary restraint and BMI (Veling et al., 2017). Here, we examined training effects and its predictors in a large unselected sample of the general population.

#### **Method**

We conducted an open pragmatic study of food response inhibition training delivered online or via smartphone to the general public, to examine its effectiveness in reducing food intake and weight, and to examine predictors of training effects. We also measured acceptability of the intervention. Data collection took place over 6 months following media dissemination. Participants were asked to complete a pre-training survey followed by four daily 10-minute training sessions, consisting of a go/no-go task in which energy-dense foods were always paired with a no-go signal and healthy foods with a go signal. Participants were sent a post-training survey 4-6 weeks later. The pre- and post- surveys measured participant demographics, self-reported weight, and frequency of intake of energy-dense snack foods and fruits and vegetables over the previous month.

#### **Results**

We collected complete data (pre-, training and post-training measures) from 2269 eligible participants (78% were women, mean age  $45.5 \pm 13.77$ , mean BMI  $29.96 \pm 6.15$ ). Paired t-tests suggested significant ( $p < .001$ ) pre- to post- weight loss of 0.91 kg (Cohen's  $d_z = 0.35$ ) for the web-training and 0.53 kg ( $d_z = 0.2$ ) for the smartphone training. Snacking frequency was reduced by 20% ( $d_z = 0.68$ ) following web-training and 13% ( $d_z = 0.39$ ) following use of the smartphone. Factors associated with stronger training effects were online (vs. smartphone) training, a greater amount of training, and higher baseline BMI and disinhibited eating scores. Most participants reported that the training did/might have helped them to reduce their food intake (74%) and that they would/might recommend the intervention to a friend (82%).

## **Discussion**

Food response inhibition training reduced self-reported weight and food intake in the general population. Training was more effective in people with stronger food-related impulses and when it was completed online and at a higher 'dose'. These promising findings support our earlier pilot trial (Lawrence et al., 2015) and await validation in large-scale randomised controlled trials with objective measures.

## **The Underlying Motivations of Perfectionism with Eating Disorders**

**Pascale Mackay, Frédéric Langlois & Vanessa Gaudet, Université du Québec à Trois-Rivières, Canada**

### **Introduction**

Scientific community working on perfectionism consider now this transdiagnostic process as bi dimensional (Stoeber and Otto, 2006). Perfectionism is known to be a central aspect of eating disorder (ED) and literature indicate that even SP and PC is related to ED (Boone & Soenens, 2015). However, the motivations behind the perfectionist behaviors of this population are still unknown. The literature on motivation shows that self-determined actions can lead to a better psychological functioning (Ryan & Deci, 2017). Relations between self-determined motivations and the SP factors would give interesting indication on the existence of a positive effect of perfectionism in ED.

### **Method**

Following the Decy and Ryan's model of motivation, we aim to uncover which motivations better predict the variance of Striving for Perfection and Perfectionistic Concerns within a population suffering from eating disorder and getting treatment or seeking help. 125 participants between 14 and 40 years old were recruited for a web survey. We used the Perfectionism Questionnaire-revised (Langlois, Rhéaume & al, 2009), and the « Perfectionistic Motivations Questionnaire» (Cossette & Langlois, 2016).

### **Results**

Hierarchical regression analysis shows that after controlling for Perfectionistic Concerns, Striving for Perfection seems to be explained primarily by introjection ( $r = .28, p = .001$ ). In the same way, after controlling for Striving for Perfection, Perfectionistic Concerns, seems to be mostly explained by social motivation ( $r = .28, p < .000$ ) and by introjection ( $r = .25, p = .002$ ).

### **Discussion**

The main perfectionistic motivations of individuals with eating disorder seem to be the avoidance of shame (introjection) or approval seeking (social motivation). Thus, unlike the general population where Striving for Perfection factor may be motivated by pleasure or more self-determined values, these individuals seem motivated primarily by the avoidance of their own shame. This lack of self-determination motivations may explain why even high-standard research seems to be associated with poorer functioning among people with ED.

## **The Network Structure of Obsessive-Compulsive Symptoms in Patients with Eating Disorders**

**Marieke Meier, University of Muenster, Germany**

**Jolanda J. Kossakowski, University of Amsterdam, the Netherlands**

**Payton J. Jones, Harvard University, USA**

**Bradley C. Riemann, Rogers Memorial Hospital, USA**

**Richard J. McNally, Harvard University, USA**

### **Introduction**

Eating Disorders (EDs) are complex, heterogeneous, and severe. They are highly comorbid with other psychiatric diagnoses such as obsessive-compulsive disorder (OCD) that can affect the course of illness as well as impede treatment. However, it remains unknown how these comorbidities in ED emerge and persist. Over the last few years, network analysis has increasingly been used to re-conceptualize mental disorders as the interplay of psychopathological symptoms. However, with regard to EDs, only a few studies have studied comorbidity in EDs and none has examined ED and comorbid OC symptoms. The goal of this study was to investigate the interaction between (1) ED symptoms and (2) OC symptoms separately and (3) to explore the possible symptomatic interaction between the two disorders.

### **Method**

We used cross-sectional data of 303 (257 female,  $M_{age} = 30.29, SD_{age} = 11.80$ ) treatment-seeking patients with a primary ED diagnosis (44% eating disorders not otherwise specified; 25% bulimia nervosa, 21% anorexia nervosa, 10% binge eating disorder) who also reported clinically relevant OC symptoms. Symptoms were assessed at baseline with the Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 2008) as well as the Yale-Brown Obsessive-Compulsive Scale Self-Report (Y-BOCS-SR, Steketee, Frost, & Bogart, 1996). We constructed regularized partial correlation networks that depict symptoms as nodes and the edges as partial correlation coefficients between two symptoms while controlling for all other symptoms. To determine each node's influence, we calculated expected influence (EI) as centrality measure. EI represents a symptom's influence on the rest of the symptoms in the network.

### **Results**

Overall, ED and OC symptoms cluster distinctly with few edges between them. Fear of weight gain and restrictive eating emerged as the most important symptoms among the ED symptoms. Other highly important symptoms were preoccupation with shape and, in line with previous research, overevaluation of shape. Interference due to obsessions emerged as the most central symptom among the OC symptoms. The separate ED and OC symptom networks were stable and thus allow for reliable conclusions.

### **Discussion**

In line with previous findings, we found, next to restrictive eating, cognitive symptoms to be central for EDs. Similarly, interference due to obsessions rather than compulsions were most important in the OC cluster. These findings could have implications for treatment as distorted beliefs presumably remain although the behavior has improved. Moreover, this study shows restrictive eating to be central for the symptomatic interplay across ED subtypes. In the current DSM-5, restrictive eating is only explicitly listed for anorexia nervosa, though. In recognition of the distinct ED and OC cluster, we concluded that although symptoms across ED and OCD might be similar (e.g. elevated fear of weight gain often resembles obsessions), symptomatic interplay is low.

## **The Role of Attentional Control in Understanding Attention Biases for Food in Women and Men**

**Kate Mulgrew, Luke Carter & Nina Brooks, University of the Sunshine Coast, Australia**

**Melanie White, Queensland University of Technology, Australia**

**Eva Kemps, Flinders University, Australia**

**Karina Rune, University of the Sunshine Coast, Australia**

### **Introduction**

Attention bias refers to the preferential processing of certain cues in the environment. Biases are often automatic and occur with little awareness. Rapid detection of threatening information has been shown to underlie a number of conditions, such as anxiety, phobias, eating disorders, body dissatisfaction, and chronic pain. Applied to the eating domain, rapid detection of unhealthy foods may lead to increased craving, external eating, increased consumption, and eventually unintended weight gain. One factor shown to moderate attention biases in other domains is attentional control, which refers to the ability to focus on, and shift between, tasks. Here, we present the first research to examine attentional control within the context of bias for food cues.

### **Method**

Across two studies, 53 women (Mage = 29 years) and 69 men (Mage = 33 years) completed the Attentional Control Scale (Derryberry & Reed, 2002) followed by a dot-probe task one week later. The dot-probe task measured attention bias for healthy (e.g., apple) and unhealthy (e.g., pizza) food pictures.

### **Results**

Sex differences emerged across key variables: males had greater attentional control while females had greater attention bias for healthy foods. There were no sex differences on attention bias for unhealthy foods. In relation to attention control and attention bias, our results showed that the attentional control process of shifting, but not focusing, moderated response to food cues. These results were only found in women and showed that women with greater self-reported ability to shift attention between tasks had a larger bias away from food cues compared to women with lower shifting ability.

### **Discussion**

These findings support the importance of dual processing models within the context of response to food cues. Our results suggest that both automatic, bottom-up (i.e., attention bias) and controlled, top-down (i.e., attentional control) processes are important in understanding how food cues are processed and how biases may be modified. The ability to shift attention away from undesired food cravings may help with healthier food choices in the long-term.

## **"Living the Exposure Lifestyle": A Binge-Eating Disorder Patient's Application of CBT and Exposure Principles to Other Life Domains**

**Katrina Obleada, Shari Brown & Kelly Vitousek, University of Hawaii at Manoa, USA**

### **Introduction**

As part of an informed therapeutic approach and a thoughtful cognitive behavior conceptualization, it is common to conduct ongoing assessment and to address issues that arise, which may have not been included as components of a client's presenting problem (Persons & Tompkins, 2007). For a young Chinese woman with binge-eating disorder, the primary course of treatment used a CBT approach that included exposure to address her anxiety about eating feared foods and eating in social settings (McIntosh et al., 2011).

### **Method**

As this client's eating disorder symptoms began to decrease, it became apparent that distress about being exposed to alcohol cues (e.g., sight and smell of alcohol, witnessing intoxicated behavior) also impacted her ability to engage in social situations. Her anxiety appeared to possibly originate from childhood and adolescent experiences of excessive drinking in the family. Therefore, additional interventions targeting this concern were initiated, including the use of within-session in vivo exposure (e.g., having a bottle of alcohol in the room, pouring alcohol on her hands) and outside session exposure exercises (e.g., sitting with family and friends for at least an hour after they'd consumed alcohol, going out with friends who may drink).

### **Results**

Data collected included SUDS ratings before, during, and after exposure, a fear hierarchy, and scores on ED-related measures (e.g., Fear of Food Measure, Bulimia scale from the Eating Disorder Inventory).

### **Discussion**

At the end of treatment, the patient reported actively engaging in creating her own exposure situations outside of session and reported low SUDS ratings for both alcohol and binge-eating concerns.

## **Nutrition Education after Bariatric Surgery and Comparison of Cognitive Behavioral Therapy Techniques on the Effect of Body Mass Index and Problematic Eating Behaviors**

**Merve Öz, Yeditepe Üniversitesi İhtisas Hastanesi, Turkey**

**Ashhan Dönmez, Private Practice, Turkey**

### **Introduction**

Obesity is becoming an increasingly common health problem. There are various treatment methods for obesity. Currently, one of the most commonly preferred treatment for obesity is bariatric surgery. However, it may not provide a permanent solution to the weight problem, since it only decreases the stomach volume, and dysfunctional thoughts and behaviors that causes obesity stay the same. Recently, Cognitive Behavioral Therapy (CBT) techniques are being used for obesity patients, in order to change these dysfunctional thought and behaviors. The aim of this study was to compare the effects nutrition education and CBT techniques on Body Mass Index (BMI) and problematic eating behaviour of post-bariatric surgery patients. We hypothesized that the addition of CBT techniques to the nutrition education would cause a better outcome than nutrition education alone in post-bariatric surgery patients.

### **Method**

This study was conducted with 60 people who underwent bariatric surgery. The subjects were divided into two groups: (1) Only nutritional training (ONT) (n=30); this group received 8 sessions of nutritional training (first 5 sessions were conducted once in 2 weeks, last three sessions were conducted monthly. Sessions were 30 minutes long); (2) Nutritional training + CBT group (NT + CBT); this group received 8 sessions of nutritional training (as described above) plus 8 CBT sessions (the frequency was as described above but the sessions lasted for 1 hour). Both groups were further divided into three sub-groups: (1) Subjects who had surgery 1 year ago; (2) Subjects who had surgery 1-2

years ago; (3) Subjects who had surgery more than 2 years ago. All groups were matched for age, gender, and BMI. Participants were weighed before each session, and Emotional Eating Scale and Mindful Eating Scale were applied to participants at the beginning of 1, 5, and 8. sessions.

### **Results**

The drop rate for ONT group was significantly higher ( $n=21$ ) than the NT + CBT group ( $n=10$ ) ( $p=0.004$ ). For both of the groups, the change in BMI between 5th and 8th session ( $P= 0.004$  for NT + CBT,  $P= 0.029$  for ONT), and between 1st and 8th session ( $P= 0.000$  for NT + CBT,  $P= 0.007$  for ONT) were statistically significant, while the change in BMI between 1st and 5th session was not significant for both groups. For the NT + CBT group the scores of Mindful Eating Scale and Emotional Eating Scale were significantly better than the baseline (1st session;  $90.45 \pm 15.96$ ,  $81.15 \pm 28.56$ , respectively) at 5th ( $102.60 \pm 16.21$ ,  $68.65 \pm 25.69$ , respectively) and 8th session ( $108.60 \pm 12.36$ ,  $60.56 \pm 23.73$ , respectively), while for the ONT group the change in the scores of these scales was not statistically significant

### **Discussion**

Nutritional training after bariatric surgery, conducted alone or with CBT, was effective for decreasing the BMI. But adding CBT to nutritional training improved mindful eating, decreased emotional eating, lowered food addictive behavior, which are among the main behavioral problems in obese people. These behavioral changes may cause a better outcome for bariatric surgery in the longer term.

## **The Effect of Inpatient Treatment to Inhibitory Control in Eating Disorder Subtypes – Possible Moderating Effects of Trait Impulsivity and Perfectionism**

**Kirsti Akkermann, Elis Paasik\*, Kerttu Petenberg, Kärol Soidla & Kairi Kreegipuu, University of Tartu, Estonia**

### **Introduction**

Impaired inhibitory control and attentional bias to food and body related stimuli are both suggested to play an important role in the maintenance of eating disorders (EDs) (Smith et al. 2018). In experimental tasks, such as in Go/No-Go task binge-type ED individuals (bulimia nervosa (BN), anorexia nervosa binge/purge type (AN-P), binge eating disorder) often exhibit lower levels of inhibitory control to food and body stimuli (Wu et al. 2013). Restrictive anorexia nervosa (AN-R) individuals, however, tend to exhibit lower impulsivity than binge-type individuals. Therefore, AN-P subtype of anorexia is suggested to have more in common with BN individuals than with AN-R individuals in terms of impulsivity (Claes et al. 2006). We aimed to assess levels of inhibitory control and attentional bias to disorder specific stimuli between ED subtypes as well as the changes during inpatient treatment.

### **Method**

The emotional Go/No-Go task with ED specific stimuli was conducted in the morning after breakfast: 1) during the first days after hospitalisation; 2) the day before the end of the inpatient treatment. So far data from 48 women with ED has been collected, including: 19 BN, 20 AN-R, 9 AN-P, and 17 healthy controls (HC) with mean age of  $21.47 \pm 6.28$  (SD). In addition to the experimental task Barratt Impulsiveness Scale, Montgomery-Åsberg Depression Rating Scale, Frost Multidimensional Perfectionism Scale, State and Trait Anxiety Inventory and Dickman's Impulsivity Inventory were administered to find moderating effects of the personality traits and affective state.

### **Results**

Preliminary results suggest that at the baseline BN had significantly less correct responses to all of the stimuli compared to other ED subtypes in the Go/No-Go task. Also, BN had significantly more commission errors to body stimuli and omission and commission errors to food stimuli compared to other groups ( $p<.05$ ). Despite the differences in commission and omission errors, our results do not seem to show any differences in baseline reaction times (RTs) to none of the stimuli ( $p>.05$ ) between the ED subtypes. Results indicated significant differences in self-reported negative perfectionism scores between BN, AN-R and HC ( $p<.05$ ), but not between BN and AN-P ( $p>.05$ ). The data on the inpatient treatment effect will be presented at the congress, as the analyses have not yet been conducted.

### **Discussion**

Our preliminary findings appear to be consistent with previous studies demonstrating impairments in inhibitory control in binge-type EDs and in suggesting that BN and AN-P are similar in their impulsive nature manifesting in similar RTs to all stimuli. Despite similarities in RTs, AN-P seem to be significantly different from BN in the errors made in Go/No-Go task, resembling more with AN-R. These findings could be explained by the interaction effect of impulsivity and negative perfectionism but further detailed analyses is warranted.

## **Interventions for Reducing Food Cravings: A Systematic Literature Review**

**Sophie Schumacher, Eva Kempf & Marika Tiggemann, Flinders University, Australia**

### **Introduction**

Food cravings have been associated with several negative health consequences, including negative emotions such as guilt and shame, impaired cognition and early dropout from weight-loss programs. Of particular concern is that they can trigger binge eating episodes, which are a precursor to disordered eating and obesity. In response, researchers have developed and tested a range of interventions for reducing food cravings, but their comparative efficacy has not yet been reviewed.

### **Method**

The aim of the present review was to systematically evaluate food craving reduction strategies, in order to identify the most effective techniques and conditions, and identify knowledge gaps to address in future research. Suitable publications were identified in a search of databases (Scopus, Ovid and Sage) conducted in January 2018. Eligible studies used human adult participants, used a technique to reduce food cravings, included a measure of food cravings, and a control or comparison condition. The final review included 40 publications comprising 49 individual studies.

### **Results**

Results showed that imagery-based techniques most consistently reduced food cravings, followed by mindfulness-based techniques that were taught over several training sessions. Other techniques, such as cognitive reappraisal and physical activity, showed promise, but have not been widely researched.

### **Discussion**

Many of the techniques successful in reducing cravings have the potential to be incorporated into daily life and clinical settings. In particular, imagery- and mindfulness-based interventions could be useful adjuncts to cognitive-behavioural therapy for tackling craving-driven problem eating.

## **Attention Bias for Eating Disorder Related vs. Social Stimuli in Adolescents with Anorexia Nervosa – an Eye-Tracking Study**

Anca Sfärlea, LMU Munich, Germany

Anne Schwenzfeier & Tanja Legenbauer, LWL-University Clinic of the RUB Bochum, Germany

Gerd Schulte-Körne & Belinda Platt, University Hospital, LMU Munich, Germany

### **Introduction**

Our previous results suggested that adolescents with anorexia nervosa (AN) perceive other people's face as less intrinsically relevant as healthy girls (Sfärlea et al., 2016). This might be explained by AN patients attending more to eating disorder relevant attributes of other people, i.e. their bodies, and less to socially relevant attributes, i.e. their faces. In other words, AN patients might show an attention bias (AB) for bodies compared to faces.

### **Method**

The present study was designed to examine this AB for bodies vs. faces in adolescent girls with AN in comparison to girls without AN. 13-18 year old adolescents with AN (n = 30) were compared to adolescents with Major Depression (n = 30) and a healthy control group (n = 30). AB was assessed using eye-tracking to record the course of visual attention during a passive-viewing task in which female bodies and faces were presented simultaneously.

### **Results**

Preliminary analyses indicated that all adolescents fixated bodies longer than faces but this preference seemed to be more pronounced in adolescents with AN. A particular preference for underweight bodies in AN patients became apparent in eye movements as well as self-report measures (i.e. valence ratings of the presented pictures). The final analyses are still ongoing, but will be completed by July 2019.

### **Discussion**

The results may help us to explain why adolescents with AN process socially relevant information differently and thereby add to our understanding of the social-emotion difficulties these patients have.

## **Personality-based Profiles in Eating Disorders Predicting Short-Term Treatment Response: A Promising Way for Tailoring Treatment**

Kärol Soidla & Kirsti Akkermann, University of Tartu, Estonia

### **Introduction**

Perfectionism and impulsivity are both found to play a central role in the etiology of eating disorders (ED) (Farstad et al., 2016). Classifying ED patients based on personality traits has shown clinical utility and revealed valuable information for treatment planning about the otherwise heterogeneous sample of ED patients (Wildes et al., 2011). We aimed to find latent profiles based on facets of perfectionism, impulsivity and eating disorder symptoms and assess changes in short-term inpatient treatment response among these profiles.

### **Method**

The latent profile analysis (LPA) was performed on a sample of 274 women, of whom 164 were ED patients and 110 healthy controls. ED patients were diagnosed with bulimia nervosa (n=79), anorexia nervosa restricting type (n=53), anorexia nervosa binge-eating/purging type (n=11), atypical anorexia nervosa (n=6) or binge eating disorder (n=13). Subscales of Frost Multidimensional Perfectionism Scale (FMPS), Dickman's Impulsivity Inventory (DII) and Eating Disorder Assessment Scale (EDAS) were included in LPA. A subsample of patients (n=43) was assessed twice: at the intake and in the last days of treatment. Changes in ED symptoms, as well as anxiety and depression scores were analyzed using repeated measures ANOVA.

### **Results**

We identified the 5-class model to be the best fit. The five emerged classes were named: 1) moderately impulsive (low perfectionism/moderate impulsivity; n=23), 2) healthy (low perfectionism/low impulsivity; n=142), 3) perfectionistic (moderate perfectionism/low impulsivity; n=53), 4) emotionally dysregulated (high perfectionism/high impulsivity; n=16), 5) behaviorally dysregulated (moderate perfectionism/high impulsivity; n=40) class. ED symptoms decreased significantly ( $p < .05$ ) during inpatient treatment in healthy, perfectionistic, moderately impulsive and behaviorally dysregulated classes while remaining the same in emotionally dysregulated class. As the main goal of inpatient treatment is to restore regular eating pattern and normalize caloric intake, then as expected the biggest decrease occurred in behavioral ED symptoms (purging, bingeing, restricting). Surprisingly preoccupation with body image and body weight also decreased significantly in perfectionistic and healthy class.

### **Discussion**

Our findings support the meaningfulness of classifying ED patients based on perfectionism, impulsivity and eating disorder symptoms, giving further support for alternative dimensional classification of ED. Moreover, the results indicate the need for profile based interventions for inpatient ED treatment. For moderately impulsive, behaviorally dysregulated and purely perfectionistic individuals, treatment in a structured environment seems to be sufficient to establish normal eating patterns. On the other hand, for emotionally dysregulated individuals, an intervention prior to or additional treatment components early in treatment may be needed to target distress tolerance. Therapies which focus on improving emotion regulation skills (e.g. Cognitive Emotional Behavioral Therapy, Dialectical Behavioral Therapy, Integrative-Cognitive Affective Therapy) may be well suited. Further research in larger samples is needed.

## **Relationships Between Body- and Appearance-Related Self-Conscious Emotions and Self-Esteem, Psychological Well-Being, as Well as the Tendency Toward Social Anxiety Among Japanese Adult Females**

Tomohiro Suzuki, Tokyo Future University, Japan

Mikako Yazawa, Musashino University, Japan

Yoko Yamamiya, Temple University, Japan

### **Introduction**

Body- and appearance-related self-conscious emotions comprise shame, guilt, authentic pride, and hubristic pride regarding own body and appearance, and are related to people's mental health and behavior, including eating disorder and body dysmorphic disorder. Although a few previous studies have investigated those emotions, only little is known about the nature of body- and appearance self-conscious emotions per se. The purpose of the current study is to clarify the nature of body- and appearance self-conscious emotions by investigating the relationships between body- and appearance-related self-conscious emotions and self-esteem, psychological well-being, as well as the tendency toward social anxiety among adult females in Japan.

## Method

Participants were 600 adult females (mean age = 44.42, SD = 14.30, range = 20-59) in Japan. They completed the following four questionnaires via an online survey: (1) the Japanese version of the Body and Appearance Self-Conscious Emotions Scale (J-BASES) that assesses body- and appearance-related self-conscious emotions; (2) the Rosenberg Self-Esteem scale (RSE; Rosenberg, 1965) that assesses overall self-esteem; (3) WHO-Five Well-Being index (WHO-5, The World Health Organization, 1998) that assesses psychological well-being; and (4) short form Social Interaction Anxiety Scale (SIAS-6; Peters, Sunderland, Andrews, Rapee & Mattick, 2012) that assesses the tendency toward social anxiety. The J-BASES was translated and back-translated by three bilingual psychologists with the assistance of native English speakers and tested to confirm a good internal consistency, test-retest reliability, and construct validity in a pilot study.

## Results

Results of the Pearson correlation coefficients showed that: 1) the Shame subscale of the J-BASES was negatively correlated with RSE and WHO-5 ( $r_s = -.643$  and  $-.324$ ,  $p < .001$ , respectively) and positively correlated with SIAS ( $r = .505$ ,  $p < .001$ ); 2) the Guilt subscale of the J-BASES was negatively correlated with RSE and WHO-5 ( $r_s = -.490$  and  $-.244$ ,  $p < .001$ , respectively) and positively correlated with SIAS ( $r = .433$ ,  $p < .001$ ); 3) the Authentic Pride subscale of the J-BASES was positively correlated with RSE and WHO-5 ( $r_s = .299$  and  $.198$ ,  $p < .001$ , respectively) but not significantly related to SIAS ( $r = .047$ ,  $p = .255$ ); and 4) the Hubristic Pride subscale of the J-BASES was positively correlated with RSE and WHO-5 ( $r_s = .388$  and  $.232$ ,  $p < .001$ , respectively) but not significantly related to SIAS ( $r = -.012$ ,  $p = .765$ ).

## Discussion

The findings of the present study indicate that body and appearance related self-conscious emotions of shame and guilt are negative, whereas authentic pride and hubristic pride are positive for adult females in Japan because high shame and guilt are associated with low self-esteem, low psychological well-being, and high social anxiety, whereas high authentic pride and hubristic pride are associated with high self-esteem and high psychological well-being. Therefore, investigating how body- and appearance-related self-conscious emotions emerge and maintain needs to be considered in the future study. By doing so, it may become possible to clarify the nature of body and appearance-related self-conscious emotions and develop intervention techniques that aim to reduce negative body- and appearance-related self-conscious emotions, especially shame and guilt. Consequently, such intervention techniques may contribute to reduce eating disorders and body dysmorphic disorder.

## Psychological Distress and Disordered Eating in Adolescents: The Moderating Role of Emotion Dysregulation

Nora Trompeter & Kay Bussey, Macquarie University, Australia

Jonathan Mond, University of Tasmania, Australia

Phillipa Hay, Western Sydney University, Australia

Deborah Mitchison, Macquarie University, Australia

### Introduction

Negative affect has been recognised as a key risk factor in eating disorder psychopathology (Stice, 2002), with psychological distress associated with increased disordered eating. Adolescence is marked by an increased psychological distress and while it is also the peak age of onset for eating disorders, not all adolescents who experience distress develop eating disorders (Hudson et al., 2007). It is thus critical to examine how psychological distress impacts disordered eating during adolescence. One possible moderating factor is emotion dysregulation. As it has been linked to both general psychopathology and eating disorders, it is possible that disordered eating may represent a maladaptive mechanism to cope with psychological distress (McLaughlin et al., 2011). The aim of this study is to examine if adolescents who experience psychological distress and have high emotion dysregulation are more likely to engage in disordered eating behaviours than those with low emotion dysregulation.

### Method

The study used cross-sectional data from Wave 2 of the EveryBODY study, a large longitudinal project investigating body image and eating disorders among Australian adolescents. Data from 2784 adolescents aged between 11-19 years ( $M = 14$  years, 9 months,  $SD = 1$  year, 6 months), who had completed all measures for the current study were used. Participants completed a self-report questionnaire about current eating pathology (EDE-Q), psychological distress (K10), emotion dysregulation (DERS-SF), and demographics.

### Results

Regression analyses were conducted to examine the moderating role of emotion dysregulation on the relationship between psychological distress and four distinct disordered eating behaviours (binge eating, fasting, driven exercise, and purging), controlling for age, gender and body mass index. Psychological distress had a significant positive main effect on all disordered eating behaviours, whereas emotion dysregulation had no significant association at  $p < 0.01$ . Results revealed that emotion dysregulation was a significant moderator in the relationship between psychological distress and fasting and in the relationship between psychological distress and purging. The relationships between psychological distress and both fasting and purging were stronger as emotion dysregulation increased. However, there was no significant moderating effect for either driven exercise or binge eating.

### Discussion

The current study found that emotion dysregulation significantly moderated the relationship between psychological distress and some disordered eating behaviours, but not others. These results suggest that adolescents with high emotion dysregulation might be at a higher risk of extreme weight loss behaviours including dietary fasting and purging (i.e., self-induced vomiting, laxative abuse), behaviours commonly associated with anorexia nervosa and bulimia nervosa. Interestingly, emotion dysregulation did not moderate the relationship between psychological distress and driven exercise or binge eating, behaviours that both may mitigate negative affect and reduce emotion dysregulation. In conclusion, the potential role of emotion dysregulation in the development and/or maintenance of eating-disordered behaviour, fasting and purging behaviours in particular, warrants further investigation.

## Measuring Depression in College Students Using the Implicit Association Test (IAT)

Satsuki Ueda & Hiroshi Sato, Kwansei Gakuin University, Japan

### Introduction

Depression is a serious problem that has been gaining increasing interest in recent years. College students have been shown to possess a higher risk for depression when compared with other age groups. There are many social psychological studies using self-report depression scales; however, the responses to these tend to be affected by social desirability. The implicit association test (IAT; Greenwald, McGhee, & Schwartz, 1998) measures implicit attitudes toward various social objects. The IAT makes it more difficult to intentionally change one's

responses for social desirability. This study aimed to develop the depression IAT (IAT for depression), and to investigate the correlation between the depression IAT and explicit measures of depression.

#### **Method**

Eighty-seven Japanese college students (mean age = 19.2 years, SD = 1.0 years) completed the depression IAT, as well as the Center for Epidemiological Studies-Depression Scale (CES-D). The depression IAT measured the implicit association between one's perceived self and depression. Based on their cutoff score on the CES-D ( $\geq 16$ ), participants were allotted to either the high depression group (N = 48, mean age = 19.0 years, SD = 0.9 years) or the low depression group (N = 39, mean age = 19.5 years, SD = 1.1 years).

#### **Results**

The result of an independent t-test did not indicate any significant differences between the D scores (Greenwald et al., 2003) of the high depression and low depression groups ( $t(85) = 0.50$ , n.s.).

We adopted the condition of classifying stimulus words for depression and self in the same category as "depression/self condition," while classifying stimulus words for depression and other in the same category as "depression/other condition." A two-way ANOVA (group  $\times$  condition) on response times found that the interaction effect was not significant [ $F(1, 85) = 0.07$ , n.s.]. The main effect of the group was significant [ $F(1, 85) = 7.12$ ,  $p < .01$ ], whereas the main effect of the condition was not significant [ $F(1, 85) = 1.06$ , n.s.]. Calculations of the t-test showed that the response times of the high depression group were significantly longer than those of the low depression group [depression/self condition:  $t(66.27) = -2.97$ ,  $p < .01$ ; depression/other condition:  $t(71.40) = -2.20$ ,  $p < .05$ ].

#### **Discussion**

There was no difference in the D scores between the high and low depression groups. This result suggests that the strength of the association between oneself and depression does not differ by the depression score. By contrast, the response times of the high depression group were significantly longer than those of the low depression group. This result indicates that people with a high tendency for depression take more time to categorize social objects in the depression IAT, than those with a low tendency for depression. This study introduces the possibility for depression to be measured using the depression IAT.

### **Computer Training of Attention and Inhibition for Youngsters with Obesity: A Pilot-Study**

**Sandra Verbeken, Caroline Braet & Tiffany Naets, University of Ghent, Belgium**

**Katrijn Houben, University of Maastricht, the Netherlands**

**Wouter Boendermaker, University of Utrecht, the Netherlands**

#### **Introduction**

THE ROLE OF SELF-REGULATION

Dual Pathway (Appelhans, et al., 2011)

Top-down Inhibition (thinking before acting towards LT-goals)

Bottom-up Attention & Approach (towards rewarding stimuli)

AIM = evaluation of the feasibility, acceptability and initial effectiveness of a cognitive bias modification training for weight maintenance in obese youth after following an inpatient MOT

#### **Method**

PARTICIPANTS

N=36, M=12y (SD = 1.47), 53 % ♀

Obese Youngsters Inpatient Treatment

INSTRUMENTS

Weight : "Adjusted BMI" (Van Winckel & Van Mil, 2001)

EF: BRIEF & BRIEF-SR (Smidts & Huizinga, 2009)

DESIGN = 2 CONDITION

Experimental (Active\* EF, N=21)

Control (Passive\* EF, N=15)

(\*Active/passive based on contingency-relationship cue/action)

TASKS (EF- measurement + training)

Inhibition = Go No Go

Approach = Approach/avoidance

Attention bias = Dot Probe

PROCEDURE

On top of MOT

Measurement (pre)

Training 6 sessions (5 weeks)

Measurement post

Measurement FU (8 weeks)

#### **Results**

DESCRIPTIVES = No age/gender/BMI differences between conditions

ACCEPTABILITY/FEASIBILITY

Participants: moderate

Clinicians: good

COGNITIVE TRAINING EFFECT = no significant changes pre-post & no differences in conditions

WEIGHT EVOLUTION = No significant differences in conditions

EXECUTIVE FUNCTIONING = significant differences between conditions (less IC problems in experimental group)

#### **Discussion**

EVALUATION

+ Feasible and acceptable

- No effects

POSSIBLE EXPLANATIONS AND SOLUTIONS

Increase in sample sizes

Specific knowledge on childhood processes (different from adults)  
Working memory training  
Focus on motivational aspects  
Changing stimuli exposure: unhealthy-neutral instead of unhealthy-healthy  
Training environment with less distracting factors  
Specific food environment in MOT: need of booster-sessions after treatment/FU

## **Relationships Between Body-Related Shame and Guilt and Maladaptive Eating Behaviors in Hungarian and Norwegian Non-Clinical Samples**

**Gabriella Vizin, Zsolt Horváth & Róbert Urbán, Eötvös Loránd University and Semmelweis University, Hungary**

### **Introduction**

Shame and guilt are defined as negative self-conscious emotions and the distinction between these emotions was obscured. Shame concerns the defective global self and it rather correlates with mental disorders than guilt. However, guilt focuses on the evaluation of specific behavior to elicit some corrective action. According to previous results, eating disorders symptomatology is associated with body shame and guilt. In order to measure body related shame and guilt, Conrard and his colleagues (2007) developed the 'Weight- and Body-Related Shame and Guilt Scale' (WEB-SG). The main purpose of this study was to examine the psychometric properties of WEB-SG and associations of body shame and guilt with maladaptive eating behaviors in a Hungarian and Norwegian non-clinical sample separately.

### **Method**

We collected data from 561 university students (mean age=22.3, SD = 2.77) from Hungary (N=405) and from Norway (N=156) in this cross-sectional questionnaire study. The present study tested the measurement model of the WEB-SG with confirmatory factor analysis (CFA). In addition we performed CFA with covariates analysis to test the association between WEB-SG guilt and shame and gender, age, level of education, health status, body mass index (BMI), eating disorders characteristics (measured by Eating Attitudes Test, EAT-26) and shame related variables (measured by Experience of Shame Scale, ESS) separately among Hungarian and Norwegian participants.

### **Results**

The theoretical model of WEB-SG yielded adequate degree of fit in total sample model and among Hungarian and Norwegian samples separately. The configural and metric invariance were supported. The CFA with covariates analysis showed that the body related guilt associated with factor of EAT-26 such as dieting ( $\beta_H=0.64$ ;  $\beta_N=0.39$ ) and oral control ( $\beta_H=-0.15$ ;  $\beta_N=-0.36$ ) in both groups. In addition we found a significant positive relationship between body related shame and BMI in Hungarian sample ( $\beta_H=0.19$ ). Although the chronic bodily shame is associated with factors of WEB-SG guilt ( $\beta_H=0.16$ ;  $\beta_H=0.63$ ) and shame ( $\beta_H=0.47$ ;  $\beta_N=0.74$ ), the latter relationship is stronger.

### **Discussion**

According to our results, WEB-SG is an adequate good measurement properties for assessing weight and body related shame and guilt in Hungarian and Norwegian non-clinical samples. Weight and body related shame and guilt are well defined and separated constructs based on their predictors. According to our results, body related guilt is associated with dieting as anorexia and orthorexia specific restrictive behaviors and body related shame is associated with the higher level of BMI and chronic bodily shame. Stigmatization may increase the overweight person's body shame and hopelessness, which is one of the negative consequences of shame, and hopelessness that may prevent them developing adaptive eating behaviors and the weight loss.

## **Attentional Processing of One's own Body in Women with High Body Concerns Investigated by Steady-State Visual Evoked Potentials (SSVEP)**

**Mona M Voges, Claire-Marie Giabbiconi & Thomas Gruber, Osnabrück University, Germany**

**Søren K Andersen, University of Aberdeen, United Kingdom**

**Andrea S Hartmann & Silja Vocks, Osnabrück University, Germany**

### **Introduction**

Previous studies found attentional biases for obese or thin bodies compared to average-weight bodies, as well as biases for one's own body compared to other bodies, in women with body image disturbance. Most of these studies only provided information about overt attentional courses or single time points of attention. However, covert attentional courses might reveal information about involuntary and automatic attention allocation to bodies. Therefore, we conducted this study to analyze the covert attentional time course in early body processing areas in women with high body concerns.

### **Method**

Our sample comprised 24 women with low and 20 women with high body concerns. We presented them with pictures of their own body and other bodies in the background and a demanding dot detection task in the foreground of a screen. The dots moved and flickered at 15 Hz eliciting steady-state visual evoked potentials (SSVEP) measured by EEG. The women were instructed to attend to the dots. As the dots and body stimuli competed for attentional resources, we measured the distraction from the dot detection task by the body stimuli according to the extent of SSVEP amplitude reduction.

### **Results**

Body pictures were found to distract women both with high and with low body concerns, as SSVEP amplitudes decreased with body stimuli presentation, and this decrease was maintained throughout the stimulus presentation. However, in women with high body concerns, own-body pictures led to a greater distraction, resulting in a greater attenuation of the SSVEP amplitudes compared to pictures of another woman's body. This finding was not observed in women with low body concerns. Moreover, average-weight and thin bodies led to a greater attenuation of SSVEP amplitudes than overweight bodies.

### **Discussion**

The results reveal that women are easily and automatically distracted by body stimuli, even if they are instructed to concentrate on another task. In this regard, women with high and low body concerns focus more on thin-ideal and average-weight body stimuli than on negatively valued overweight bodies. This suggests that for women without eating disorders, the pursuit of thinness might possibly be more important than the fear of fatness. Furthermore, in women with high body concerns, one's own body attracts more attention compared to other bodies. In everyday life, therefore, women with high body concerns might experience greater distraction from own-body information than from other-body information. This may reinforce the prominent role of one's own body and might maintain a negative body image.

## **Direct Autobiographical Memory Retrieval in Women with a Repulsive Body Image**

**Paula von Spreckelsen, Ineke Wessel, Klaske Glashouwer & Peter de Jong, University of Groningen, the Netherlands**

### **Introduction**

Body image disturbances are not only characterized by a strong dissatisfaction and pre-occupation with one's appearance, but also seem to involve feelings of disgust towards aspects of the own body (e.g., body fat). If disgust towards the own body is experienced repeatedly, a stable appraisal of the own body as a repulsive object may be formed and become part of a person's cognitive schema representing their body image. Such a repulsive body image (RBI) likely influences information processing by tailoring it to information that is congruent with this body image (e.g., preferentially attending to parts of the body perceived as disgusting). Importantly, due to the dominance of the RBI in defining a person's self-concept, memories about past aversive experiences involving the own body (e.g., having been teased by peers about one's body in high school) can become highly accessible and easily triggered.

### **Method**

In the current study, we investigate autobiographical memory retrieval with an adapted Autobiographical Memory Test in a sample of women with low and high habitual levels of self-disgust ( $n = 128$ ). By using concrete body-related cue-words (e.g., 'my belly'), we aim to trigger direct retrieval processes, resulting in the retrieval of specific autobiographical memories about the own body. It is hypothesized that women with high levels of habitual self-disgust display high levels of disgust in response to specific memories, and (due to the defensive nature of disgust) subsequent avoidance tendencies (distraction and/or suppression of the memories) to escape from the emotion of disgust.

### **Results**

The results of the study will be presented at the conference for the first time (the data collection is currently in the final phase).

### **Discussion**

The results will be discussed in light of the assumption that biased autobiographical memory processes maintain cognitive schemas about the self (and body).

## **Measuring Inhibitory Control and Attentional Bias in Individuals with Bulimia Nervosa Using Emotional Go/No-Go Task**

**Sheryl Vösu, Kirsti Akkermann, Kerttu Petenberg & Kairi Kreegipuu, University of Tartu, Estonia**

### **Introduction**

Impaired inhibitory control and attentional bias related to disorder specific stimuli, i.e. body, food, could have a potential role in the development and maintenance of eating disorders (ED). Specifically, it has been suggested that individuals with bulimia nervosa (BN) have attention disengagement problems and decreased inhibitory control to disorder specific stimuli (Renwick et al., 2013; Wu et al., 2013). We aimed to measure inhibitory control and attentional bias to body and food stimuli in BN compared to psychiatric and healthy controls by using emotional Go/No-Go task and test whether inhibitory control and attentional bias in BN individuals are related to ED specific stimuli.

### **Method**

ED specific emotional Go/No-Go task, clinical interview and self-reported questionnaires were administered to 68 women (with mean age $\pm$ SD of 23.5 $\pm$ 6.6), of whom 17 were diagnosed with BN, 15 with mood disorders and 17 with comorbid mood, anxiety and substance use disorders. Healthy controls ( $n=19$ ) were recruited through university lists and public advertisements. All patients were tested during the first days of hospitalization approximately an hour after breakfast. Reaction times (RTs) and the number of commission and omission errors were measured, in relation to food, body and neutral stimuli. Also, ED symptoms, depression, impulsivity and state anxiety were assessed by subscales of Eating Disorder Assessment Scale (EDAS), Montgomery-Åsberg Depression Rating Scale (MÅDRS), Barratt Impulsiveness Scale (BIS-11) and State-Trait Anxiety Inventory (STAI) and included in the analysis for examining possible moderating effects.

### **Results**

Preliminary results suggest that individuals with BN were significantly slower in RTs for body and neutral stimuli compared to healthy controls ( $p<.05$ ). However, there were no significant differences to food stimuli between the groups ( $p>.05$ ). Moreover, BN made significantly more omission errors to food stimuli compared to healthy controls and mood disorder patients ( $p<.05$ ). Generally, BN had significantly less correct answers to all stimuli compared to healthy controls and made also significantly more commission and omission errors to neutral stimuli compared to other groups ( $p<.05$ ). There were no significant moderating effects for RTs for all stimuli ( $p>.05$ ).

### **Discussion**

Preliminary results indicate that emotional Go/No-Go task could be a valid measure to assess inhibitory control and attentional bias to ED related stimuli. BN individuals' significantly slower RTs for body and neutral stimuli suggest that they possibly had difficulties with disengaging attention from disorder specific stimuli. Therefore, measuring ED individuals' inhibitory control and attentional bias specifically to disorder specific stimuli could help to identify components of inhibitory control and attentional bias that might be potential targets for treatment (e.g. modifying eating behaviours, focusing on attentional bias and possible dysfunctional cognitions related to ED related stimuli). Based on the preliminary results of our study, attentional training using disorder specific stimuli as a part of CBT might be promising. Further research on larger samples is needed to develop specific treatment targets.

## **Cognitive-Behavioral Therapy for Eating Disorders: What Constitutes Meaningful Clinical Change in Eating Attitudes?**

**Glenn Waller & Elana Moore, University of Sheffield, United Kingdom**

**Hannah Turner, Eating Disorders Service, Southern Health NHS Foundation Trust, United Kingdom**

**Madeleine Tatham, Norfolk Community Eating Disorders Service, Cambridgeshire and Peterborough NHS Foundation Trust, United Kingdom**

### **Introduction**

This study replicates and extends previous studies on the effectiveness of brief cognitive-behavioral therapy (CBT-T) for non-underweight eating disorder patients, and examines the comparability of different remission indices, based on change in eating attitudes.

### **Method**

A case series of 139 non-underweight eating disordered patients started CBT-T, and had a comparable attrition rate to longer versions of CBT. Changes were measured in eating attitudes and behaviors, anxiety, depression, and the working alliance. Categorical levels of remission were calculated using changes in eating attitudes, based on a commonly used cut-off and two other indices - Reliable Change Index, and Clinically Significant Change.

## **Results**

The pattern of change in eating attitudes and behaviors, mood and depression were comparable to those in previous studies (moderate-large effect sizes). Thus, CBT-T was as effective as previously demonstrated. The existing 'cut-off' index of remission was equivalent to the reliable change index, but both were more optimistic than the index of clinically significant change.

## **Discussion**

The effects of CBT-T from previous studies were replicated in this study, showing it to be an effective treatment for non-underweight eating disordered patients, reducing negative eating attitudes, bulimic behaviors, anxiety and depression, and enhancing the therapeutic alliance. It is recommended that future outcome research should report the rates of all three indices of remission of eating attitudes, to allow comparability of outcomes, and that the most pessimistic index of remission (clinically significant change) should be used in future work, to reduce the risk of overoptimistic conclusions regarding remission rates.

## **Brief Cognitive-Behavioural Therapy for Non-Underweight Eating Disorders (CBT-T): All the Effects in Half the Time?**

**Glenn Waller, University of Sheffield, United Kingdom**

**Madeleine Tatham, Norfolk Community Eating Disorders Service, Cambridgeshire and Peterborough NHS Foundation Trust, United Kingdom**

**Hannah Turner, Eating Disorders Service, Southern Health NHS Foundation Trust, United Kingdom**

**Victoria Mountford, Eating Disorders Service, South London and Maudsley NHS Foundation Trust, United Kingdom**

## **Introduction**

Existing forms of evidence-based cognitive behavior therapy for eating disorders (CBT-ED) are relatively effective for non-underweight cases. However, they are also expensive compared to CBT for other disorders. This study reports the first outcomes for a shorter, ten-session form of CBT-ED (CBT-T) for such cases, designed to be less demanding of resources.

## **Method**

A case series of 106 non-underweight eating disordered cases were considered for this effectiveness study. A protocolized ten-session version of CBT-ED was delivered by clinical assistants, under supervision. Measures assessed eating attitudes and behaviors, anxiety, depression, personality pathology, and the working alliance. Intention-to-treat analyses were used.

## **Results**

Suitability, acceptability, working alliance ratings and retention were all positive. Outcomes by the end of therapy and at three-month follow-up were positive for all symptoms, with levels of change, abstinence and remission that were comparable to those from effectiveness studies of longer forms of CBT. Higher levels of pre-treatment anxiety predicted retention in treatment, but no factors predicted poorer response. Early change in eating attitudes and the working alliance were the strongest predictors of a positive response.

## **Discussion**

This ten-session form of CBT-ED for non-underweight eating disorders performed at a level that is comparable to versions of CBT-ED that are twice as long, despite being delivered by non-specialist therapists. Replication and longer-term follow-ups are needed to ensure retained effects. However, CBT-T has promise as a therapy for use in a range of healthcare settings, to enhance access to treatment for such eating disorders.

## **Transtheoretical Model and Metabolic Syndrome**

**Martha Wallig Brusius Ludwig, UNISINOS, Brazil**

**Karen Priscila Del Rio Szupczynski, Federal University of Grande Dourados, Brazil**

**Nathalia Susin, Clinical hospital of Porto Alegre, Brazil**

**Raquel de Melo Boff, University of Caxias do Sul, Brazil**

**Ana Maria Pandolfo Feoli & Margareth da Silva Oliveira, Pontifical Catholic University of Rio Grande do Sul, Brazil**

## **Introduction**

The combination of MS and cardiovascular diseases increases mortality by 1.5 times, and the cardiovascular mortality by 2.5 times. In Brazil, the prevalence of MS ranges between 5.9% and 70.8% by due to variables such as age, ethnicity and physical comorbidities (with or without another health problem). Individuals with metabolic syndrome need more counseling about changing their lifestyles, which is a challenge. Transtheoretical Model (TTM) can be one option to manage the behavior changes demanded by MS. This study looked at two experimental interventions (Individual Intervention and Group Intervention), both based on TTM to verify if they would be better than a control intervention. The second goal of this study was to verify if a group intervention would be as successful as a personalized and supervised treatment.

## **Method**

We evaluated 63 patients with MS pre and post treatment. We used repeated measure ANOVA.

## **Results**

Individual Intervention demonstrated significantly better results than the other two interventions on the following variables: weight, BMI, abdominal circumference, self-efficacy for exercise, readiness to exercise 3-5 times per week, readiness to increase cereals and readiness to reduce salt. Group Intervention was not more successful than Control Intervention in any outcome. The results demonstrate that some variables did not change over the time (in regard to the whole sample independent of the three interventions), as the following: HDL, triglycerides, glucose, readiness to do aerobic exercise 3-5 times per week, readiness to increase cereals, readiness to reduce salt and readiness to increase fish.

## **Discussion**

In this study, the most intensive and individualized treatment was the most effective. Future studies should be conducted to examine the effectiveness of the group intervention based on stages of change compared with a control intervention. In order for future group intervention to be more successful, they should have two meets per week divided into group intervention and exercise.

## **Executive Dysfunctions and Eating in the Absence of Hunger in Adolescents with Binge-Eating Disorder: An Experimental Test Meal Study**

**Henrike Wandrer, Ricarda Schmidt & Anja Hilbert, Integrated Research and Treatment Center (IFB) Adiposity Diseases, Germany**

### **Introduction**

The few studies investigating executive functions (EF) in adolescents with binge-eating disorder (BED) provided first evidence of deficits in EFs indicating impaired self-regulation. However, nothing is known whether these EF deficits account for situations marked by poor food-specific self-regulation, such as eating in the absence of hunger (EAH). EAH has not yet been investigated in adolescent BED, but is associated with loss of control eating (LOC) characteristic for BED. This experimental test meal study aimed to examine associations between EFs, including inhibition, cognitive flexibility, and decision-making, food intake during a lunch meal, and laboratory-based EAH in adolescent BED.

### **Method**

Adolescents (12-20 years) with BED (DSM-IV-TR, DSM-5, subthreshold BED according to DSM-5) (n = 18) and sociodemographically matched controls (n = 18) chose from a selection of lunch meals and were instructed to eat until feeling full. Afterwards, participants were offered a range of snack foods ad libitum. Food intake (g, kcal) was determined during lunch and snack intake. Sense of LOC was assessed before and after the lunch meal. EFs were measured prior to the test meal using neuropsychological tests (CTMT, CWIT, IGT) and self-report (BRIEF). Paired t-test, covariance analyses and predictor analyses were used to evaluate the data.

### **Results**

The BED group showed a significantly higher food intake (g) and greater pre- and post-ratings of sense of LOC in the lunch meal but did not differ from controls regarding consumed energy (as they chose meals with lower calories). The BED group ate significantly more snack food (g, kcal) and thus showed greater EAH than controls. There were no significant group differences in neuropsychological tests and self-reported EFs. Deficits in decision-making and pre-ratings of sense of LOC predicted EAH (g, kcal) across the sample. EFs did not predict food intake (g, kcal) during the lunch meal.

### **Discussion**

The experimental results showed that adolescents with BED display greater EAH and sense of LOC than controls, thus validating group classification. For the first time, the study revealed that deficits in general decision-making and sense of LOC eating predicted increased EAH. Future studies should include larger samples, food-specific tests of EFs, and informant-reports (e.g., by parents) on EFs to further clarify their role in self-regulation in adolescent BED and derive new targets for intervention.

## **Do Veiled and Unveiled Muslim Women, Christian Women, and Atheist Women Differ Regarding Body Checking, Body Dissatisfaction, and Eating Disorder Symptoms?**

**Leonie Wilhelm, Andrea S. Hartmann, Julia C. Becker, Melahat Kişi & Manuel Waldorf & Silja Vocks, Osnabrück University, Germany**

### **Introduction**

According to research results, body image plays a substantial role in the development and maintenance of eating disorders. The behavioral component of body image encompasses body-related behaviors such as body checking, and comprises several forms of behavior, for instance, checking one's own overall physical appearance or specific body parts in the mirror to assess the size or shape of one's own body. It is generally agreed that body checking is an important factor in the maintenance of eating disorders. In general, females wearing Western clothing check body parts which are covered in public by veiled Muslim women. Therefore, one might assume differences in the body checking behavior of veiled and unveiled Muslim women and non-Muslim women. To address this question, the present study examined whether body checking, body dissatisfaction, and eating disorder symptoms differ between veiled and unveiled Muslim women, Christian women, and atheist women.

### **Method**

Body checking behavior, body dissatisfaction, and eating disorder symptoms were assessed in an exploratory web-based study. Being veiled was defined as wearing the hijab, commonly described as a head scarf, and as covering the whole body or specific body parts with long, loose-fitting clothes.

### **Results**

While the groups did not differ regarding body dissatisfaction, unveiled Muslim women reported more idiosyncratic checking than veiled Muslim, Christian, and atheist women, and higher bulimia scores than Christian women. However, no group differences were found regarding restraint eating and eating, weight, and shape concerns.

### **Discussion**

The present study contributes to the often neglected research on body image in Muslim women. The results support previous findings that eating disorder symptoms can affect people from various ethnic groups, possibly because these groups are adopting Western values, including the Western thin ideal. However, a limitation of the present study is that veiled Muslim women were not asked whether they check their bodies when they are veiled, unveiled or both. Therefore, future research should compare the body checking behavior when being veiled to the body checking behavior when being unveiled.

## **Analyses of Emotional States Before, During and After a Body Checking Episode in Normal Weight Females with Higher and Lower Eating, Weight and Shape Concerns**

**Leonie Wilhelm, Andrea S. Hartmann, Martin Cordes, Manuel Waldorf & Silja Vocks, Osnabrück University, Germany**

### **Introduction**

Body checking behavior encompasses various strategies to assess the weight, size, or shape of one's own body, for instance checking body parts in the mirror or weighing oneself. The checking behavior is presumed to be a maintaining factor for eating disorders, which are among the most dangerous mental disorders. Therefore, it is important to examine how body checking might be maintained. In this context, cognitive-behavioral theories posit that body checking is used to cope with aversive emotions and is negatively reinforced by successfully reducing these emotions. Furthermore, it is assumed that body checking increases the level of arousal, a physiological and psychological state of high alertness, which in turn might lead to further body checking. However, despite these theoretical assumptions regarding the maintaining mechanism of emotional states on body checking and despite its clinical relevance, only few studies have examined the effects of body checking on emotional and cognitive-evaluative states. It was found that checking of liked body parts decreased aversive emotions,

whereas checking of disliked body parts increased these emotions. Therefore, the current study examined how normal-weight females with higher and lower eating, weight, and shape concerns feel during a checking episode of their most-liked and least-liked body parts.

#### **Method**

In an online study, levels of negative emotions and arousal were retrospectively assessed before, during, immediately after, and 15 minutes after an individually remembered body checking episode. Participants (N = 355) also rated their subjective satisfaction with specific body parts. Results: Compared to before the checking episode, levels of negative emotions were lower 15 minutes after the checking of most-liked and least-liked body parts. However, negative emotions increased during the checking episode of least-liked body parts, but subsided 15 minutes after the checking episode. The levels of arousal increased during the checking episodes of most-liked and least-liked body parts and decreased afterwards. Compared to females with lower eating, weight, and shape concerns, females with higher concerns reported greater levels of arousal. Furthermore, females with higher concerns reported more body checking than those with lower concerns.

#### **Results**

Compared to before the checking episode, levels of negative emotions were lower 15 minutes after the checking of most-liked and least-liked body parts. However, negative emotions increased during the checking episode of least-liked body parts, but subsided 15 minutes after the checking episode. The levels of arousal increased during the checking episodes of most-liked and least-liked body parts and decreased afterwards. Compared to females with lower eating, weight, and shape concerns, females with higher concerns reported greater levels of arousal. Furthermore, females with higher concerns reported more body checking than those with lower concerns.

#### **Discussion**

The results of the present study are in line with previous non-retrospective findings, supporting their validity. However, the retrospective design of the survey might have led to memory effects, e.g., recall bias, or to difficulties in differentiating between the four time points of negative emotions and arousal. As presumed by the cognitive-behavioral theories, body checking led to a decrease in negative emotions in the longer term and levels of arousal increased during the checking episode. Thus, the current results support the assumptions of the cognitive-behavioral theories. The greater levels of arousal in females with higher concerns, and their pronounced body checking behavior, might enhance their existing concerns and increase the risk of disordered eating.

### **The Relationship Among BIS/BAS, Healthy Diet Strategies, Drive for Thinness, and Well-Being, Focusing on Intentional Dieting**

**Mikako Yazawa, Musashino University, Japan**

**Tomohiro Suzuki, Tokyo Future University, Japan**

#### **Introduction**

Currently, the number of Japanese young adult women who are underweight has been increasing. This trend is accounted for because of unhealthy dieting behavior due to a drive for thinness, which often reduces well-being. We focus on the idea that dieting and dietary restraints are similar but not equivalent concepts, and that not all dieters restrict their eating per se. It is necessary to discriminate between dieting, regarded as intentional dieting, and actual dietary restraint, regarded as the practice of dieting by way of healthy eating. In addition, previous research indicated that BIS/BAS are related to drive for thinness (Loxton & Dawe, 2000). This study aimed to examine the relationship among intentional dieting, BIS/BAS, diet strategies, drive for thinness, and well-being. The definition of a diet in this study was somebody trying to lose weight or maintain one's weight and figure.

#### **Method**

An online survey was used to collect data from 318 Japanese women, aged 20–34 years (BMI =20.84, SD=4.45). They first answered whether they were currently dieting, which separated intentional dieters from non-dieters. They then completed several scales: the Checklist of Healthy Dieting (CHD; Yazawa & Suzuki, 2017); the Japanese Version of BIS/BAS Scales (Takahashi et al., 2007); the Drive for Thinness Scale (Baba & Sugawara, 2000); and the Japanese version of WHO-Five well-being index (Awata et al., 2007).

#### **Results**

Of the participants, 190 were intentional dieters and the remaining 218 were non-dieters. The result of multi group structural equation modeling, we adopted a model of configural invariance. The model showed that, in intentional dieters, as opposed to non-dieters, BIS/BAS enhanced drive for thinness and reduced well-being. On the other hand, drive for thinness promoted healthy dieting and mediated in intentional dieters.

#### **Discussion**

These results showed that BIS/BAS had a negative influence on well-being, mediated by a drive for thinness. However, strategies for healthy dieting have a positive influence on well-being among people who are conscious of dieting, that is, intentional dieters. Our results are useful for designing interventions for those who are focused on intentional dieting and the level of BIS/BAS in order to promote healthy eating to support diet and well-being.

(This work was supported by JSPS KAKENHI Grant Number 26780399)

### **Combination of Pharmacotherapy and CBT in Eating Disorders - Retrospective Case Series**

**Eren Yildizhan, Bakırköy Research and Training Hospital for Psychiatric and Neurological Diseases, Turkey**

#### **Introduction**

Cognitive Behavioral Therapy (CBT) has strong empirical support for eating disorders. There is also a number of psychotropic agents with evidence based support for eating disorders and related comorbid psychiatric disorders. Pharmacotherapy has potential for enhancing outcomes of psychological interventions.

#### **Method**

Retrospective records of the patients who were recruited for psychotherapy in the eating disorders unit of outpatient psychiatry clinic were investigated.

#### **Results**

45 patients were recruited for a period of two years. There were combined use of CBT and pharmacotherapy for 30 patients. Mean Duration of psychotherapy were  $3,53 \pm 4,97$  months with a maximum of 22 months. Regarding the drop outs within the first month of psychotherapy (n=9), 3 patients were offered CBT alone, and 5 patients were offered CBT in combination with pharmacotherapy. All the patients with the diagnosis of anorexia nervosa-restricting type (n=6) were offered CBT in combination with pharmacotherapy. All the patients with binge eating disorder (n=7) who had comorbid depression were also offered CBT in combination with pharmacotherapy. The medications that were

prescribed for patients with anorexia nervosa were olanzapine (n=3), fluoxetine (n=2), mirtazapine (n=2), risperidone (n=2), escitalopram (n=1), sertraline (n=2), sulpiride (n=1). The medications prescribed for patients with bulimia nervosa were fluoxetine (n=9), aripiprazole (n=1), sertraline (n=1) and the medications for patients with binge eating disorder were bupropion (n=6) and fluoxetine (n=2). Mean BMI of patients with anorexia nervosa was  $15,17 \pm 2,32$ ; it was  $25,08 \pm 5,76$  and  $31,85 \pm 8,11$  for bulimia nervosa and binge eating disorder respectively.

#### **Discussion**

Selective serotonin reuptake inhibitors were the most common treatment of choice when an adjunct to psychotherapy is needed. Low dose antipsychotics were used especially in cases of anorexia nervosa. Vomiting causes electrolyte imbalances which may decrease the seizure threshold and bupropion is avoided due to increased risk of seizures in eating disorders presenting with the symptom of vomiting. But for the patients with binge eating disorder, since compensatory behaviors were not part of the disorder and there was comorbid depression, bupropion use was frequent. There were no seizures and no other life threatening side effects observed. For the eating disorders that do not present with compensatory behaviors such as vomiting and use of laxatives, bupropion may also be an option as an adjunct to psychotherapy; particularly when there is comorbid depression.

### **Randomized Trial of a Dissonance-Based Group Treatment for Eating Disorders: An Evaluation of Target Engagement**

**Sonja Yokum, Eric Stice, Paul Rohde, Heather Shaw, Jeff Gau & Sarah Johnson, Oregon Research Institute, USA**

**Aviva Johns, University of Texas at Austin, USA**

#### **Introduction**

Eating disorders affect 13-15% of women by young adulthood and are marked by chronicity, relapse, distress, functional impairment, and increased risk for obesity, mood and anxiety disorders, substance misuse, suicide, and premature morbidity. Only 3-20% of people with eating disorders receive treatment, and they often do not receive evidence-based treatments because they are intensive and costly, and few clinicians deliver them. We developed a brief front-line treatment for the spectrum of eating disorders that could be easily, inexpensively, and widely implemented. In this 8-session group intervention, referred to as Body Project Treatment (BPT), women with eating disorders complete verbal, written, and behavioral activities in which they discuss negative effects of pursuing the thin beauty ideal and engaging in disordered eating behaviors. In the current study, we examined whether this dissonance-based transdiagnostic eating disorder treatment reduces valuation of the thin beauty ideal and high-calorie binge foods and eating disorder symptoms, relative to waitlist controls.

#### **Method**

Women with DSM-5 eating disorders (N = 100) were randomized to an 8-week group-implemented BPT or a waitlist control condition, completing fMRI paradigms assessing neural response to thin models and binge foods, questionnaires, and diagnostic interviews at pretest and posttest.

#### **Results**

Compared to controls, BPT participants showed greater reductions in responsivity of regions involved in reward processing (ventromedial prefrontal cortex, dorsolateral prefrontal cortex, precuneus) to thin models but not binge foods, pursuit of the thin ideal ( $d = .72$ ), palatability ratings of binge foods ( $d = .78$ ), and greater increases in attractiveness ratings of average-weight models ( $d = .44$ ), the intervention targets, as well as greater reductions in body dissatisfaction ( $d = .83$ ), negative affect ( $d = .76$ ), and eating disorder symptoms ( $d = .59$ ), and marginally greater abstinence from binge eating and compensatory behaviors (39% vs. 21%).

#### **Discussion**

Results provide novel evidence that BPT affected the hypothesized intervention targets and reduced variables that are putatively secondary to pursuit of the thin ideal, including body dissatisfaction, negative affect, and eating disorder symptoms.

### **ProYouth OZ: An Online Peer-to-Peer Support Prevention and Early Intervention Program for Young People at Risk of Eating Disorders**

**Kathina Ali, Lou Farrer, Daniel Fassnacht & Elizabeth Rieger, The Australian National University, Australia**

**Markus Moessner & Stephanie Bauer, University Hospital Heidelberg, Germany**

**Kathleen Griffiths, The Australian National University, Australia**

#### **Introduction**

Evidence suggests that Internet-based approaches are effective for the prevention and treatment of eating disorders. Peer-to-peer support is often used as a component of these interventions, but the additional effect has not yet been examined. The current study evaluates an Internet-based prevention and early intervention program with peer-to-peer support in Australia (ProYouth OZ). The program consists of various modules including psycho-education, a supportive monitoring and feedback system, and peer support.

#### **Method**

Young people at risk of eating disorders were randomly assigned to one of the three study conditions: (1) ProYouth OZ peers (participation in weekly moderated peer support group chat sessions), (2) ProYouth OZ, and (3) a waitlist control group. Assessments were conducted at baseline, post-intervention (6 weeks), and 3-month follow-up to examine disordered eating behaviours and attitudes, help-seeking barriers (e.g., stigma, eating disorder literacy), and help-seeking intentions.

#### **Results**

The program and preliminary data from the first recruitment wave will be presented. Furthermore, experiences with recruitment and delivery of ProYouth OZ will be discussed.

#### **Discussion**

This is one of the first studies to examine the additional effect of synchronous peer-to-peer support in an online prevention and early intervention program for eating disorders and seeks to better understand barriers to care and help-seeking in young people.

## Poster Session 3 (15.00-17.30)

### Depression - English Programme

- 1 **Physical Activity and Cognitive Control Modulate Therapy Processes in Depression**  
Johanna Adelsberger, Freie Universität Berlin, Germany
- 2 **Reduction of Depression and Anxiety with the Group Format of Emotional Activation Therapy (G-EAT)**  
Ariane Schmidt, Lehrpraxis Ellen Flies der AVT Köln, Germany
- 3 **Tailored Screening for Late-Life Depression — A Short Version of Teate Depression Inventory in Elderly People**  
Aristide Saggino, G. d'Annunzio University of Chieti-Pescara, Italy
- 4 **A Cognitive Behavioural Group Training Intervention to Facilitate Transitions Among Female University Students who Have Symptoms of Depression and Anxiety**  
Johanna Bernhardsdottir, University of Iceland, Iceland
- 5 **EFFECTively Treating Depression: Study Design and Methodology of a Naturalistic Study of Group Cognitive Behavioural Therapy as Electroconvulsive Therapy Continuation Treatment**  
Luisa Bönke, Charité Universitätsmedizin Berlin, Germany
- 6 **Acceptance and Implementation of an Online Problem-Solving Program for Depression in a Stepped Care Project**  
Oliver Bur, University of Bern, Switzerland
- 7 **Brief Psychological Interventions for Depression: Outcomes for Mental Health Services**  
Stephanie Casey, Cambridgeshire and Peterborough NHS Foundation Trust, UK
- 8 **Effect of Cognitive Behavioral Therapy and Enhanced Cognitive Behavioral Therapy Programs on Korean Soldiers' Maladaptation in Military**  
Ju Sung Cho, Konyang University, South Korea
- 9 **Effects of Socially Prescribed Perfectionism and Intolerance of Uncertainty of College Students on Their Depression: Focusing on Mediating Effects of Experiential Avoidance**  
Jae-Gwang Choi, Konyang University, South Korea
- 10 **Development and Effectiveness of Depression Management Program Based on Cognitive Behavioral Therapy: Focused on the University Students with Socially Prescribed Perfectionism**  
Jae Gwang Choi, Konyang University, South Korea
- 11 **Development and Pilot Testing of MApp: A Mobile App that Targets Intrusive Memories During Dysphoria**  
Adriana del Palacio-Gonzalez, Aarhus University, Denmark
- 12 **The impact of Eye Movement Desensitization and Reprocessing as an Adjunct to Group Cognitive Behavioral Therapy for Individuals with Depression**  
Sarah Dominguez, Murdoch University, Australia
- 13 **Examining the Relationship Between Flexibility in Retrieving Autobiographical Memories and Social Problem Solving in Depression**  
Barbara Dritschel, University of St Andrews, UK
- 14 **An Evaluation of a Cognitive Behavioral Therapy Group**  
Rachel Elliott, Cambridge Adult Locality Team, UK
- 15 **Brain Structural Biomarkers of Psychotherapy**  
Verena Enneking, University of Münster, Germany
- 16 **New Perspectives for Cognitive Behavioral Therapy in Primary Health Care Settings for Depression Treatment**  
Heidrun Faninger-Lund, Helsinki Southern Psychiatric and Substance Abuse Centre, Finland
- 17 **Effects of an Eight-Week Mindfulness and Metta-Based Group Meditation Program in Patients with Chronic Depression**  
Artjom Frick, Goethe University Frankfurt, Germany
- 18 **Thwarted Belongingness and Perceived Burdensomeness Mediate the Association Between Bullying and Suicide Ideation**  
Sören Friedrich, Ruhr Universität Bochum, Germany
- 19 **The Effectiveness of a Cognitive Behavioral Therapy Group and an Analysis of Beck Depression Inventory-II in a Group of Dysthymic Patients**  
Patricia Gavín, University of Barcelona, Spain
- 20 **The Relationship Between Depression and Cognitive Performance: A Differentiation of Direct Associations and a Potential Confounding Influence of Childhood Maltreatment**  
Janik Goltermann, University of Münster, Germany
- 21 **Cognitive Profiles of Executive Functions in Unipolar Affective Disorders and Adjustment Disorders with Depressed Mood: Diagnostic Markers and Prognostic Value?**  
Joana Guarch Domenech, University of Barcelona, Spain
- 22 **Dissemination of Cognitive Behavioral Therapy for Mood Disorder Under the National Health Insurance Scheme in Japan (FY2010–2015): A Descriptive Study Using a Nationwide Claims Database**  
Yuta Hayashi, University of Miyazaki, Japan
- 23 **Effects of Rumination on Depressed Mood – Investigating the Role of Working Memory Updating as a Moderator**  
Fu-Chien Hung, Chung Yuan Christian University, Taiwan
- 24 **Group Rumination-Focused Cognitive-Behavioural Therapy versus Group Cognitive-Behavioural Therapy for Depression: Phase II Trial**  
Morten Hvenegaard, University of Copenhagen, Denmark
- 25 **Effect of Selective Attention on Exacerbation of Worry and Rumination**  
Hiroto Ikeda, Waseda University, Japan
- 26 **Relationships Between Trait Mindfulness and Emotion Regulation Upon Autobiographical Memory Retrieval in Individuals with Current and Past Depression**  
Aleksandra Isham, University of St Andrews, UK
- 27 **Understanding Rumination and Worry; Using Data from an Online Qualitative Survey to Inform the Development of a Treatment Intervention**

- Amy Joubert, University of New South Wales, Australia
- 28 **The Relationships Between Cognitive Biases, Resilience and Executive Function in Depression and Anxiety**  
HaeJune Jung, Kangwon National University, South Korea
- 29 **A Nursing Intervention Using the Cognitive-Behavioral Model in Hospitalized Patients with Depression: A Preliminary Study**  
Naotoshi Kamizawa, Tokyo Medical University, Japan
- 30 **Time Perspective in Depressed Patients, Its Relationship with Anxiety and Depression Symptoms and Its Evolution Before and After Cognitive Behavioral Therapy**  
Héline Kaya Lefèvre, Université Paris Descartes, France
- 31 **The Relationship Between Perfectionism and Rumination**  
Eduardo Keegan, University of Buenos Aires, Argentina
- 32 **Early Vascular Nursing Intervention for Management of Post-Stroke Depression**  
Sanghee Kim, Keimyung University, South Korea
- 33 **The Relationship Between Ambiguous Loss and Depression in North Korean Defector Women: Mentalization and Social Support as Potential Moderators**  
KyongAh Kim, Sungkyunkwan University, South Korea
- 34 **Does the Use of Smartphone Applications to Encourage Flexible Execution of Stress Coping Enhance Effect of Cognitive Behavior Stress Management?**  
Mikiko Kimura, Waseda University, Japan
- 35 **Influence of Intervention Order in School-Based Universal Cognitive-Behavioral Depression Prevention Intervention for Japanese Adolescents**  
Yugo Kira, Hiroshima University, Japan
- 36 **Effectiveness of the Self-Management Intervention Deprexis@24 in Routine Medical Care: Results of a Non-Interventional Study**  
Jan Philipp Klein, Lübeck University, Germany
- 37 **A Replication Study of the Relationships Between Depressive Symptoms, Behavioral Activation and Avoidance Depending on Gender**  
Audrey Krings, Liège Université, Belgium
- 38 **IFES-S - The German Short Version of the Impact of Future Events Scale: Translation, Adaption, and Validation**  
Julia Kroener, University Clinic of Ulm, Germany
- 39 **Depression and Help-Seeking Preference of Pregnant Women in Japan**  
Noriko Kusakabe, Fukuyama University, Japan
- 40 **Attachment Style and Working Alliance Changes in Patients with Chronic Depression Treated with Cognitive Behavioral Analysis System of Psychotherapy**  
Jennifer Lange, Ludwig Maximilian University, Germany
- 41 **The Dual Mediation Effects of Negative Self-Talk and Positive Self-Talk on the Relationship Between Self-Awareness and Depression**  
Hyeonye Lee, Yeungnam University, South Korea
- 42 **Adverse Childhood Experiences in Depression and Its Relation to Attachment Styles, Interpersonal Relationships and Parenting Styles**  
Manjula Munivenkatappa, National Institute of Mental Health and Neuro Sciences, India
- 43 **Childhood Maltreatment, Attributional Styles of Stressful Life Events, and Their Relation to Comorbidity of Major Depressive Disorder and Anxiety Symptoms**  
Ileana Manzanilla, Universidad de Los Andes, Columbia
- 44 **Specificity and Overlap of Attention and Memory Biases in Depression and Anxiety: A Meta-Analytic Commonality Analysis**  
Igor Marchetti, University of Trieste, Italy
- 45 **Temperament, Character and Personality Disorders as Predictors of Response to Cognitive-Behavioral Group Therapy for Dysthymia**  
Inés Martín, University of Barcelona, Spain
- 46 **Increasing the Direct Retrieval of Overgeneral Categoric Memory in Depression**  
Noboru Matsumoto, Nagoya University, Japan
- 47 **The Impact of Comorbid Depressive Symptoms and Borderline Personality Disorder on Treatment Outcomes in Dialectical Behavior Therapy**  
Lynn McFarr, University of California Los Angeles, USA
- 48 **The Effectiveness of a Mindfulness Training Programme in Schools Compared with Normal School Provision (MYRIAD): Study Protocol for a Randomized Controlled Trial**  
Emma Medlicott, Oxford University, United Kingdom
- 49 **Reduced White Matter Fiber Integrity in Depressed Patients Due to Childhood Maltreatment Rather than Diagnosis**  
Susanne Meinert, University of Münster, Germany
- 50 **The Effect of Mindfulness on the Relationship Between Mind Wandering and Depression**  
Sung Min, Yonsei University, South Korea
- 51 **Mindfulness versus Traditional Emotional Intelligence Training - Different Outcomes in Difficulties of Regulating Emotions and in Depression, Anxiety and Stress Symptoms**  
Calinici Mirela Simona, Babes Bolyai University Cluj Napoca, Romania
- 52 **Construction of Screening System for Depression Used by Portable Terminal and Wearable Devices**  
Shigeaki Nakayama, Yonago College, Japan
- 53 **Influence of Temperament on Subjective Menstrual Symptoms**  
Mayu Naruse, Tokyo Medical University, Japan
- 54 **CBASPersonalized@home: An Online Continuation-Treatment Program Following an Inpatient Treatment to Stabilize Treatment Success for Persistent Depressive Disorder**  
Anna-Lena Netter, Philipps University Marburg, Germany

- 55 **Preliminary Tests of Mindfulness/ Acceptance Self-Help Intervention: Does the Sequence of Exercises Matter?**  
Zdenka Novović, University of Novi Sad, Serbia
- 56 **Affective Realism Hypothesis on Depression and Anxiety: An Analysis of the Perspective of Reinforcement Learning**  
Hiroyoshi Ogishima, Waseda University, Japan
- 57 **Development of a Short Psychoeducational Program Focusing on Distraction and Reappraisal**  
Megumi Oikawa, Tokyo Gakugei University, Japan
- 58 **The Relationship Between Cognitive Distortion, Depressive Symptoms, and Social Adaptation: A Survey in Japan**  
Maki Ota, Tottori Medical Center, Japan
- 59 **Neuropsychological Evaluation Of Depressive Patients**  
Alexandra Pagiatís, Fundación Fobia Club and Sanatorio Franchín, Argentina
- 60 **Accessibility and Using Challenges: Health Equity of Chinese Depression Related Clinical Guidelines/ Consensus in 2010-2018**  
Yuanqing Pan, Tianjin Medical College, China
- 61 **Interpersonal Counselling in the Treatment of Adolescent Depression. A Randomized Controlled Effectiveness and Feasibility Study in School Health and Welfare Services in Finland**  
Pauliina Parhiala, Helsinki University Hospital, Finland
- 62 **Inflexibility in Assigning Causal Explanations: Effects on Mood and State Rumination**  
Baruch Perlman, Hebrew University of Jerusalem, Israel
- 63 **Self-Stigma, Hope, Dissociation, and Personality Features in Treatment of Depressive Inpatients Resistant to Pharmacotherapy**  
Jan Prasko, University Hospital Olomouc, Czech Republic
- 64 **Cognitive Behavioral Therapy Group in Dysthymic Patients: Changes in Coping Strategies**  
Mireia Primé-Tous, University of Barcelona, Spain
- 65 **Discrepancies Between Observed and Self-Reported Severity in Depression: The Role of Personality Traits**  
Irene Ramos-Grille, Consorci Sanitari de Terrassa and Universitat Autònoma de Barcelona, Spain
- 66 **The Role of Coaches' Online Written Feedback in an Acceptance and Commitment Therapy-Based Intervention for Enhancing University Students' Well-Being and Reducing Psychological Distress: Results from an Randomized Controlled Trial Study that Employed A. I. Text Analysis**  
Panajioti Rasanen, University of Jyväskylä, Finland
- 67 **Long-Term Effects of Expectations on Mood: An Experimental Investigation**  
Lea Rebstock, Philipps-University of Marburg, Germany
- 68 **Is It Us or the Fellow Patients? Therapeutic Alliance Within Cognitive Behavioral Analysis System of Psychotherapy Group Therapy and Its Effect on Treatment Outcome**  
Matthias Alexander Reinhard, Ludwig Maximilian University Munich, Germany
- 69 **Early Change of Depression as Predictor of Inpatient Psychotherapy Outcome**  
Robert Mestel, Helios Kliniken Bad Grönenbach, Germany
- 70 **Do We Have the Guts to Try this Nauseogenic Stimulus as Interoceptive Exposure?**  
Arnon Rolnick, Private Practice, Israel
- 71 **Psychomotor Retardation and Factors Related to It in Recurrent Depression**  
Katarzyna Romanowicz, Institute Psychiatry and Neurology, Poland
- 72 **Rumination, Metacognitions and Experiential Avoidance in Depression: Differential Associations with Symptoms, Emotional Quality of Life and Life Satisfaction**  
Beatriz Rueda, National University of Distance Education, Spain
- 73 **On the Efficacy of the Barlow Unified Protocol for Transdiagnostic Treatment of Emotional Disorders: A Meta-Analysis**  
Aristide Saggino, G. d'Annunzio University of Chieti-Pescara, Italy
- 74 **The Development and Evaluation of a Cognitive Behavioral Therapy Program via Telephone on the Stress Reaction of Dementia Caregivers**  
Yoshihiro Saito, International University of Health and Welfare School of Nursing at Fukuoka, Japan
- 75 **Pathway to Depression in Institutionalized Adolescents: The Role of Memories of Warmth and Safeness, Shame and Self-Criticism**  
Maria do Céu Salvador, University of Coimbra, Portugal
- 76 **Videoconferencing-Delivered Cognitive Behavioral Therapy for Patients with Major Depression Disorder: A Feasibility Study**  
Yohei Sasaki, Keio University School of Medicine, Japan
- 77 **Passive Aggression in Major Depression: Impact on Treatment Outcome in Outpatient Psychotherapy**  
Christian Günter Schanz, Saarland University, Germany
- 78 **Resting-State Functional Connectivity Predicts Response to Mobile-App Delivered Cognitive Behavioral Therapy in Major Depressive Disorder**  
Hyemin Shin, Department of Psychology, Chung-Ang University, South Korea
- 79 **Improving Outcomes in Group Behavioural Activation for Depression**  
Mel Simmonds-Buckley, University of Sheffield, UK
- 80 **Neural Correlates of Emotion Processing in Depression with Comorbid Anxiety**  
Lisa Sindermann, University of Münster, Germany
- 81 **A Qualitative Exploration of the Developmental Pathway to Experiential Knowledge in Depression**  
Dorien Smit, Mental Health Care Pro Persona Nijmegen, the Netherlands
- 82 **Latent Profile Analysis of Cognitive Themes Related to Depression Symptoms in Patients Undergoing Treatment for Cancer**  
Phillip Smith, University of South Alabama, USA
- 83 **The Influence of Ruminative Processing Mode on the Trajectory of Intrusive Memories**  
Adele Stavropoulos, University of Technology Sydney, Australia
- 84 **What Are Factors That Affect the Sustainable Effect of Behavioral Activation: One Year Follow-up Survey**  
Koki Takagaki, Hiroshima University, Japan

- 85 **Interceptive Awareness Mediates the Relationship Between Mindfulness Group Therapy and Decrease in Depression: The Interim Analyses of Randomized Controlled Trial**  
Toru Takahashi, Waseda University, Japan
- 86 **Work-Related Intrusive Memories and Linked Beliefs in Japanese Employees on Sick Leave Due to Depressive Disorders**  
Rieko Takanashi, Chiba University and Kokorono Kaze Clinic, Japan
- 87 **Mediation Effect of Anxiety on Relationship Between Self-Compassion and Depression: Controlling the Effects of Narcissism and Self-Esteem**  
Keiko Takemori, Kwansai Gakuin University, Japan
- 88 **Developing a Universal Prevention Program for Depression Among Secondary School Adolescent in China**  
Xinfeng Tang, The University of Hong Kong, Hong Kong
- 89 **Depressed Specialized Care Patients' Experience with an Imagery-Interpretation Bias Modification Intervention: A Qualitative Study**  
Denise te Paste, Radboud University, the Netherlands
- 90 **Metta-Based Therapy. Increasing Benevolence in a Chronically Depressed Patient**  
Isabel Thinnis, Goethe University Frankfurt, Germany
- 91 **Blending Internet- and Mobile-Based Treatment for Depression with Face-to-Face Psychotherapy: Case Report of a 48-Year Old Female Patient**  
Ingrid Titzler, University Erlangen-Nürnberg, Germany
- 92 **The Effect of Mindfulness-Based Cognitive Therapy for Japanese Human Service Professionals: Focusing on Work Stress and Self-Compassion**  
Nanami Tomori, Ryukyus University, Japan
- 93 **Effect of Attention Control and Self-Compassion on Mind-Wandering**  
Ayumi Umeda, Waseda University, Japan
- 94 **Early Maladaptive Schemas and Its Association with Comorbidity of Major Depressive Disorder and Anxiety Symptoms**  
Catalina Uribe Castro, Universidad de Los Andes, Columbia
- 95 **The UvAcare Project: The Effectiveness of Online Health Support in University Students**  
Mariska van der Hoff, University of Amsterdam, the Netherlands
- 96 **The Impact of Stress Coping and Organizational Climate on Work Engagement and Depression Among Managers**  
Miki Wakasugi, Waseda University, Japan
- 97 **Long-Term Effectiveness of Work-Focused Cognitive-Behavioral Group Therapy for Employees on Sick Leave Due to Depression - Focus on Difficulty in Returning to Work**  
Asuka Watanabe, Hyogo University of Teacher Education, Japan
- 98 **Treatment Outcome in Chronically Depressed Patients with Comorbid Borderline Personality Disorder in a 10-Week Inpatient Program with the Cognitive Behavioral Analysis System of Psychotherapy (CBASP)**  
Franziska Welker, Ludwig-Maximilians-University Munich, Germany
- 99 **What Makes One Student Lonely and the Other Not?**  
Nine Wolters, University of Amsterdam, the Netherlands
- 100 **Mobile Delivered Cognitive Behavioral Therapy Enhances Coupling Between Higher Self-Esteem and Lower Perceived Stress in Major Depressive Disorder**  
Gyumyoung Kim, Department of Psychology, Chung-Ang University, South Korea
- 101 **The Mechanism of Improvement of Depressive Symptoms in the Treatments for the School Refusal**  
Tatsuto Yamada, Graduate School of Meisei University, Japan
- 102 **The Mechanism and Application of Emotional Contagion: The Possibility of Improvement in Depressive Moods**  
Yuko Yamashita, Tokushima University, Japan
- 103 **Negative Childhood Environment and Depression: The Mediator Role of Repetitive Negative Thinking**  
Ecem Yedidag, Koc University, Turkey
- 104 **A Transdiagnostic Group Cognitive Behavior Therapy to Reduce Symptoms Disturbance and the Change of Psychological Feature in Emotional Disorder: A Pilot Study**  
Pancho Wang, Capital Medical University, China

## Poster Session 3: Depression

### Physical Activity and Cognitive Control Modulate Therapy Processes in Depression

Gregor Wilbertz, Johanna Adelsberger\* & Stephan Heinzel, Freie Universität Berlin, Germany

#### Introduction

Behavioral activation is considered a core element in the psychotherapy of depression. Theories on change related to physical activity cover a large range of potential mechanisms including neurobiological adaptation, improvements in basic cognitive processes, as well as emotion regulation capacities. Here, we present preliminary data of an ongoing study on how physical activity and cognitive control modulate therapy processes in depression.

#### Method

Patients with a clinical diagnosis of depressive disorder are randomized to either sport intervention or individual psychotherapy. Throughout 16 weeks of treatment, they perform an ecological momentary assessment protocol administered on the participants' smartphones. This includes regularly evening queries on various physical, emotional and cognitive domains as well as episodes of higher sampled assessments throughout the day. Finally, physical activity is episodically measured using accelerometry.

#### Results

Preliminary analyses indicate small to moderate but consistent within-subject correlations between the amount of physical activity and measures of cognitive control as well as change of depressive symptoms. We further analyse whether this association is mediated by emotion regulation strategies.

#### Discussion

These findings are in line with the hypothesis that improvements in cognitive control functions provide the basis for further improvements in emotional functions. Results not only add to the existing evidence of the importance of behavioral activation in overcoming depression. They also shed a light on the interaction between physical and cognitive as well as emotional processes in a successful treatment of depression and may help to understand the underlying mechanisms of these interactions.

### Reduction of Depression and Anxiety with the Group Format of Emotional Activation Therapy (G-EAT)

Ellen Flies, Ariane Schmidt\* & Katharina Chwallek, Lehrpraxis Ellen Flies der AVT Köln, Germany

#### Introduction

In a quasi-experimental study including one experimental group and one wait list control group (n=16) the Group Format of Emotional Activation Therapy (G-EAT; Flies, 2015) is evaluated with regard to the reduction of depression and anxiety scores. G-EAT is an enhancement of Emotional Activation Therapy (Hauke, 2013; Hauke & Dall'Occhio, 2015) that uses emotions as resources and is also applicable for several other mental disorders.

#### Method

The group program is created for eight to ten participants and consists of three modules of eight sessions. Mindfulness-based strategies are used to train interoception skills as a basis for emotional activation. The emotional activation process is then conducted in three modes: 1. Subjects bring pictures from magazines, photos or postcards to generate access to relevant personal emotions. 2. Participants train embodiment techniques by using the Alba-Emoting system (Bloch, 2006): Breathing patterns, posture and facial expression are practiced in order to experience the power of meaningful or avoided emotions. 3. Starting from a concrete interactive problematic situation, the subject's so-called emotional resources pool (ERP) is developed. Primary and secondary emotions are revealed, followed by learning to accept and integrate the avoided emotions. Finally, subjects will be guided to transfer the new emotional experience, supported by embodied personal values, to their individual goals and to support each other along the way.

During the course of the study, 8 patients with confirmed diagnoses of depression and anxiety disorders initially took part in G-EAT. Eight further patients with the same diagnoses were given the same program three months later.

#### Results

Standardized pre- and post-questionnaires were conducted including the Beck Depression Inventory, the Interaction Anxiety Questionnaire, and the Emotional Regulation Questionnaire.

Compared to the wait list control group the participants showed significant decreases in depression and anxiety and improved emotional regulation.

#### Discussion

The study shows that embodiment techniques are powerful tools for group therapy. Furthermore, G-EAT seems to be an effective program for reducing depression and anxiety.

### Tailored Screening for Late-Life Depression — A Short Version of Teate Depression Inventory in Elderly People

Aristide Saggino, Leonardo Carlucci & Michela Balsamo, G. d'Annunzio University of Chieti-Pescara, Italy

#### Introduction

Depression in later life is a significant and growing problem. Age-related differences in the type and severity of depressive disorders continue to be questioned and necessarily question differential methods of assessment and treatment strategies. A host of geropsychiatric measures have been developed for diagnostic purposes, for rating severity of depression, and monitoring treatment progress (eg. Beck Depression Inventory, Geriatric Depression Scale). Nevertheless, self-report measures for assessing late-life depression showed several weaknesses, such as the time-consuming administration; the development and validation in younger populations; and the lack of discrimination between anxiety and depression (see Balsamo et al., 2018). Among the extant self-report measures of depression, the Teate Depression Inventory (TDI; Balsamo & Saggino, 2013) showed a satisfactory level of diagnostic accuracy and allowed the reduction of false positives in test scoring in clinical and non-clinical

#### Method

In order to address the criticisms in assessing late-life depression, the present study aimed to develop a refined measure of depression using the 21 items of the TDI in a sample of 836 elderly people (49.5% males; mean age = 73.28; SD=6.56). Rasch analysis was used to evaluate item fit, local dependency (LD), unidimensionality, and the reliability of the TDI. Differential item functioning (DIF) was evaluated by gender and age (65 vs 75+ years).

## **Results**

Refinement process resulted in a shorter set of unidimensional item-bank, showing good Rasch model fit and no DIF for gender and age and LD. Analysis of the items set demonstrated internal construct validity of the TDI.

## **Discussion**

Results suggest that the TDI reduced form could be used as a short and psychometrically sound measure for the assessment of depression in elderly people, in order to reduce practice and retest effects in repeated measurement, facilitating the longitudinal assessment of depression.

## **A Cognitive Behavioural Group Training Intervention to Facilitate Transitions Among Female University Students Who Have Symptoms of Depression and Anxiety**

**Johanna Bernhardsdottir, University of Iceland, Iceland**

### **Introduction**

Psychological distress related to stressful transitions with symptoms of anxiety and depression is common among university students' in Iceland. Research has found symptoms of depression and anxiety to be more common among university students than among their age matched peers within the general population. Further, female students experience higher psychological distress than male students. Research has also revealed that the students feel they lack time and money for a more extended intervention despite feeling professional need for mental health assistance. Therefore, the purpose of this intervention project was to design a brief and an accessible intervention to be provided in six group sessions for female students based on the approaches of Beck's CBT and Meleise's Mid-range theory of transitions.

### **Method**

The Cognitive Behavioral Group program was targeted at common transitional stressors embedded in the transitional experience of university female students. It was conducted in 6 consecutive weekly group sessions for 90 minutes each. The intervention group was divided into sub-groups of 3-6 women. All had been screened with psychological stress prior to the intervention. The sample consisted of 15 undergraduate and graduate female students. Their age ranged from 21-42, and 60% were employed part-time. Most were cohabiting or married (60%). Others were single or in a steady relationship (40%). Sixty seven percent were childless. A qualitative focus group study is currently being conducted post intervention with the opening question: "Please describe your experience participating in the CBGT sessions?"

### **Results**

The main content of the six sessions were: 1. University life as a transitional period. 2. Can cognitive behavioural therapy help? 3. What is psychological distress? 4. Enhancing self-esteem and sense of control 5. How to deal with stress 6. How to manage hindering thoughts and behaviour? The content of the six sessions will be presented in more detail on a poster at the conference.

### **Discussion**

The content of the six sessions will be presented in more detail on a poster at the conference.

## **EFFECTively Treating Depression: Study Design and Methodology of a Naturalistic Study of Group Cognitive Behavioural Therapy as Electroconvulsive Therapy Continuation Treatment**

**Luisa Bönke, Corinna Hartling, Malek Bajbouj, Sabine Aust & Simone Grimm, Charité Universitätsmedizin Berlin, Germany**

### **Introduction**

Electroconvulsive therapy (ECT) is a highly effective anti-depressant treatment. However, a relevant number of patients experience recurrence of depressive episodes within 6 months. Earlier research in our group has suggested that ECT treatment effects can be effectively sustained by group CBT (Brakemeier et al. 2014). This previous implementation used a closed CBT-group set-up that implicated a longer waiting period for patients after finishing the acute ECT. Furthermore, it did not investigate whether patients who did not respond to ECT could sufficiently profit from group CBT. Thus, the previous implementation could not suit the complex needs of patients in a natural clinical setting. The present study aims to investigate the feasibility and effectiveness of a half-open continuous group CBT as continuation treatment for all ECT patient

### **Method**

Intervention description: A manualized group CBT (called EffECTiv 2.0) with sessions of 100 min duration and a maximum number of 8 participants is led by two experienced psychotherapists. The group is continuous and half-open allowing a starting date right after completion of acute ECT treatment. The CBT-based manual employs the situational analysis technique described in the Cognitive Behavioral Analysis System of Psychotherapy by McCullough. Patients participate for 15 sessions, which are framed by 2 individual sessions before joining the group (imparting the rationale of the treatment program and setting goals) and one individual session at treatment end (evaluating personal progress during treatment). The set-up enables participants to start group therapy while on ward and continue as out-patients after release.

### **Results**

Data: This prospective study will recruit a total of 40 patients who concluded treatment with right-unilateral ultra-brief ECT for depression. Patients self-allocate to the group that is offered in addition to treatment as usual (TAU) which may consist of pharmacological treatment, continuation ECT, individual psychotherapy or any combination thereof. ECT completers who live too far away or choose not to partake in the group and receive treatment as usual are recruited as a control group.

### **Discussion**

Primary outcome measure is the change in Montgomery-Åsberg Depression Rating Scale scores from baseline to end and 6 months after treatment end. Secondary outcomes are quality of life assessed with the short-version of the WHO quality of life questionnaire (WHOQOL-Bref) and emotion regulation as assessed with cognitive emotion regulation questionnaire (CERQ). Research questions: The study investigates whether continuation treatment after ECT in a half-open CBT group is well-accepted and feasible and an effective add-on therapy to treatment as usual. Moreover, effects of this CBT group treatment for patients who did not sufficiently benefit from ECT are examined, as this is an especially hard-to-treat population.

## **Acceptance and Implementation of an Online Problem-Solving Program for Depression in a Stepped Care Project**

**Oliver Bur & Thomas Berger, University of Bern, Switzerland**

**Thomas Reisch, Philipp Schmutz & Oliver Cloot, Centre of Psychiatry Münsingen, Switzerland**

**Birgit Watzke, University of Zürich, Switzerland**

### **Introduction**

A growing body of studies indicates that cognitive behavioural therapy delivered through internet (iCBT) has a comparable efficacy to usual cognitive behavioural therapy (CBT) on reducing symptoms of depression (Karyotaki et al., 2017). Most studies focus on analysing the efficacy of online interventions and do not address the issue if people in need of treatment receive and use such interventions. Therefore, the aims of this study are to examine whether people in need of a treatment for mild to moderate depression a) receive the online self-help tool and b) to which extent they use it. The online self-help intervention named HERMES is currently being developed for a stepped care project in the canton of Bern in Switzerland. HERMES is based on the problem-solving therapy (PST), which is generally considered being under a cognitive-behavioural framework (Nezu, Nezu & D'Zurilla, 2012).

### **Method**

The stepped care project aims at training general practitioners to detect depression as early as possible and provide them with one of four different steps of progressive complexity, selected based on both the patients' severity of depression and the patients' preference of treatment. The different steps include (i) watchful waiting, (ii) providing patients with self-help books or the self-help online program, (iii) medication and psychotherapy and (iv) treatment by a psychological clinic as an in- or outpatient. The severity of the depression and the patients' preference of treatment determine which step will be taken first. The internet program is suitable for patients with mild to moderate depression and will be primarily used in step two. However, HERMES can also be prescribed as an adjunct to psychotherapy or medication in step three.

### **Results**

It will be evaluated to which extent general practitioners accept and therefore provide the online self-help tool to people that are suitable for it. Furthermore, it will be assessed if people accept a prescribed tool of a general practitioner and use it for treating their depressive symptoms.

### **Discussion**

The study is supposed to address the obstacle of implementing online self-help tools for a broader range of people in need of treatment. It is assumed that general practitioners think rather critical of online self-help interventions and will not use the tool as a first choice. If the tool is prescribed however, it is assumed that patients use it as it has brought to them by a person of authority.

## **Brief Psychological Interventions for Depression: Outcomes for Mental Health Services**

**Stephanie Casey, Rachel Maciag & Katherine Parkin, Cambridgeshire and Peterborough NHS Foundation Trust, United Kingdom**

**Emma Travers-Hill, Kent and Medway NHS Foundation Trust, United Kingdom**

**Maggie Page, Kim Masson & Youngsuk Kim, Cambridgeshire and Peterborough NHS Foundation Trust, United Kingdom**

### **Introduction**

Alongside an increasing demand for mental health care, the National Health Service (NHS) in the UK continues to face financial constraints. Currently, 1 in 4 people in the UK experience a mental health problem each year (McManus et al, 2009). The adult mental health team in Cambridge, UK, works creatively with limited resources to support people living in the community with moderate to severe mental health difficulties, including depression. One way in which the team is doing this is by providing Brief Psychological Interventions (BPIs), which are short-term interventions (up to 8 sessions) aimed at specific problems, such as depression and anxiety, and based on core CBT techniques. This project focuses on BPIs delivered by non-psychologists as a treatment option for a sub-group of patients with depression.

### **Method**

The service has developed three manuals: 1) behavioural activation, 2) anxiety management and 3) distress tolerance. All interventions are suitable for delivery by non-psychologists such as support workers. Since the launch of these interventions in March 2017, there have been over 500 referrals of which 68% were accepted and offered a BPI. Over half of these patients (n=216) have depression as one of their main presenting difficulties. A variety of information including the patient's next steps in services was measured as part of routine clinical care. This ultimately allows teams to identify the need for further resource.

### **Results**

We analysed the service outcomes for patients with depression who completed a course of BPI. Of those that completed a full course of BPI, 37% were discharged back to their General Practitioner in primary care service indicating there is a reduction in the need for intensive mental health support. Despite 63% remaining in the team, staff reported a wide range of benefits from patients engaging in BPIs, particularly that it provides a foundation for CBT. We also comment on the typical patient journey leading to these outcomes, from entry into the service to discharge from BPIs.

### **Discussion**

BPIs are a promising option for services due to cost-effectiveness, and for patients who may otherwise have a longer patient journey to access psychological interventions. By understanding the flow through the service, we hope this may offer guidance to other services who may be considering implementing Brief Psychological Interventions with non-psychologists as a CBT-based intervention for depression.

## **Effect of Cognitive Behavioral Therapy and Enhanced Cognitive Behavioral Therapy Programs on Korean Soldiers' Maladaptation in Military**

**Ju Sung Cho, Jae Gwang Choi, Yo Han Kang, Han Byeol Yu & Wonyoung Song, Konyang University, South Korea**

### **Introduction**

South Korea is the only divided nation in the world. Hence every year two-hundred and thirty thousand young people are conscripted for military duty. However, each year 22.7% of soldiers experience psychological problems such as depression and anxiety due to military maladjustments. The Korean government operates camp programs which provides psychological support (Green, Healing Camp). Unfortunately, results appear to be insufficient in efficiency and practicality, and requires new intervention approach. The new CBT program conducted by Hyun(2006) did not show significant effects but programs using ACT techniques(Gwon, 2014; Baek, 2017) indicated greater effects. In this regard, this study aimed to develop a CBT program and another enhanced CBT program by applying the techniques of ACT to the CBT structure, and verify the effect of the two programs.

## **Method**

The study was conducted at an army unit in central region of Korea. Through the local health center, 145 soldiers in the unit executed ASR (Adult Self Report, Achenbach & Rescorla, 2003). Among the recipients, 27 people corresponded to clinical and semi-clinical groups of internalization and externalization problem behaviors. Total of 25 pre- and post-test results were used to validate the program's effectiveness except two dropped-out data. The program developed in this study used modified CBT and ACT which suits Korean society and military culture.

SPSS 22.0 was used to analyze the collected data. First, independent t-test and chi-square test were conducted to check for prior homogeneity. Pair t-test for pre-post-effect verification, independent t-test for difference between two groups were used.

## **Results**

The result of this study is as followed. The differences of pre-post tests of CBT group were significant in Total Behavior Problems( $t=4.71$ ,  $p<.001$ ), Internalizing problems( $t=5.17$ ,  $p<.001$ ), Externalizing Problems( $t=3.03$ ,  $p<.01$ ). The differences of pre-post tests in enhanced CBT (ACT technique) group were also significant in Total Behavior Problems( $t=4.78$ ,  $p<.001$ ), Internalizing problems( $t=3.70$ ,  $p<.01$ ), Externalizing Problems( $t=2.15$ ,  $p<.05$ ).

## **Discussion**

CBT program and enhanced CBT program developed in this study are expected to reduce the internalizing and externalizing behavior problem resulting military maladaptation. And these results suggest that camp programs that Korean Ministry of National Defense can overcome their limitations through adapting CBT and ACT techniques.

## **Effects of Socially Prescribed Perfectionism and Intolerance of Uncertainty of College Students on Their Depression: Focusing on Mediating Effects of Experiential Avoidance**

**Jae-Gwang Choi, Hey In Song, Wonyoung Song & Yeram Oh, Konyang University, South Korea**

### **Introduction**

The study was conducted to address the socially prescribed perfectionism and depression that were resulted from the economic recession in Korea, combined with widespread social achievement and competition. According to the epidemiological survey by the Ministry of Health and Welfare in Republic of Korea, the incidence of depression disorder in people in their 20s is more than twice that of other age groups. While trying to achieve ideal social standards, college students continuously face undefined environment, such as new jobs and career paths. Especially, people with high perfectionism and uncertainty have tendency to avoid these ambiguous experiences. Experience avoidance is a concept opposite to acceptance (Hayes et al, 2006). Flett et al.(2003) found that low unconditional self-acceptance has indirect effects on the relationship between socially prescribed perfectionism and depression.

### **Method**

The purpose of this study was to investigate the relationship between socially prescribed perfectionism, intolerance of uncertainty, experience avoidance and depression, and to find out the role of experiential avoidance in depression treatment.

Participants were 238 college students in Korea. They completed socially prescribed perfectionism scale, intolerance of uncertainty scale, experiential avoidance scale, and CES-D. Analysis was performed with the Pearson correlation by using SPSS 22.0. AMOS was used to verify the dual mediation effects through the structural equation model.

### **Results**

The results of this study were as follows: All variables have significant relationship with one another. In the structural equation model, both paths from socially prescribed perfectionism and intolerance of uncertainty to experiential avoidance were significant, and the path leading to depression was also significant. The complete mediation model was found adequate and parsimonious (model fit= CFI: .98, TLI: .98, GFI: .95, RMSEA: .05).

### **Discussion**

This result means that the pathways of socially prescribed perfectionism of intolerance of uncertainty to depression were found to be insignificant, without mediating experiential avoidance. This indicates that people usually tend to avoid the experience of negative events, in perceiving and interpreting uncertain situations, followed by losing chance to cope and solve problem. As we repeat this pattern, unsolved problems lead us to depression. The findings show that the future CBT program should encourage people to overcome experiential avoidance, an important mediator to depression.

## **Development and Effectiveness of Depression Management Program Based on Cognitive Behavioral Therapy: Focused on the University Students with Socially Prescribed Perfectionism**

**Jae Gwang Choi & Wonyoung Song, Konyang University, South Korea**

### **Introduction**

Korea experienced rapid economic growth and socio-cultural development. With recent economic recession, however, the youth employment crisis has become a social issue. A national report indicates that twenties's suicide rates are increasing and depression caused by burnout with endless competition is a big problem for Korean university students. Social requirements such as perfect abilities and their ambiguous future play important roles in their psychological maladjustment. Now, it is urgent to identify therapeutic mechanisms that lead to depression and intervene in university students based on them.

The purposes of this study are twofold. First, we examined dual mediating effects of intolerance of uncertainty and internally focused attention on the relationship between socially prescribed perfectionism and depression. Second, we tried to retest this relation through CBT program which intervenes in students, by using these mediating variables as therapeutic targets.

### **Method**

Study 1 examined 284 university students to investigate effects of intolerance of uncertainty and internally focused attention(rumination response style and reflection response style) in the relationship between socially prescribed perfectionism and depression, and PROCESS Macro were used to examine the dual mediation effects.

Study 2 empirically verified the therapeutic mechanism of Study 1. The depression management program based on CBT emphasizing the intolerance of uncertainty and the rumination response style was conducted. Of all participants, 12 were allotted to the treatment group and 15 to the control group, respectively.

In order to verify the effectiveness of the program, questionnaires were administrated to the subjects, before and after the CBT program, and independent t-test and paired t-test were conducted.

## **Results**

In study 1, PROCESS Macro results revealed that intolerance of uncertainty as the first mediator and internally focused attention sequentially mediated the relationship between socially prescribed perfectionism and depression.

In study 2, there were significant differences in all dependent variables between pre- and post-test, except for the reflection response style in treatment group, and no significant difference was found in all variables within the non-equivalent control group. In addition, there were significant differences in all variables other than the reflection response style, after the treatment, when the treatment group was compared with the non-equivalent group. The results suggest that the CBT program performed in this study was effective, and that the therapeutic mechanisms tested in Study 1 were empirically supported.

## **Discussion**

This study, quantitatively verified variables mediating the relationship between therapeutic socially prescribed perfectionism and the depression, in Korean university students. In addition, this study has an implication, in that the clinical mechanisms were empirically verified by applying a depression management program based on CBT to college students with high levels of socially prescribed perfectionism and depression.

## **Development and Pilot Testing of MApp: A Mobile App That Targets Intrusive Memories During Dysphoria**

**Adriana del Palacio-Gonzalez, Kasper Jensen, Frederick Hojgaard, Henrik Lauritsen, Kenneth Roligaard & Dorte Berntsen, Aarhus University, Denmark**

### **Introduction**

Intrusive memories are distressing memories that come to mind spontaneously. They are conceptualized as a sub-group of more general involuntary memories which are present in both clinical and non-clinical groups (Watson & Berntsen, 2014). In depression intrusive memories have at least two distinctive characteristics: a heightened emotional response upon retrieval (Del Palacio-Gonzalez et al., 2017; Watson et al., 2012), and more negative memory appraisals attributed to them (Newby & Moulds, 2010). Importantly, intrusive memories have been found to be a maintaining factor of depression (Mihalova & Jobson, 2018; Newby & Moulds, 2011), therefore they are an important target for intervention.

### **Method**

The aim of the present study was to develop a smartphone app that can be employed as both a research tool to assess involuntary memories, and as an intervention device targeting intrusive memories during dysphoria. We developed MApp (Memory App) to assess everyday involuntary memories and identify those qualifying as intrusive memories. MApp triggers two cognitive-behavioural exercises (cognitive bias modification and a breathing exercise) when intrusive memories take place. We conducted a pilot study with individuals with moderate symptoms of depression. Depressive symptoms were assessed two weeks apart, with a period of MApp use for nine days in the middle.

### **Results**

On average participants used the app 10 times across the nine days. The CBT exercises were activated  $M=4.6$  times across the nine days. Participants rated the MApp highly across various usability dimensions (i.e., easiness, intuitive design, feelings about data safety) ( $M_s > 4.0$ , with a maximum of 5). The ratings on emotional responses to involuntary memories resembled to findings obtained in paper-and-pencil diaries, thus supporting the reliability of MApp as a research tool. Initial efficacy results showed a significant decrease in depressive symptoms, with 62.5% of the participants scoring in non-clinical ranges of symptom severity after MApp use.

### **Discussion**

The usability results as well as the findings of potential efficacy are encouraging. Relative to previous research on intrusive memories in depression which employ retrospective self-reports, paper-and-pencil diaries, and experimental tasks (Lang et al., 2009; Newby et al., 2014), MApp may represent a technological advantage. In addition, contrary to traditional methods MApp opens the opportunity to intervene on intrusive memories without altering individuals' daily routines. Other intervention opportunities will be explored within the context of depression.

## **The Impact of Eye Movement Desensitization and Reprocessing as an Adjunct to Group Cognitive Behavioral Therapy for Individuals with Depression**

**Sarah Dominguez, Murdoch University, Australia**

**Chris Lee, University of Western Australia, Australia**

### **Introduction**

Depression is the biggest cause of disability worldwide. Stressful life events have been repeatedly linked to increased likelihood of diagnosis for depression, poorer treatment response, and an increased chance of relapse. Eye movement desensitisation and reprocessing (EMDR) targets stressful life events and is effective in decreasing distress and improving psychological functioning in individuals with a range of difficulties. There is evidence that EMDR effectively treats comorbid symptoms of depression in individuals with other primary diagnoses. This study aims to build on the evidence supporting EMDR as a treatment for individuals with a primary diagnosis of depression.

### **Method**

A randomised controlled trial was conducted in Perth, Australia to investigate the impact of EMDR as an adjunct to group CBT on depression diagnosis and symptoms for individuals with mood and/or anxiety difficulties. Participants completed a ten-day group cognitive behaviour therapy (CBT) program and were randomly assigned to receive treatment as usual (TAU); three additional individual EMDR sessions; or three additional individual CBT sessions. Participants were assessed with regards to the DSM-5 diagnostic criteria for depression (SCID-5) and related symptoms (DASS-42) prior to treatment, and six weeks after treatment completion. The DASS-42 was also administered post-treatment and at 12-week follow-up. All assessors were blind to the treatment condition.

### **Results**

Forty-nine participants completed the study. There was a significant change on both the SCID-5 and DASS-42 over all time points. There was no significant difference between treatment groups on depressive symptoms post treatment. At six weeks follow-up, a significant interaction across treatment conditions and time was shown with both active treatments superior to TAU with regards to depression and related symptoms. At the 12-week follow up assessment, participants who received three additional individual EMDR sessions were more likely to maintain or have symptom improvement compared to those who received additional CBT sessions or no additional treatment.

### **Discussion**

For individuals completing a group CBT program, the addition of just three EMDR sessions significantly improves treatment outcomes when compared to standard treatment or additional CBT sessions. While differences in outcomes were negligible post treatment, the positive

impact of additional sessions increased over time, suggesting more sustained improvements and decreased likelihood of relapse following EMDR.

### **Examining the Relationship Between Flexibility in Retrieving Autobiographical Memories and Social Problem Solving in Depression**

**Barbara Dritschel, University of St Andrews, United Kingdom**

#### **Introduction**

Previous research has established that dysphoric and depressed individuals have difficulty in flexibly retrieving specific autobiographical memories (Dritschel et al., 2013; Hitchcock et al., 2018). Specific autobiographical memories refer to memories for highly contextualized events that last less than one day (e.g., going out to dinner for my niece's birthday). Flexible retrieval refers to the ability to retrieve a specific autobiographical immediately after retrieving a more general autobiographical memory that represents a summary of events (e.g., going to play tennis on Friday afternoons). The ability to retrieve specific memories flexibly is deemed to be important for a range of functions including problem-solving and emotion regulation. Therefore an intervention specifically designed to improve autobiographical memory flexibility has been developed and has been used with clinically depressed individuals (Hitchcock et al., 2018). However the relationship between social problem-solving ability and flexibility in retrieving autobiographical memories as well as general cognitive flexibility has not been explored. A further question is how this relationship varies as a function of depression. The current study investigated these questions. It was predicted that reduced flexibility in retrieving autobiographical memories would be associated with poorer social problem-solving. We also predicted that this effect would be more pronounced in our depressed versus non-depressed sample.

#### **Method**

Twenty-four depressed and 24 non-depressed took part in the study. Cognitive flexibility on the Brixton spatial appreciation task and flexibility in retrieving autobiographical memories were assessed together with several indices of problem-solving performance. The Social Problem Solving Inventory Revised (SPSRI) was used to assess attitudes to problem solving and other process outcomes. The Means Ends Problem Solving task (MEPS) assessed the ability to solve hypothetical social problems. Further individual difference measures of rumination and emotional regulation were also measured.

#### **Results**

The groups differed on assessments of depressed mood, rumination and emotion regulation with the clinically depressed group showing significantly lower scores on all measures as compared to the non-clinical group. A significant difference was found between the non-clinical and clinically depressed groups on the autobiographical memory flexibility measures and social problem solving measures. Memory flexibility was associated with some aspects of social problem-solving.

#### **Discussion**

The implications of the findings for the complex relationship between memory retrieval and social problem solving in depression are discussed as well as the implications for treatment interventions.

### **An Evaluation of a Cognitive Behavioral Therapy Group**

**Roshan Jones, University of East Anglia, United Kingdom**

**Fiona Glenn, Cambridge and Peterborough NHS Foundation Trust, United Kingdom**

**Rachel Elliott\*, Katherine Parkin, Nina Brauner & Linda Gan, Cambridge Adult Locality Team, United Kingdom**

#### **Introduction**

CBT has consistently shown to be effective in treating a range of disorders (Westbrook, et al 2007; Shafran et al., 2009).

Although NICE guidelines in the UK recommend individual CBT as a treatment for numerous disorders, long waiting lists are common and problematic. In the Cambridge Adult Community Mental Health Service, less than 5% of patients received individual therapy with a clinical psychologist in 2018. Group interventions have been suggested as an effective and cost-saving response to these challenges (Jones, et al., 2005).

This evaluation investigated the effectiveness of a CBT group at reducing levels of depression and anxiety; whether the group resulted in less need for support from the mental health service and whether discharge progress was affected.

#### **Method**

Group participants were under the care of the community mental health teams in Cambridge and had moderate to severe mood and psychotic disorders. Thirty three patients were recruited across diagnoses, attending one of five groups, with weekly sessions for eight weeks. Patients completed measures of anxiety and depression, GAD-7 (Spitzer et al., 2006) and PHQ-9 (Spitzer et al., 1999), respectively, before and after the group, with an additional feedback form on completion of the group.

#### **Results**

Preliminary data from four groups was analysed. The mean number of sessions attended was 6.04 (SD = 2.03). A Wilcoxon signed rank test indicated that depression and anxiety scores were significantly reduced after completing the CBT group. 36% (n=9) patients were reviewing their treatment, planning for discharge or discharged from the service immediately after the group, rising to 60% (n= 15) 2 year follow-up. 56% (n=14) of patients had care co-ordination prior to starting the group. This halved to 28% (n= 7) post group, and reduced to 0 at follow up with 28% (n=7) receiving only medical input. The group received positive feedback with 20% of patients (n=4) describing it as either 'good' or 'excellent' and 40% (n=8) reporting that they found it useful and enjoyed the experience. All but one patient reported that they felt the group should be run again for other patients.

#### **Discussion**

The results suggest that patients may benefit from receiving CBT in a group format, and that it was positively received by group attendees. Using a group format enables more patients to receive CBT, when they may not have been able to otherwise, and may reduce waiting times for individuals, as well as reducing the pressure on service resources. Overall, there was an indication of improvement in anxiety and depression after the group. However, due to the small sample size, results need to be interpreted with caution. More groups need to be run, with research investigating any differences in outcome compared to a control or comparison group, in order to make firmer conclusions about the group's efficacy.

## **Brain Structural Biomarkers of Psychotherapy**

**Verena Enneking, Melissa Klug, Ronny Redlich & Udo Dannlowski, University of Münster, Germany**

### **Introduction**

Psychotherapy has repeatedly shown to be an effective treatment of major depressive disorder (MDD). However, little is known about brain structural biomarkers associated with treatment response. Functional neuroimaging studies suggest that psychotherapy normalizes frontal activity during emotional processing reflecting enhanced top-down control and emotional regulation (DeRubeis et al, 2008). However, studies investigating brain structural associations are widely missing. Therefore, in our study, we aimed to investigate whether (successful) psychotherapy is associated with changes in gray matter volume (GMV). Furthermore, we investigated whether pre-treatment GMV may differentiate between patients who will benefit and patients won't benefit from psychotherapy.

### **Method**

We investigated whole brain GMV of  $n = 49$  patients with MDD in a longitudinal design using magnetic resonance imaging (MRI). All patients underwent at least 12 sessions of psychotherapy between baseline and 2-year follow-up assessment. The sample was divided into two subgroups (remission vs no remission) depending of the remission status at follow-up time point. A group (remission, no remission)  $\times$  time (baseline, 2-year follow-up) ANCOVA including total intracranial volume, age and gender as covariates of no interest was performed in order to investigate potential main and interaction effects.

### **Results**

The analyses revealed a significant main effect for time showing a reduction of GMV in prefrontal areas, e.g. in the middle frontal gyrus, ( $t(91) = 6.03$ ,  $k = 81$ ,  $pFWE = .001$ ). This result was mainly driven by the no remission after psychotherapy group ( $t(91) = 6.97$ ,  $k = 1134$ ,  $pFWE < .001$ ) while there were no GMV reductions in the remission group. However, the interaction effect was not significant. The groups differed in pre-treatment GMV: Patients who were in remission after psychotherapy, had increased baseline GMV in the middle frontal gyrus and temporal areas compared to patients who did not show a remission after psychotherapy ( $t(91) = 5.65$ ,  $k = 75$ ,  $pFWE = .003$ ).

### **Discussion**

The results are in line with recent studies showing that an unfavorable course of MDD is associated with GMV reductions in prefrontal areas (Phillips et al, 2015; Zaremba et al, 2018). Furthermore, our study points out that pre-treatment GMV of brain regions linked with cognitive control capacities and social cognition may stand in association with remission from MDD after psychotherapy. Further studies including a patient control group in a longitudinal design are needed in order to investigate the specificity of this pre-treatment biomarker.

## **New Perspectives for Cognitive Behavioral Therapy in Primary Health Care Settings for Depression Treatment**

**Heidrun Faninger-Lund, Helsinki Southern Psychiatric and Substance Abuse Centre, Finland**

### **Introduction**

Primary health care is mainly responsible for treatment of moderate acute and chronic mental disorders in Finland. Specialty psychiatric care offers focused and time-limited treatment for severe mental disorders, but their after-treatment takes place in primary care. Delays in psychiatric treatment are common due to scarce resources and may turn mild symptoms to severe ones. In Finland, cognitive behavioral therapy (CBT) has mainly served as a long-term (1-3 years) rehabilitative psychotherapy to improve patients' ability to remain economically active and stay in working life. The main aim of this study was to find new ways to improve the treatment process of prolonged and chronic depression, including more systematic use of CBT.

### **Method**

For this purpose, clinical studies were realized in Southern Helsinki during 2015-2018. The population base was 250,000 served by 1 psychiatric outpatient clinic and 5 health centers. An integrative approach was employed to strengthen the cooperation between the psychiatric outpatient clinic and health centers (primary care). This included various consultative measures such as CBT. In the main pilot project, a senior clinical psychologist and consultant psychiatrist trained in CBT were mobilized to the health centers. The primary target group were patients who had long-term psychiatric symptoms (e.g. chronic or recurrent depression) and one or more periods of specialty psychiatric care. The secondary target group were patients suffering from chronic somatic problems and comorbid mental health problems, mainly depression. The treatment process of these patient groups often forms a vicious circle between primary and speciality care, leading to expensive and inefficient treatment. In the study, 164 psychological counseling visits ( $N=82$  patients) using CBT were carried out. The patients had a psychiatric history of 1-5 years intensive treatment. The average number of visits for an effective intervention was 3, ranging from 2-5 visits á 60 min. In addition, the access to CBT-trained psychiatric nurses at health centers for early and low threshold short-therapy was increased.

### **Results**

Our results indicate that patients suffering from long-term psychiatric symptoms or somatic and comorbid psychiatric disorders are likely to benefit from focused, brief CBT interventions provided by an experienced psychotherapist. Short interventions for these patient groups are, however, demanding, and would require a CBT-trained senior clinical psychologist, with more profound understanding of the human psychophysical entity. CBT short therapy (6-10 sessions) in an early stage proved to be effective and helped to reduce the need for psychiatric specialty care.

### **Discussion**

Our observations suggest, that a significant share of first-time depression and anxiety disorder patients could avoid psychiatric special care treatment, if evidence-based, focused intervention were timely offered with low threshold at health centers. Patients, who developed chronic depression despite of intensive psychiatric treatment and long-term psychotherapy, rarely benefitted from new treatment periods in psychiatric special care, but focused and patient-tailored CBT booster sessions gave promising results. Summarizing, short, focused, and patient-tailored CBT interventions seem to be effective for treatment of depression in primary health care settings both in early stage of treatment and for prolonged/chronic symptoms.

## **Effects of an Eight-Week Mindfulness and Metta-Based Group Meditation Program in Patients with Chronic Depression**

**Artjom Frick, Isabel Thinnis & Ulrich Stangier, Goethe University Frankfurt, Germany**

### **Introduction**

Current treatment approaches for chronic depression have focused primarily on reducing negative affect and teaching interpersonal skills. A new treatment program was developed, that combines Metta-based group meditation and individual CBT ('MeCBT'), and extends the focus of treatment to promoting motivation for positive affective states. This new approach actively and explicitly addresses benevolence, a motivational psychological construct that has so far been little regarded in current treatment approaches. Results from previous trials provide

evidence for the efficacy of Metta meditation group treatment in combination with mindfulness-based approaches. A single-center randomized observer blinded clinical trial is being conducted in order to test the efficacy of MeCBT in reducing depression compared to a wait-list control condition. In this poster, effects of the Metta-based group meditation program on depressive symptoms and related psychological constructs will be presented.

#### **Method**

N=48 participants with DSM-5 diagnosis of persistent depressive disorder (PDD) are randomly assigned to either treatment or wait-list control group. Treatment consists of eight weekly sessions and subsequent individual CBT. The presentation will focus on the results in the group treatment. The primary outcome measure is the severity of depressive symptoms, assessed by the Quick Inventory of Depressive Symptomatology and the Beck depression inventory-II. Secondary outcome measures include mindfulness, benevolence, rumination, emotion regulation, social connectedness, social functioning, and behavioral and cognitive avoidance. An analysis of covariance (ANCOVA) with the baseline-values of the outcome measures as covariates will be used. Intention-to-treat analyses will be employed. We expect a significant decline of depressive symptoms and changes of secondary outcome measures after completion of the group meditation program as compared to the wait-list control group.

#### **Results**

This first cohort (N=24) completed treatment in 2018. Results will be available after completion of the second cohort (N=24) due to June 2019.

#### **Discussion**

The intended program is as a new, low-intensity, cost-effective intervention and is being examined in a randomized, controlled, observer blind trial. Results and implications for the further refinement of the program will be discussed.

### **Thwarted Belongingness and Perceived Burdensomeness Mediate the Association Between Bullying and Suicide Ideation**

**Sören Friedrich, Julia Brailovskaia & Tobias Teismann, Ruhr Universität Bochum, Germany**

#### **Introduction**

Involvement in bullying has been identified as a risk factor for suicide ideation and behavior (Holt et al., 2015). Despite converging evidence that bullying predicts suicide ideation/behavior, there is a relative lack of theory-guided research investigating the mechanisms underlying the relationship between bullying and suicide ideation. The Interpersonal Theory of Suicide (Joiner, 2005) posits that suicidal ideation emerges when individuals experience thwarted belongingness (TB, i.e., loneliness and lack of reciprocal care) and perceived burdensomeness (PB, i.e., perceived liability to others and self-hate). PB and TB are understood as generic, proximal and causal risk factors for suicide ideation. From the perspective of this theory, bullying may confer suicide risk by increasing or exacerbating perceptions of PB and TB. The present study aimed to investigate whether TB and PB mediate the association between bullying and suicide ideation.

#### **Method**

A total of N=267 outpatients (63.3% female; Mage=37.52, SDage=12.80) completed online measures of bullying, suicide ideation, TB and PB. To assess associations between the investigated variables, correlation analyses and three linear regression analyses were calculated that included suicide ideation as dependent variable, and age and gender as control variables. Furthermore, two mediation models were analyzed.

#### **Results**

In line with previous studies, experiences with bullying were positively associated with suicide ideation in this sample of outpatients. TB as well as PB fully mediated the association between bullying and suicide ideation – controlling for gender and age: If bullying leads to the impression of either not being part of a valued group or being a burden to others, then suicide ideation becomes likely.

#### **Discussion**

Results support the hypothesized and theory-derived relations between bullying, TB, PB and suicide ideation. Given the cross-sectional nature of the data, only hypothetical conclusions on causality can be drawn. Furthermore, retrospective memory biases cannot be excluded and only facets of the interpersonal theory of suicidal behavior and no variables of other suicide theories were assessed in the present study.

### **The Effectiveness of a Cognitive Behavioral Therapy Group and an Analysis of Beck Depression Inventory-II in a Group of Dysthymic Patients**

**Patricia Gavín, Inés Martín, Mireia Primé, Joana Guarch & Víctor Navarro, Hospital Clinic, University of Barcelona, Spain**

#### **Introduction**

Dysthymia is a chronic disorder which is characterized by a depressed mood for most of the day for at least two years. The diagnosis requires other symptoms like poor appetite or overeating, insomnia or hypersomnia, low energy or fatigue, low self-esteem, poor concentration or difficulty in making decisions and hopelessness. Dysthymia has a high morbidity rate and it is associated with a poorer prognosis and greater impairment than other depressive disorders. Its treatment involves pharmacological and non-pharmacological approaches. Cognitive Behavioural Therapy (CBT) is based on the assumption that negative beliefs and errors in the information processing have an important role in the etiology and maintenance of depressive symptoms. The aim of the present study is to examine the efficacy of a CBT group therapy in dysthymic patients and to analyze which factors may contribute to the clinical improvement of this population by analyzing the items of the Beck Depression Inventory (BDI).

#### **Method**

A randomized controlled trial was carried out to evaluate the efficacy of a CBT Group Therapy in a sample of dysthymic outpatients (N=63). Half of the subjects were randomized to treatment as usual (TAU) which consisted of pharmacotherapy and the other half received group CBT during 16 weekly sessions according to a standardized procedure that included the following components: Psychoeducation, Anxiety Management Techniques, Behavioural Activation, Cognitive Restructuring, Social Skills Training and Relapse Prevention. Beck Depression Inventory (BDI-II) was administered at baseline and at the end of the therapy to assess its efficacy by a general linear model repeated measures. The items of BDI-II were also examined by a matched paired T-test to analyze which ones were related to clinical improvement, comparing the items in the experimental group pre-treatment to post-treatment.

#### **Results**

The analysis of variance between the control and the experimental group showed significant differences between both groups, which proved that CBT was effective for dysthymic patients (ANOVA,  $p=0.024$ ). When analyzing the items of the BDI-II in the experimental group, matched paired T-test showed significant differences in the following items, all of them showing lower scores at the end of the therapy: Past Failure ( $t=0.622$ ,  $p=0.48$ ), Guilty Feelings ( $t=2.627$ ,  $p=0.013$ ), Self-Dislike ( $t=2.156$ ,  $p=0.039$ ), Self-Criticalness ( $t=2.856$ ,  $p=0.008$ ), Loss of interest ( $t=2.521$ ,  $p=0.017$ ), Worthlessness ( $t=2.301$ ,  $p=0.028$ ), Irritability ( $t=2.897$ ,  $p=0.007$ ), Changes in Appetite ( $t=2.183$ ,  $p=0.037$ ),

Concentration Difficulty ( $t=3.521$ ,  $p=0.001$ ), and Tiredness or fatigue ( $t=2.871$ ,  $p=0.007$ ). The rest of the items showed no significant differences.

#### **Discussion**

This study supports the evidence of the efficacy of group CBT in reducing depressive symptoms in dysthymic patients. When the items from the BDI-II are analyzed, several of those that are reduced at the end of the treatment are cognitive domains which are related to negative beliefs of oneself (Past Failure, Self-Dislike, Self-Criticalness and Worthlessness). This finding suggests that, apart from other factors, cognitive factors could play an important role in dysthymia and its modification through CBT may be one of the mechanisms which are related to the improvement in this kind of patients.

### **The Relationship Between Depression and Cognitive Performance: A Differentiation of Direct Associations and a Potential Confounding Influence of Childhood Maltreatment**

**Janik Goltermann, Nils Opel & Bernhard T. Baune, University of Münster, Germany**

**Tilo Kircher, Axel Krug & Igor Nenadic, University of Marburg, Germany**

**Udo Dannlowski, University of Münster, Germany**

#### **Introduction**

Introduction: Major depressive disorder (MDD) is associated with cognitive deficits in a wide range of domains such as executive function, memory and attention (Rock, Roiser, Riedel, and Blackwell, 2014). However, as the prevalence of childhood maltreatment is also closely linked to MDD (Teicher & Samson, 2013), as well as to cognitive deficits (Masson Bussi eres, East-Richard, R-Mercier, & Cellard, 2015), it is up to this point difficult to clearly ascribe whether cognitive deficits in MDD patients are due to maltreatment or diagnosis.

The current work aims to disentangle effects of childhood maltreatment and of MDD diagnosis on cognitive deficits.

#### **Method**

Method: A sample of  $N = 1217$  participants (mean age: 34.65;  $SD = 13.17$ ; MDD:  $n = 547$ ; healthy controls:  $n = 670$ ) underwent an assessment of psychiatric symptoms (using the SKID-I interview), and a neuropsychological test battery including several cognitive domains (working memory, learning, long-term memory, attention, processing speed and verbal intelligence). Childhood maltreatment was assessed using the retrospective self-report childhood trauma questionnaire (CTQ).

#### **Results**

Results: In a multivariate general linear model controlling for age and sex, a significant effect of MDD diagnosis on cognitive performance emerged ( $F[10, 1187] = 12.80$ ,  $p < .001$ ,  $\eta^2 = .097$ ). When including CTQ scores in the model the effect of MDD diagnosis on cognition was still significant ( $F[10, 1186] = 6.02$ ,  $p < .001$ ,  $\eta^2 = .048$ ), however smaller in effect size. The effect of CTQ was also significant ( $F[10, 1187] = 4.09$ ,  $p < .001$ ,  $\eta^2 = .033$ ) and of a small effect size. Univariate follow-up regression models revealed that the effect of MDD on cognition was present across all cognitive domains, with highest effect sizes for the domains of sustained attention and processing speed. When adding CTQ to the univariate models the standardized beta coefficients of MDD diagnosis decreased on average 30.16% in magnitude. This decrease ranged from 14.75% (long-term memory) to 48.20% (verbal intelligence).

#### **Discussion**

Conclusion: The pattern of results suggests that MDD diagnosis has a unique and independent deteriorating effect on cognition. However, effects sizes reported usually are likely to be overestimated because of the confounding negative relationship between maltreatment and cognitive performance.

### **Cognitive Profiles of Executive Functions in Unipolar Affective Disorders and Adjustment Disorders with Depressed Mood: Diagnostic Markers and Prognostic Value?**

**Joana Guarch Domenech, Patricia Gavin Lopez, Ines Martin Villalba, Mireia Prim e Tous & Amadeu Obach Vidal, Hospital Clinic, University of Barcelona, Spain**

**Victor Navarro Odriozola, Hospital Clinic and CIBERSAM, Spain**

#### **Introduction**

Abnormalities in cognitive functions in unipolar affective disorders are no longer understood as a manifestation of state (Rock PL, Roiser JP, Riedel WJ, Blackwell A, 2014). Nowadays, they are considered a core symptom (Trivedi MH, Greer TL, 2014) and are included in diagnostic criterion (DSM-5, APA 2013). Many studies refer that executive function alterations are the more usual cognitive symptoms in depressed patients, but findings are very heterogeneous (McIntery RS et al, 2015). Moreover, studies focused on cognitive profiles of each affective disorder are lacking".

Two are the main objectives of this study. The first one is try to describe a specific cognitive profile for each unipolar affective disorder (major depressive disorder, persistent depressive disorder and adjustment disorder with depressed mood) that can be used as cognitive diagnostic markers. The second one is to assess the 18-months prognostic value of each one of this cognitive profile.

#### **Method**

STUDY DESIGN: The present study is conducted in a Public Mental Health Center. It involves a 18-month prospective naturalistic single-blind design.

PATIENTS SELECTION: Outpatients with DSM-5 criteria of unipolar affective disorder (major depressive disorder or persistent depressive disorder) or adjustment disorder with depressed mood, aged between 18 and 70 years and with a baseline BDI-II score  $>13$  are included. Those patients with a history of hypomania, mania or affective psychosis, or suicidal behavior in the previous three months, are excluded from the study. The inclusion period is from January 2019 to December 2019.

#### **Results**

ASSESSMENTS: Clinical (depressive subtype diagnosis, BDI-II, number of previous episodes, history of psychiatric admission, history of suicide behavior and comorbidity with unadjustment personality traits), sociodemographic and biographic (life events in childhood and adolescence) data are carried out at baseline visit. During the first week of the naturalistic treatment, cognitive function are quantified through simple application of cognitive tests (pencil-and-paper) to estimate the intellectual level through a test of verbal comprehension (Vocabulary, WAIS) and the information processing speed (Digit Symbol, WAIS) and to study, specifically, the different domains of the Cognitive Executive Functions: Planification (WCST), Response Inhibition (Stroop Color-Word test), Cognitive Flexibility (WCST and TMTB), Verbal Fluency (FAS and Boston Animals) and Working Memory (Digit Span and Letter-Number Sequencing, WAIS) and Verbal Associative Memory (RVL, Rey).

## **Discussion**

BDI-II and cognitive assessments are re-administered at 18 months.

The efficacy outcome criteria are remission (end-point BDI-II<13) and full response (reduction in BDI-II score >50%).

STATISTICAL PROCEDURE: The intent-to-treat analyses will include all patients who had undergone at least 6 week of treatment. Logistic regression will be used to assess the 18-months predictive value of the previously defined (if it is the case) specific cognitive profiles of each depression subtypes. The level of statistical significance will be set at  $p<0.05$ .

## **Dissemination of Cognitive Behavioral Therapy for Mood Disorder Under the National Health Insurance Scheme in Japan (FY2010–2015): A Descriptive Study Using a Nationwide Claims Database**

**Yuta Hayashi, Naoki Yoshinaga, Hiroki Tanoue & Yosuke Sasaki, University of Miyazaki, Japan**

**Kensuke Yoshimura, Chiba University Hospital, Japan**

**Yuko Kadowaki, Yasuji Arimura, University of Miyazaki Hospital, Japan**

### **Introduction**

Cognitive behavioral therapy (CBT) is an effective psychological intervention for various mental disorders. The national health insurance scheme in Japan has included CBT for mood disorder since FY2010, but it is still unclear whether CBT is routinely used in clinical settings. This study aimed to clarify the dissemination status of CBT in Japan, including regional variations, under the national health insurance scheme.

### **Method**

We collected the accumulated data of CBT and ambulatory psychotherapy ( $\geq 30$  min and  $< 30$  min, as reference) from the National Database of Health Insurance Claims and Specific Health Checkups of Japan. The study period was from FY2010 to FY2015. We estimated the share and the standardized claim ratio (SCR) for the number of patients receiving each therapy and analyzed the association between CBT calculation and several regional factors. The study protocol was reviewed and approved by the Ethics Committee of the University of Miyazaki (reference number: O-0017).

### **Results**

Our study revealed that: (a) a total of 34,688,529 patients received CBT or ambulatory psychotherapy during the study period; of these, CBT accounted for 0.2%; (b) the number of patients receiving CBT was highest in the first year, whereas ambulatory psychotherapies continued to increase over six years; (c) the number of patients who received CBT per 100,000 population decreased (or remained at zero) in most prefectures (32 out of 47) between FY2010 and FY2015; (d) there was a maximum 424.7-fold difference between prefectures in SCR for CBT; (e) the number of registered institutions for CBT significantly associated with the number of patients receiving CBT.

### **Discussion**

Overall, the current study indicated that CBT had not been sufficiently disseminated under the national health insurance scheme in Japan from FY2010 to FY2015. The reasons why CBT had a low share and large regional variations could be mainly due to strict requirements and low cost performance for CBT providers in the current Japanese healthcare insurance system (Takahashi et al., 2018). In order to make CBT much more widely available, recent success in the UK also offer lessons that are likely applicable to Japan because both countries have a universal healthcare system.

## **Effects of Rumination on Depressed Mood – Investigating the Role of Working Memory Updating as a Moderator**

**Fu-Chien Hung & Fang-Tzu Wu, Chung Yuan Christian University, Taiwan**

### **Introduction**

Depressive rumination can cause the onset of depressive episodes and will even increase and prolong negative mood and thoughts. Previous results suggest that there are two types of rumination: adaptive and maladaptive types. However, the effects of different rumination types on depression have not been clearly investigated. In addition, studies have shown that dysphoric individuals exhibited deficits in the ability of working memory updating. Few studies have been conducted to explore the relationships between rumination, depression and working memory. The present study aims to examine whether working memory updating function moderates the relationship between rumination and depression.

### **Method**

A total of sixty-three Chung Yuan University undergraduates were assigned to either the dysphoric group (N=28) or thirty-five the control group (N=35) according to their BDI-II scores. At the beginning of the experiment, all participants were asked to carry out the N-back task (0-back, 1-back, 2-back). Then a mood induction procedure was implemented to induce participants' negative emotion. After mood induction, all participants were instructed to engage in rumination and type down their thought on a computer (8 minutes). The depressed mood were rated at four time point (pre-mood induction, post-mood induction, post rumination, and recovery) by Visual Analogue Scale. Finally, participants completed the BDI and Chinese Response Style Questionnaire (CRSQ).

### **Results**

Participant's ruminating thoughts were categorized according to the three cognitive dimensions of rumination: provocation-focused vs. self-focused, experiential vs. analytical, and self-immersed vs. self-distance. The results showed that the dysphoric group spontaneously used more analytical rumination compared to control group. With regard to the N-back performance, the results showed that workload levels had a significant main effect, participants had lower accurate rates and longer reaction times on 2-back task than 1- and 0- back task. There were no group main effect or interaction effects. The hierarchical regression analyses showed that content of rumination focus (provocation-focused vs. self-focused) and working memory updating function had interaction effect on depressive mood during the ruminating phase, and rumination perspective (self-immersed vs. self-distance) and working memory updating function had interaction effect on depressive mood during the recovery phase.

### **Discussion**

Findings from our study suggest that the ability of working memory updating may be a moderator between rumination and depressed mood change. For individuals with low working memory updating ability, provocation-focused rumination had a significant negative effect on depressive mood during the ruminating phase. In addition, self-immersed rumination had a significant positive effect on depressive mood during the recovery phase. For individuals with high working memory updating ability, self-distance rumination had a significant positive effect during the recovery phase.

## **Group Rumination-Focused Cognitive-Behavioural Therapy versus Group Cognitive-Behavioural Therapy for Depression: Phase II Trial**

**Morten Hvenegaard, University of Copenhagen, Denmark**

**Stine Moller, Psychiatric Research Unit, Stolpegaard and Capital Region Psychiatry, Denmark**

**Morten Kistrup, Mental Health Centre Stolpegaard, Denmark**

**Stephen Austin, Region Zealand Psychiatry, Denmark**

**Nicole Rosenberg, Capital Region Psychiatry, Denmark**

**Edward Watkins, University of Exeter, United Kingdom**

### **Introduction**

Although cognitive-behavioural therapy (CBT) is an effective treatment for depression, less than half of patients achieve satisfactory symptom reduction during treatment. Targeting known psychopathological processes such as rumination may increase treatment efficacy. The aim of this study was to test whether adding group rumination-focused CBT (RFCBT) that explicitly targets rumination to routine medical management is superior to adding group CBT to routine medical management in treating major depression.

### **Method**

A total of 131 outpatients with major depression were randomly allocated to 12 sessions group RFCBT v. group CBT, each in addition to routine medical management. The primary outcome was observer-rated symptoms of depression at the end of treatment measured on the Hamilton Rating Scale for Depression. Secondary outcomes were rumination at post-treatment and depressive symptoms at 6 months follow-up (Trial registered: NCT02278224)

### **Results**

RFCBT significantly improved observer-rated depressive symptoms (Cohen's  $d$  0.38; 95% CI 0.03–0.73) relative to group CBT at post-treatment on the primary outcome. No post-treatment differences were found in rumination or in depressive symptoms at 6 months follow-up, although these secondary analyses may have been underpowered.

### **Discussion**

This is the first randomized controlled trial providing evidence of benefits of RFCBT in major depression compared with CBT. Group RFCBT may be a beneficial alternative to group CBT for major depression.

## **Effect of Selective Attention on Exacerbation of Worry and Rumination**

**Hiroto Ikeda, Ayumi Umeda & Kaneo Nedate, Waseda University, Japan**

### **Introduction**

When worry and rumination tend to increase, it has been shown that there is a tendency to become subjectively difficult to focus on tasks (difficulty of selective attention). However, no study has been conducted to simultaneously investigate influences on worry and rumination to measure selective attention in tasks. In other words, it is not clear whether selective attention is generally related despite worry and rumination being different states. Therefore, in this study, we investigated whether selective attention measured in tasks will affect easily increase the tendency to worry and rumination.

### **Method**

Data of 14 people were used for analysis. The participants were randomly assigned to the worry-evoked group and rumination-evoked group. The degree of worry and rumination was measured pre/post the task performance in each group using a visual analog scale (VAS) to calculate the amount of change, and the tendency for change worry or rumination was measured. Furthermore, the subjective attentional function was measured using the Voluntary Attentional Control Scale (VACS). In the attention task, irrespective of the presence or absence of a distractor stimulus, we requested participants to respond to the target stimulus presented for a moment.

### **Results**

The difference in reaction time for each task condition was used as an indicator of selective attention. First, we performed a two-way ANCOVA of selective attention (high, low)  $\times$  operation group (worry manipulation, rumination manipulation), in which the amount of change in worry was taken as a dependent variable and VACS was taken as a covariate. Results revealed a significant main effect and that the interaction was not significant. Subsequently, the same analysis was carried out using rumination as a dependent variable. Results revealed that neither did the independent variable show a significant main effect nor was the interaction significant.

### **Discussion**

The result of this study revealed that the decline in selective attention was only related to worry. If it was difficult to concentrate on information in the moment, the suppression of negative information will be difficult, which may result in increased worry. On the other hand, there was no major impact of selective attention on rumination. It is suggested that the function of attention that relates to the increase in rumination is might be different from momentary concentration.

## **Relationships Between Trait Mindfulness and Emotion Regulation Upon Autobiographical Memory Retrieval in Individuals with Current and Past Depression**

**Aleksandra Isham, University of St Andrews, United Kingdom**

**Adriana del Palacio-Gonzalez, Aarhus University, Denmark**

**Barbara Dritschel, University of St Andrews, United Kingdom**

### **Introduction**

The aim of this study was to investigate whether trait mindfulness was related to emotion regulation employed in response to autobiographical memories in currently and formerly depressed individuals. Impaired emotion regulation is a core mechanism in depression (Gross and Muñoz, 1995). Depression is related to heightened use of maladaptive emotion regulation such as thought suppression, expressive suppression, and rumination, and decreased use of adaptive emotion regulation such as cognitive reappraisal (Dryman & Heimberg, 2018; Joormann, Siemer, & Gotlib, 2013; Wegner & Zanakos, 1994). Emotion regulation difficulties are also apparent in formerly depressed individuals (Joormann, Siemer, & Gotlib, 2013).

Trait mindfulness is related to emotion regulation too. Trait mindfulness can be referred to as one's general tendency to attend to experiences with present-moment awareness, in a non-judgmental and nonreactive manner (Kabat-Zinn, 2015). Trait mindfulness is inversely related to

employment of maladaptive emotion regulation, including rumination and thought suppression, and positively related to employment of cognitive reappraisal (Desrosiers, Vine, Klemanski, and Nolen-Hoeksema, 2013; Garland & Roberts-Lewis, 2013). Whereas a majority of studies on emotion regulation and depression have been concerned with dispositional emotion regulation, recent interest has arisen towards context-dependent emotion regulation. Autobiographical memory retrieval is one of the contexts that have been investigated. Compared to healthy controls, dysphoric and depressed individuals report increased employment of maladaptive emotion regulation strategies, including rumination/brooding, expressive suppression, and memory suppression/avoidance during memory recall (del Palacio-Gonzalez, Berntsen, & Watson, 2017; Watson, Berntsen, Kuyken, & Watkins, 2012). Initial evidence suggests that emotion regulation is heightened during involuntary (i.e. spontaneous) memory retrieval compared to voluntary (i.e. word-cued or strategic) retrieval (del Palacio-Gonzalez et al., 2017). Given the relationship between trait mindfulness and emotion regulation, we aimed to contextualize this relationship to autobiographical memory retrieval among currently and formerly depressed individuals.

#### **Method**

Specifically, we investigated whether individual differences in trait mindfulness were related to rumination (brooding and reflection), thought suppression, expressive suppression, and cognitive reappraisal during voluntary and involuntary retrieval of autobiographical memories in individuals with current and/or past depression. A total of 47 individuals with current and/or past depression, and 37 never-depressed individuals were included in the study. Trait mindfulness was measured using the Five Facet Mindfulness Questionnaire (FFMQ) (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). A memory diary was employed to assess participants' employment of selected emotion regulation strategies during retrieval of involuntary and voluntary autobiographical memories in everyday life (del Palacio-Gonzalez et al., 2017).

#### **Results**

There was a significant negative correlation between trait mindfulness and brooding during involuntary memory retrieval among currently and formerly depressed participants. However, there were no significant correlations between trait mindfulness and emotion regulation during voluntary retrieval. Among never-depressed individuals there were no significant correlations between trait mindfulness and emotion regulation during voluntary or involuntary memory retrieval.

#### **Discussion**

The results suggest a special relationship between trait mindfulness and emotional response to involuntary memories among currently and formerly depressed individuals. The findings will be discussed in relation to cognitive frameworks of autobiographical memory. Implications for the treatment and prevention of depression will also be discussed.

### **Understanding Rumination and Worry; Using Data from an Online Qualitative Survey to Inform the Development of a Treatment Intervention**

**Amy Joubert, Jill Newby & Michelle Moulds, University of New South Wales, Australia**

**Aliza Werner-Seidler, Black Dog Institute, Australia**

#### **Introduction**

Rumination and worry have each repeatedly been implicated in the onset, severity, maintenance and relapse risk of depression and anxiety disorders. An online qualitative survey was conducted to gain insight into people's personal experience with and understandings of rumination and worry so as to inform the development of an online treatment intervention that specifically targets these thinking processes.

#### **Method**

Participants answered a mixture of open and closed-ended questions developed by the researchers about their mental health history, personal definitions of rumination and worry and perceived purpose, typical content and triggers, methods used to stop ruminating/worrying and typical frequency and duration. Participants also provided basic demographic information and completed a series of self-report measures (DASS-21, Repetitive Thinking Questionnaire-10, Metacognitions Questionnaire-30).

#### **Results**

207 adults completed the survey (76% female; mean age=29 years, range=17-71). Just over half had previously experienced both depression and anxiety (51%;n=105/206). Participants most commonly reported ruminating/worrying for 10-20 minutes (21%;n=40/190) and were most likely to ruminate late at night/in bed (73%;n=140/191). Varying definitions of rumination and worry were reported, with almost a third of participants indicating they had never heard of rumination (28%;n=54/195). Participants' reported most commonly ruminating/worrying about past mistakes, past negative experiences, personal relationships, and past conversations/interactions. The most commonly reported triggers for rumination/worry were social situations/interpersonal interactions (25%;n=47/188) and negative events/experiences (24%;n=45/188). To stop rumination/worry, participants reported using distraction or participating in activities (48%;n=91/191); 21% reported having no control and being unable to stop (n=40/191).

#### **Discussion**

The results of this study provide a unique insight into the personal experiences and understandings of rumination and worry of end-users of treatment programs. This information will be used to inform the development of an online treatment intervention specifically targeting these processes. Clinical and theoretical implications will be discussed.

### **The Relationships Between Cognitive Biases, Resilience and Executive Function in Depression and Anxiety**

**HaeJune Jung & JongSun Lee, Kangwon National University, South Korea**

#### **Introduction**

Depressed and anxious individuals tend to have lower levels of resilience and executive function, compared to healthy control. Recent studies showed that resilience significantly was associated with cognitive bias such as attention bias. However, there is yet to be a study to show whether the executive function would also be associated with cognitive bias. The present study aimed to investigate the relationship between cognitive bias, especially interpretive bias, resilience, and executive function in the community sample.

#### **Method**

Participants was 1741 (male: 947) from a community in Korea. They completed a series of online scales and tasks, namely, the Patient Health Questionnaire 9 (PHQ 9), Generalized Anxiety Disorder 7 item scale (GAD 7), Connor-Davidson Resilience Scale, Trail Making Test (TMT), and Interpretive Bias Task.

## **Results**

Both depressive and anxious symptoms were negatively associated with resilience and positive interpretive bias and positively associated with low level of cognitive flexibility and negatively interpretive bias. Low level of cognitive flexibility was positively related to negatively bias. Depressed and anxious individuals showed significantly higher scores of negative interpretive bias and lower scores of resilience and cognitive flexibility compared to their counterpart, healthy control.

## **Discussion**

Along with cognitive bias modification(CBM), the training aiming to modify negative interpretive bias, intervention on resilience and cognitive flexibility might be helpful to alleviate depressive and anxious symptoms.

## **A Nursing Intervention Using the Cognitive-Behavioral Model in Hospitalized Patients with Depression: A Preliminary Study**

**Naotoshi Kamizawa, Tokyo Medical University, Japan**

**Eriko Mizuno, University of Yamanashi, Japan**

### **Introduction**

The effectiveness of cognitive-behavioral therapy has not been well established in Japanese nursing practice, requiring further intervention studies. In nursing practice, nurses perform interventions that may be effective in hospitalized patients with depression, which could help shorten patients' length of stay and prevent the reoccurrence of depression and re-hospitalization. This study aims to examine that the interventions based on the cognitive-behavioral model by nurses can improve the quality of life (QOL) in patients who were hospitalized due to depression.

### **Method**

The subjects of this study were 17 patients with depression who were hospitalized in a psychiatric hospital in Japan. Among the 17 subjects, 11 patients agreed to undergo the intervention (the intervention group), while 6 patients did not (the comparison group). The intervention consisted of practical classes using psychoeducation and the cognitive-behavioral model, where six individual interviews of 60 minutes each were conducted. We assessed QOL using a self-administered questionnaire, the Japanese version of WHOQOL26 (physical health, psychological health, social relationships, and environment) and compared the scores at admission and discharge between the groups. We also compared the scores between those at admission and discharge in each group. The Mann-Whitney test and the Wilcoxon signed rank test were used for the statistical analysis.

### **Results**

The group comparison at admission showed that significant differences were found in the physical health ( $p < 0.01$ ), the psychological health ( $p < 0.05$ ), and the environment ( $p < 0.05$ ). The group comparison at discharge showed that significant differences were found in the physical health ( $p < 0.05$ ), the psychological health ( $p < 0.05$ ), and the environment ( $p < 0.05$ ). The within-group comparison in the intervention group showed that significant differences were found in the physical health ( $p < 0.01$ ), the psychological health ( $p < 0.01$ ), the social relationships ( $p < 0.05$ ), and the environment ( $p < 0.05$ ). The within-group comparison in the comparison group showed that significant differences were found in the physical health ( $p < 0.05$ ) and the psychological health ( $p < 0.05$ ).

### **Discussion**

The scores at admission were higher in the intervention group in all domains, compared to the comparison group, and significant differences were found in the physical health, the psychological health, and the environment, suggesting that the intervention group maintained QOL in the physical health, the psychological health, and the environment even at admission. All domains of WHOQOL26 were improved in both groups after hospitalization, demonstrating an improvement in QOL. Within-group comparisons showed that all domains were also significantly improved in the intervention group. Those results suggested that the addition of these intervention protocols to inpatient treatment and routine nursing duties promoted the improvement of QOL.

## **Time Perspective in Depressed Patients, Its Relationship with Anxiety and Depression Symptoms and Its Evolution Before and After Cognitive Behavioral Therapy**

**Héline Kaya Lefèvre, Université Paris Descartes, France**

**Christine Mirabel-Sarron, Aurélie Docteur & Philip Gorwood, Centre Hospitalier Sainte-Anne, Paris**

**Catherine Bungener, Université Paris Descartes, France**

### **Introduction**

Time perspective (TP) can be described as an individual's attitude toward personal past, present and future. Literature suggests that it plays a major role in several areas of psychological functioning (self-esteem, self-efficacy) and impacts actual thoughts and behaviors (Zimbardo & Boyd, 1999). However, TP has been seldom studied in psychopathology and psychotherapy, despite previous studies suggesting that it could be involved in depression mechanisms (Oyadanel & Buéla-Casal, 2014; van Beek et al., 2010). This study investigates first the differences of TP between depressed patients and non-depressed participants and the relationship between TP, depression and anxiety symptoms. And second, the evolution of TP before and after CBT for depressed patients, in order to determine if TP could be improved in therapy.

### **Method**

69 patients diagnosed with Major Depressive Disorder (MDD) and 65 non-depressed participants were included. Participants were asked to answer time perspective (ZTPI), depression (BDI-13) and anxiety (STAI-Y) self-reported inventories, as well as MINI criteria for MDD. 22 patients answered ZTPI, BDI-13 and STAI-Y a second time, after 20 sessions of CBT group. Statistical analysis included comparisons of scores between depressed patients and non-depressed participants, regressions analysis, and comparisons of scores before and after therapy.

### **Results**

Results indicate that TP is significantly altered in depressed patients. They display a more negative view of their past, a less hedonistic perspective towards their present, and a more fatalistic attitude towards life, when compared to non-depressed participants. Negative past and fatalistic present are positively related to depression and anxiety symptoms. Anxiety and depression scores are improved after CBT; however, TP does not differ before and after therapy, except for future orientation which is higher after therapy.

### **Discussion**

Results underline the importance of considering TP in depressed patients and suggest that a specific temporal profile could be considered as vulnerability for depressive disorders and could be involved in depressive mechanisms and anxiety symptoms. TP does not seem to be

improved by CBT, possibly due to the fact that TP is often considered as a stable variable. Future orientation was the only dimension improved after CBT, probably due to the capacity of CBT to improve planification. However, studies in larger sample are needed.

### **The Relationship Between Perfectionism and Rumination**

**Marina Galarregui, Mariana Miracco, Lorena De Rosa, Cecilia Tarruella, Emiliano Sanchez & Eduardo Keegan\*, University of Buenos Aires, Argentina**

#### **Introduction**

The goal of the study was to evaluate the relationship between perfectionism and rumination in mood disorders.

#### **Method**

The study involved two samples and a total of 193 participants: a clinical sample of patients diagnosed with a mood disorder (n=42), and a non-clinical sample of university students (n=151). Our hypothesis was that perfectionism would be associated to rumination in both samples. Participation was voluntary and confidential, including participants of both sexes, with a gender distribution of 79.8% (n=154) women and 20.2% (n=39) men. Mean age of participants was 28.54 years (SD=8.17).

#### **Results**

In the clinical sample, 12 clients (28.6%) scored as perfectionists, with 4.8% (n=2) scoring as adaptive perfectionists, and 23.8% (n=10) as maladaptive perfectionists. Thirty patients (71.4%) scored as non-perfectionists. A positive, statistically significant relationship was found between perfectionism and rumination, specifically for the dimension of Rumination of the Rumination Rating Scale (RRS) and the Discrepancy subscale of the Almost Perfect Scale-Revised (APS-R):  $r=.536$ ;  $p=.000$ .

In the non-clinical sample we also found a positive, significant relationship between perfectionism and ruminative processes. Specifically, we found positive associations between the Discrepancy subscale of the APS-R and the Brooding dimension of the RRS:  $r=.356$ ,  $p=.000$ , the Reflection dimension of the RRS (RRS Reflection):  $r=.211$ ,  $p=.009$  and Positive Beliefs about Rumination:  $r=.245$ ,  $p=.002$ .

Discrepancy –the maladaptive dimension of perfectionism- was associated to rumination, though more strongly in the clinical sample.

#### **Discussion**

Treating perfectionism in clients with mood disorders might decrease their inclination to ruminating.

### **Early Vascular Nursing Intervention for Management of Post-Stroke Depression**

**Sanghee Kim, Keimyung University, South Korea**

#### **Introduction**

Poststroke depression (PSD) is one of the most frequent neuropsychological consequences of stroke. Many believe poststroke depression to be a form of vascular depression. However only a few intervention.

#### **Method**

A total of 134 patients were followed up for 12 months after stroke and divided into two groups: stroke patients with early vascular nursing intervention and without the intervention. The development of vascular nursing intervention was consisted of exercise program and applied the patients during 1 month after stroke. Depressive symptoms were assessed at 4 weeks and 8, 12, and 12 months after stroke with the Beck Depression Inventory (BDI).

#### **Results**

A total of 6(8.96%) patients in the group with the intervention and 21 patients (31.34%) in the group without the intervention. The incidence of PSD showed a significant difference in both two groups ( $p<0.001$ ).

#### **Discussion**

Early nursing intervention for decreasing in the risk of PSD will be made for better prognosis of stroke patients and also that needs to be considered relating vascular intervention program.

### **The Relationship Between Ambiguous Loss and Depression in North Korean Defector Women: Mentalization and Social Support as Potential Moderators**

**KyongAh Kim, YoonHee Kim, Hyein Chang, Sungkyunkwan University, South Korea**

#### **Introduction**

Depression is a prevalent psychological problem among North Korean (NK) defector women (Minji Lee, Hyein Chang, and Jinyong Jun, 2016). Thus it is critical to understand risk factors that contribute to their depression to promote their mental health and adjustment to the South Korean society. In this study, we focused on the Ambiguous Loss (AL) theory (Boss, 1999) to explain unique psychological experience that NK defectors may undergo in the context of family loss. AL refers to a situation in which a family member may be physically absent but psychologically present (Boss, 1999) as for NK defectors whose family members may still be alive in NK but not for sure. We also aimed to explore internal (mentalization; Fonagy, 1991) and external factors (social support; Aneshensel & Stone, 1982) that may moderate the association between AL and depression among NK defector women.

#### **Method**

Participants were 100 NK defector women who left some of their families in NK (Mean age = 41.3 years, SD = 7.16). AL (i.e., the boundary ambiguity scale), depressive symptoms, mentalization, and social support were measured using self-report questionnaires. For a more rigorous analysis, we controlled for the number of past loss experiences and satisfaction of life in South Korea.

#### **Results**

Results of hierarchical regression analysis indicated that the moderating effect of mentalization was significant ( $\beta = -.18$ ,  $p < .05$ ) such that AL positively predicted levels of depression for individuals with lower levels of mentalization ( $t = 2.46$ ,  $p < .05$ ). For individuals with higher levels of mentalization, AL and depression were not significantly associated. The model accounted for 39.4% of variance in depression. In contrast, the moderating effect of social support on the association between AL and depression was not significant ( $\beta = .02$ , ns.).

#### **Discussion**

This study represents an initial effort to explore factors that might ameliorate or exacerbate the effects of AL on depression among NK defector women. The findings suggest that individuals' mentalization abilities may function as a protective factor against the effects of AL on depression. This study also offers clinical as well as policy implications such that individual differences in mentalization may be useful in early identification and intervention of NK defector women who may be at heightened risk for depression.

## **Does the Use of Smartphone Applications to Encourage Flexible Execution of Stress Coping Enhance Effect of Cognitive Behavior Stress Management?**

**Mikiko Kimura, Yuki Tanaka & Hironori Shimada, Waseda University, Japan**

### **Introduction**

In cognitive behavior stress management (CBSM), it is important to flexibly execute various stress coping according to the characteristics of the particular stressors (Cheng et al., 2014). However, since CBSM is often implemented in collective training, there is the possibility that identification of stress coping that work for individuals is not always sufficient. In this research, we focus on the effectiveness of smartphone applications that encourage workers' coping flexibility (individuals gather data on their coping responses and immediately feedback the effects under specific circumstances : Tanaka et al., 2017) in improving the effects of CBSM.

### **Method**

We analyzed 112 workers (21 females, 90 males, 1 unknown, average age  $41.8 \pm 12.3$  years old) working for private enterprises. As a procedure, first we divided research participants into an application group, an interview group, and a control group. Then, for all groups, we gave out questionnaires concerning coping repertoire (Tri-Axial Coping Scale-24: TAC-24), coping selection satisfaction level (Satisfaction in Stress Management for Adolescent Questionnaire: SimaQ), and the stress response (Stress Response Scale-18: SRS-18) (pre), and then carried out about 60 minutes of CBSM. The application group was asked to use the smartphone application as homework for a 4-week period. For the interview group, in addition to their using the application, they were interviewed individually for about 30 minutes two weeks after the start of the study. At 4 weeks after the start of the study, they were given a questionnaire (post) and again at 8 weeks (follow-up) .

### **Results**

Two-way ANOVAs were conducted using TAC-24, SimaQ and SRS-18 as dependent variables and group 3 (application group, interview group, control group) and period 3 (pre, post, follow-up) as independent variables. The results showed significant mutual interaction ( $F(4, 109) = 3.44, p = .01$ ) in SimaQ (satisfaction about coping options), and for the control group, post and follow-up groups had higher scores ( $p < .05$ ) compared with pre. In addition, in the application group, the score for post was lower than in pre ( $p < .05$ ). The main effects and interactions in the significant periods were not observed in TAC-24 (coping repertoire) and SRS - 18 (stress response).

### **Discussion**

Although the degree of satisfaction with respect to coping selection improved in the control group, contrary to predictions, it decreased in the application group. This is presumed to be because of the improvement of their ability to monitor the effectiveness of their coping response through repeated feedback with the smartphone application, which may have resulted in user dissatisfaction with the coping response he / she had selected. Future research will require consideration of change of process variables not measured in this research such as monitoring capabilities.

## **Influence of Intervention Order in School-Based Universal Cognitive-Behavioral Depression Prevention Intervention for Japanese Adolescents**

**Yugo Kira, Jun Shigematsu, Haruka Hirose, Kohei Kambara & Akiko Ogata, Hiroshima University, Japan**

### **Introduction**

Numerous Japanese adolescents have serious depression, which can lead to many serious health and behavioral problems. One method for solving the problem of adolescent depression is a school-based universal prevention intervention. Previous school-based universal intervention programs for preventing depression were mostly based on cognitive behavioral therapy (e.g., social skills training [SST] and cognitive restructuring [CR]). However, there is no consistent intervention content order in these programs. A lot of programs initially implement the cognitive intervention before the behavioral intervention. On the other hand, programs that begin with behavioral interventions see less resistance from students and increased motivation for treatment, so some programs initially implement a behavioral intervention. Beginning with a behavioral intervention might be more effective because it creates a school environment for sustaining change in students.

### **Method**

Therefore, we aimed to examine the influence of intervention order in school-based universal cognitive-behavioral depression prevention intervention (SUCDPI) for adolescents.

The intervention program in this study included SST (three sessions) and CR (three sessions). In total, 107 Japanese high school students (40 males and 3 unknowns,  $M_{age}=15.79, SD=0.97$ ) were separated to begin with either SST ( $N=52$ ) or CR ( $N=55$ ). They underwent our program and answered questionnaires assessing depression (the Center for Epidemiology Studies Depression Scale; Shima et al., 1985), social skills (Japanese Short Form Social Skills Self-Rating Scale; Kira et al., 2018), and cognitive distortion (the Japanese cognitive distortion in interpersonal event scale; Okayasu, 2009) under pre-intervention test, post-SST (or CR) test (one month later), follow-up SST (or CR) test (four months later), pre-CR (or SST) test (12 months later), post-CR (or SST) test (13 months later), and follow-up CR (or SST) test

### **Results**

(16 months later) conditions. Both groups of students were from the same school and the providers were the same.

The baseline scores in the pre-intervention test, including the subscale, did not differ. To investigate the difference in outcome score changes between the groups over time, we constructed a hierarchical linear model. The results showed a statistically significant Group $\times$ Time interaction effect for depression, which was the primary outcome ( $\gamma=-.22, p<.05$ ), as well as for nonverbal skills in the social skills category ( $\gamma=.16, p<.05$ ). We found that depression was improved ( $\gamma=-.17, p<.01$ ) and nonverbal skills increased ( $\gamma=.17, p<.05$ ) only in the group that began with CR.

### **Discussion**

The results indicate that SUCDPI for adolescents is more effective when the cognitive intervention is implemented first. The reason may be that CR includes psychological education about depression. Only students that began with CR showed an increase in social skills, so psychological education about depression via CR might increase students' motivation to learn social skills. Furthermore, there is the possibility that social skills can be learned as a way to cope with depression by initially implementing a cognitive intervention. In future studies, we will develop a more effective SUCDPI for Japanese adolescents by considering not only the program contents but also how to implement them.

## **Effectiveness of the Self-Management Intervention Deprexis®24 in Routine Medical Care: Results of a Non-Interventional Study**

**Jan Philipp Klein, Lübeck University, Germany**

**Bettina Barthel, Servier, Germany**

**Thomas Berger, Bern University, Switzerland**

**Steffen Moritz, University Medical Center Hamburg Eppendorf, Germany**

### **Introduction**

Numerous trials have demonstrated the effectiveness of the self-management intervention deprexis®24. The participants in most of these studies were self-selected and recruited outside routine clinical practice. Two published RCTs have examined the efficacy in in- and outpatient psychotherapy respectively. For the present study, we have investigated the feasibility and efficacy of this intervention in routine medical care using a non-interventional design.

### **Method**

A total of 104 patients with a depressive disorder (60.58% female, mean age 45.82 yrs) received 12 week access to the intervention in addition to their usual psychiatric care (74.04% took concomitant antidepressant medication). The effectiveness of the intervention was assessed using the clinician-rated short version of the Montgomery Asberg-Depression Scale (svMADRS) and the Patient Health Questionnaire (PHQ-9), a self-rating for depressive symptoms. Outcomes were assessed at weeks 3, 6, 9 and 12. Missing values were replaced using LOCF.

### **Results**

Most patients reported using the intervention at least once ( $n = 86$ ), among these users the mean number of sessions was 18.05 ( $SD = 11.33$ ). Only a minority of patients received the guided version of the intervention ( $n = 7$ ). The severity of depressive symptoms decreased significantly ( $p < .0001$ ) over the observation period from 29.72 ( $SD = 10.03$ ) to 15.73 ( $SD = 9.74$ ) for the svMADRS (Cohen's  $d = 1.42$ , 95%  $CI 0.08 - 2.76$ ) and from 15.20 ( $SD = 5.03$ ) to 8.77 ( $SD = 5.03$ ) for the PHQ-9 ( $d = 1.29$ , 95%  $CI 0.60 - 1.97$ ).

### **Discussion**

The pre-post effect size observed for the reduction of depressive symptoms observed in this study is comparable to the pre-post effect size reported in an RCT using the same intervention in patients suffering from depressive symptoms of the same severity. Limitations of this study include the lack of a control group and the recruitment that did not meet our initial recruitment targets.

## **A Replication Study of the Relationships Between Depressive Symptoms, Behavioral Activation and Avoidance Depending on Gender**

**Audrey Krings, Aurélie Wagener & Sylvie Blairy, Liège Université, Belgium**

### **Introduction**

Behavioral activation is a well-established empirical treatment of depression focusing on two psychological processes that are activation and avoidance. Little is known about the relations between depressive symptoms and these two psychological processes. Then, this study investigates the predictive value of behavioral activation and avoidance on depressive symptoms. Since depression seems to be characterized by gender differences, this study investigates these relations depending on gender. Furthermore, gender differences in symptoms profiles are assessed. These two aims tend to replicate results from the study of Wagener, Baeyens & Blairy (2016).

### **Method**

Three hundreds and sixteen adults completed self-report scales centered on depressive symptoms (BDI-II) and behavioral activation and avoidance (BADS-SF).

### **Results**

As in the initial study, our results show (1) a significant difference in symptomatology depending on gender for sadness and loss of interest in sex, (2) positive predictive values of behavioral avoidance on almost all depressive symptoms in both gender except for increase of sleep, (3) negative predictive values of behavioral activation on almost all depressive symptoms in both gender except for decrease of sleep and loss of interest in sex. The strengths of some of these relationships are different in gender in both study, but no consistent results were observed.

### **Discussion**

Results support the notion that (1) depression is characterized by symptoms differences in function of gender and (2) behavioral activation and avoidance are two psychological processes to target in psychotherapy of depression.

## **IFES-S - The German Short Version of the Impact of Future Events Scale: Translation, Adaption, and Validation**

**Julia Kroener, Caroline Schaitz, Anna Maier & Zrinka Sosic-Vasic, University Clinic of Ulm, Germany**

### **Introduction**

Recent research indicates that future behavior, such as increased suicidal action among depressive patients, can be driven by prospective intrusive mental images, or so called flash-forwards. Thus, the assessment of future intrusive imagery within psychiatric samples gains special importance. However, to date, there is only an English self-report measurement available to assess these prospective intrusive images: The Impact of Future Events Scale (IFES; Deeprose & Holmes, 2010). In order to fill this gap within the German context, the present study aspires to adapt the IFES into German and test for psychometric properties and validity.

### **Method**

The translation-back-translation method was implemented. The total sample consisted of 141 participants (68 outpatients diagnosed with F3/F4 disorders according to ICD-10 and 73 healthy control students). Psychometric properties in terms of item difficulty, discriminatory power, and internal consistency (Cronbach's alpha) were assessed. Discriminant validity with respect to the measurements sensitivity and specificity was assessed by Receiver Operating Characteristics (ROC) analysis. Convergent and divergent validity were assessed by Pearson correlations with Beck Depression Inventory-II (BDI-II), State-Trait-Anxiety Inventory-Trait (STAI-T), Spontaneous Use of Imagery Scale (SUIS), Questionnaire about Life Satisfaction (FLZ), Life Orientation Test Revised: Pessimism subscale (LOT-R).

### **Results**

Four items had to be excluded from the German version due to low discriminatory power ( $>.30$ ) and low item difficulty (below  $.20$ ). The final 20-item version of the measurement – IFES-S – showed very good internal consistency (Cronbach's  $\alpha = .93$ ). The ROC analysis revealed an area under the curve of  $.79$  (95%  $CI = .71 - .86$ ). An optimal balance between sensitivity ( $.81$ ) and specificity ( $.66$ ) was achieved

at a cut-off score of 22.5. Steiger's Z test revealed that the IFES-S total score was more strongly correlated with convergent (STAI-T, BDI-II, SUIS) than with divergent scales (FLZ, LOT\_P).

#### **Discussion**

Overall, the IFES-S demonstrates good to very good psychometric properties as well good convergent and discriminant validity as a 20-item version. Due to these features, it promises to be a valid and reliable self-report questionnaire within the clinical context.

### **Depression and Help-Seeking Preference of Pregnant Women in Japan**

**Noriko Kusakabe, Fukuyama University, Japan**

#### **Introduction**

Introduction: Postpartum depression and parenting stress are said to be major problems for women's mental health (Ando & Muto, 2008). One of the factors that causes such depression or stress is thought to be depression during gestation period (Cox and Holden, 2006). It means to clarify mental health during pregnancy is important for not only pregnant women but also fetus and moreover postpartum mental health (Kusakabe, 2018). In order to reduce depression, it is considered important to identify factors related to depression. However, there were few studies about depression of pregnant women in Japan. The purpose of this study was to clarify depression of pregnant women in Japan, and also the factors affecting depression.

#### **Method**

Method: Participants were 150 pregnant women (mean age 32.69 years old), and they were asked to complete questionnaire, Edinburgh Postpartum Depression Scale (EPDS; Okano et al, 1998), Help-seeking Preference Scale (Kusakabe, 2018), and attribute information. EPDS originally measures depression after childbirth, but it is stated to be effective also for pregnant women (Okano et al, 1998). More than nine points are classified as depressed tendency. Help-Seeking Preference Scale has three subscales (Positive attitude towards help-seeking behavior, sense of resistance to help-seeking behavior, concern about help-seeking).

#### **Results**

Results: The average value of EPDS was 8.15 (SD=5.4), and 63 subjects (42%) of the participants had nine points or more. As a result of factor analysis on EPDS scores of the three period of pregnancy, such as the early period of pregnancy (1-15 weeks), the middle period (16-27 weeks), and the latter period (after 28 weeks), the effect during pregnancy was significant ( $F(2, 147) = 5.36, p < .01$ ). The score of early period (10.40) was significantly higher than the middle period (7.14) and the latter period (7.40) ( $p < .05$ ). The differences of the Help-Seeking Preference Scale score was examined by t - test between EPDS low score group (under 8 points) and high score group (over 9 points). As a result, the scores of the low group were significantly lower in the second factor and the third factor than high score group.

#### **Discussion**

Discussion: The result of this study showed that nearly half of participants were suspected to have depressive tendency. This result which was higher than most domestic and overseas research suggested the need for intervention to alleviate depression. However, the group with high depressive tendency requiring intervention was highly resistant to help-seeking, which means further consideration was necessary.

### **Attachment Style and Working Alliance Changes in Patients with Chronic Depression Treated with Cognitive Behavioral Analysis System of Psychotherapy**

**Jennifer Lange, Ludwig Maximilian University, Germany**

**Julia Dewald-Kaufmann, Anna Theresa Holl & Ana Maria Semm, Hochschule Fresenius, Germany**

**Matthias Reinhard, Andrea Jobst, Frank Padberg, Ludwig Maximilian University, Germany**

#### **Introduction**

Attachment style (AS) is formed by early life experiences in important relationships and is described by the two dimensions "Dependence"/"Anxiety" and "Avoidance". AS influences the therapeutic alliance, which was shown to be a generally small but robust factor for psychotherapy outcome (Diener, 2011). A core assumption is that AS is stable over time, but studies have shown inconsistent results. Changes in AS due to CBASP may be caused by the experience of a new secure bond and closer personal relationships (Mikulincer, 2013) as well as development of social competence skills and increased self-efficacy. The present study aims to investigate changes in AS, working alliance and depressive symptoms in psychiatric inpatients with chronic depression (CD), a patient group with a high load of early interpersonal traumatic experience.

#### **Method**

Inpatients with CD were treated with the Cognitive Behavioral Analysis System of Psychotherapy (CBASP) treatment for 10 weeks. Almost all patients were medicated. AS (Relationship Scales Questionnaire - RSQ) was measured before and after the treatment. Working alliance (Working Alliance Inventory - WAI) from patients' and therapists' perspective as well as symptom severity (Beck Depression Inventory - BDI) were measured weekly.

#### **Results**

Analyses ( $n = 27$ , data collection is currently ongoing) showed that prior to treatment, 15% ( $n = 4$ ) of the patients scored high on "Dependence"/"Anxiety" (preoccupied AS), 30% ( $n = 8$ ) scored high on "Avoidance" (dismissing AS) and 37% ( $n = 10$ ) of the patients scored high on both dimensions (fearful/ unresolved AS), which supports previous findings (e.g. Bauriedl-Schmidt et al., 2017). Working alliance (both perspectives) increased significantly over the course of therapy,  $F_{\text{therapist}}(4.42, 88.39) = 6.88, p < .001$ , whereas depressive symptoms decreased significantly,  $F(4.57, 82.33) = 5.571, p < .001$  (see Figure 1). Analysis of the AS showed a significant reduction in "Avoidance",  $t(26) = 2.493, p < .05$ , but not in "Dependence",  $t(26) = .784, p = .44$ . Further results will be presented.

#### **Discussion**

CBASP seems to be effective in decreasing depressive symptomatology as well as avoidance of intimacy and in increasing the working alliance. CBASP aims mainly to create new positive interpersonal experiences through training of a more open and bond promoting behavior. This might explain the change in avoidance towards others, which is paralleled by a more positive internal "model of others". Limitations are a missing control group and the small sample size.

## **The Dual Mediation Effects of Negative Self-Talk and Positive Self-Talk on the Relationship Between Self-Awareness and Depression**

**Hyeonye Lee & Hyunju Cho, Yeungnam University, South Korea**

### **Introduction**

Self-awareness was defined as the capacity to become the object of one's own attention, where the individual activity identifies, processes, and stores information about the self. The self-awareness and depression were significantly related. Self-talk can play a big role in the relationship between these two variables because it related to pathology depends on whether the self-talk is positive or negative. However few studies have examined the effects of self-talk in detail in the effects of self-awareness on depression. The goal of the study was to test the dual mediating effects of negative self-talk and positive self-talk on the relationship between self-awareness and depression.

### **Method**

In this study, 244 college students were asked to complete questionnaires measuring SAS(self-awareness scale), CES-D(center for epidemiological studies depression scale), K-STI(Korean version of the self-talk inventory). We performed correlation analysis, path analysis, and confirmatory factor analysis. After that, we computed a total effect, direct effect and the indirect effect using the Amos 23. And the each mediation effect were verified using phantom analysis. The collected data were analyzed using a structural equation modeling.

### **Results**

The main results of the study are as follows. First, Self-awareness showed a significant negative correlation with depression( $r = -.42, <.01$ ) and negative self-talk( $r = -.15, <.05$ ). And it appeared to be a positive relationship with positive self-talk( $r = .32, <.01$ ). Second, the results of confirmatory factor analysis indicated that this model provided a satisfactory fit to the data( $\chi^2 = 98.5, df = 49, <.001, CFI = .966, RMSEA = .064, SRMR = .047$ ), with all paths highly significant( $<.001$ ). Third, self-awareness affected depression directly but it also affected depression via negative self-talk and positive self-talk( $95\% CI = -.21 \sim -.04, <.01$ ). Finally, each mediation effect was also significant by using phantom analysis.

### **Discussion**

The result of this study indicate that self-awareness affects depression. And the both types of self-talk have been shown to mediate this relationship. Because self-awareness was based on understanding of oneself, it was closely related to self-talk, which plays a self-referenced role. People who were good at self-awareness can talk to healthy self-talk and handle negative life stress such as depression. If we are aware of ourselves through a conversation with a healthy self, we can also be prevent oneself psychological disorders. This study was meaningful in that it has found that the client can use the positive self-talk to help themselves to overcome psychological maladjustments and become healthy and wellbeing.

## **Adverse Childhood Experiences in Depression and Its Relation to Attachment Styles, Interpersonal Relationships and Parenting Styles**

**Manjula M, National Institute of Mental Health and Neuro Sciences, India**

**Mareena Wesley, Christ University, India**

**Abha Singh, Shri Ram Hospital and Health Care, India**

**Swathi TP, National Institute of Mental Health and Neuro Sciences, India**

### **Introduction**

Various psychosocial factors are implicated in development of depression, among them childhood trauma and interpersonal experiences are important ones. Early childhood experiences such as trauma experiences and interpersonal relationship processes such as attachment, parenting styles are said to predispose the individual to develop depression. The maladaptive interaction patterns developed due to adversities are said to result in interpersonal difficulties contributing to maintenance of depression (Davila & Hammen, 2002). Multiple abusive experiences were found to be related to chronic or recurrent depression as well as suicidal behaviors (Bifulco et al., 2000). In addition, the number of adverse childhood experience has a graded relationship to both lifetime and recent depressive disorders (Chapman, 2004). Significant association between insecure attachment and depressive symptoms are reported (Hankin, Kassel, & Abela, 2005; Shaver, Schachner, & Mikulincer, 2005). Perceived parenting style as characterized by lack of care and overprotection are consistently reported to be linked to depression (Anlı & Karlı, 2010; Marshall, Shannon, Meenagh, & Mc Corry, 2017). Childhood experiences of abuse are reported to contribute to interpersonal difficulties in one's adult life (Messman-Moore & Coates' 2007). The study aimed at understanding the childhood abuse experiences and its relation to relationship processes in adults with depression through a series of three studies conducted over consecutive years from 2010 to 2015.

### **Method**

A series of 3 studies were conducted on individuals diagnosed with depression receiving treatment from a tertiary psychiatric hospital. The studies used 2 group comparison cross sectional exploratory design in which the control group was age and gender matched with the study group. The control group was selected from the community after screening for psychological distress using GHQ 12 and Beck Depression Inventory for presence of depression. The sample for each of the studies consisted of 30 individuals diagnosed with depression and 30 in control group. The common tools used across three studies were Socio demographic data sheet, The Mini-international neuropsychiatric interview, General Health Questionnaire-12, Becks Depression Inventory I, and Early Trauma Inventory - Self Report-Short Form. The tools used for assessing relationship variables across the studies were adult attachment inventory, and inventory of interpersonal problems and parental bonding instrument. The tools and interview with the participants of both study and control group was done individually.

### **Results**

Results showed that individuals in study group experienced greater amount of trauma when compared to control group. The study group had more trauma experiences with respect to total trauma, emotional and sexual trauma. General punishment and emotional abuse are significant predictors of depression. Emotional abuse was highest among all the other abuse experiences.

Study group had significantly lower rating with regard to security in attachment, had significantly lower score on father care and higher over protection from both parents. They also reported more problems in interpersonal dimensions of being cold/distant, socially inhibited, non-assertive, overly accommodating, self sacrificing, and intrusive. Trauma experience was positively associated with insecure attachment and negatively associated with father care.

### **Discussion**

The findings on relationship between the variables and clinical implications of trauma and relationship variables in cultural context will be discussed. The studies provide consistent support to the relationship between childhood trauma experiences and development depression in the cultural context. In addition the relationship between the trauma and relationship processes are also established. The findings provide

inputs for incorporating cognitive therapeutic strategies to address the specific beliefs related to trauma and interpersonal process appropriate to cultural context.

### **Childhood Maltreatment, Attributional Styles of Stressful Life Events, and Their Relation to Comorbidity of Major Depressive Disorder and Anxiety Symptoms**

**Ileana Manzanilla, Yvonne Gomez, Diana Agudelo, Catalina Uribe & Maria Claudia Lattig, Universidad de Los Andes, Columbia**  
**Eugenio Ferro, Instituto Colombiano del Sistema Nervioso - Clínica Montserrat, Columbia**

#### **Introduction**

Studies have consistently shown high comorbidity rates for depressive and anxiety disorders. Dimensional and transdiagnostic research approaches have identified that stress plays an important role in the development of this form of comorbidity. Hovens et al. (2016) found that childhood maltreatment predicts comorbidity and chronicity of depressive and anxiety disorders. Other studies report that attributional style for stressful life events (SLEs) is also important in the prediction of this phenomenon. In the present study, we examined the relationship between childhood maltreatment, appraisal of SLEs in adulthood, and the presence of comorbidity of major depressive disorder (MDD) and anxiety symptoms.

#### **Method**

The Spanish versions of the MINI International Neuropsychiatric Interview (Ferrando et al., 2000), the State-Trait Anxiety Inventory (STAI; Spielberger et al., 1970), and the State-Trait Depression Inventory (IDER; Spielberger et al., 2008) were used to measure negative affectivity derived from depression and anxiety symptoms in a sample of 192 individuals with a current diagnosis of major depression disorder and 211 healthy controls. Response to stressful life events in the last two years was measured with the Life Events Questionnaire (CSV; Sandín et al., 2017). Binary logistic regression analysis was used to determine association.

#### **Results**

Patients significantly reported a higher frequency of childhood maltreatment [ $\chi^2(1) = 53.37, p < 0.001$ ], as well as more negative [ $\chi^2(1) = 109.58, p < 0.001$ ], unexpected [ $\chi^2(1) = 25.35, p < 0.001$ ], and uncontrollable [ $\chi^2(1) = 84.98, p < 0.001$ ] perceptions of their SLEs when compared to the control group. Binary logistic regression analysis showed that childhood maltreatment (OR = 3.44,  $p < 0.001$ ) and perceiving SLEs as negative (OR = 6.77,  $p < 0.001$ ) and uncontrollable (OR = 8.58,  $p < 0.001$ ) significantly predict comorbidity for MDD and anxiety symptoms. Appraising SLEs as unexpected did not significantly explain the model.

#### **Discussion**

Childhood maltreatment and the appraisal of SLEs as negative and uncontrollable showed a strong association to comorbidity of MDD and anxiety symptoms. These results suggest an association that operates through latent liabilities to develop internalizing psychopathology, indicating that early interventions based on the prevention of maltreatment and the enhancement of locus of control might contribute to a better prognosis in a “high risk” comorbidity group.

### **Specificity and Overlap of Attention and Memory Biases in Depression and Anxiety: A Meta-Analytic Commonality Analysis**

**Igor Marchetti, University of Trieste, Italy**

**Jonas Everaert, Ghent University, Belgium**

**Justin Dainer-Best, Bard College, USA**

**Christopher G. Beevers, University of Texas at Austin, USA**

**Ernst H. W. Koster, Ghent University, Belgium**

#### **Introduction**

Attentional and memory biases are considered as fundamental cognitive processes underlying symptoms of depression and anxiety. However, it is still unclear whether these two biases are uniquely related to depression or whether they show substantial overlap.

#### **Method**

We investigated the degree of specificity and overlap of attentional and memory biases for depressotypic stimuli in relation to depression and anxiety by means of meta-analytic commonality analysis. By including four published studies, we considered a pool of 463 healthy and subclinically depressed individuals, different experimental paradigms, and different psychological measures

#### **Results**

Memory bias is reliably and strongly related to depression (16.43%) and, specifically, to symptoms of negative mood, worthlessness, feelings of failure, and pessimism. Memory bias for negative information was minimally related to anxiety (4.97%). Moreover, neither attentional bias (1.07%) nor the overlap between attentional and memory biases (-0.24%) were significantly related to depression.

#### **Discussion**

Our study showed that, across different paradigms and psychological measures, memory bias (and not attentional bias) represents a primary direct mechanism in depression.

### **Temperament, Character and Personality Disorders as Predictors of Response to Cognitive-Behavioral Group Therapy for Dysthymia**

**Inés Martín, Mireia Primé, Patricia Gavín, Victor Navarro & Joana Guarch, Hospital Clinic, University of Barcelona, Spain**

#### **Introduction**

Dysthymia is a chronic mood disorder which is characterized by a depressed mood for most of the day for at least two years. Dysthymic disorder is relatively less studied condition within the group of depressive disorders, although there is evidence that this is associated with a poorer prognosis and greater impairment. Evidence for treatment approach is still very scanty, however recent studies have shown that combined treatment is more effective than pharmacotherapy alone. Several studies have reported on the frequency of personality disorders in dysthymic patients as well as on its implications for the manifestation, course, and outcome. Nevertheless, it exists conflicting evidence about the influence of personality on treatment outcome. The aim of this study is to examine the efficacy of a cognitive-behavioral group therapy in a sample of dysthymic patients and analyze the effect of character, temperament and personality disorders as predictors of the response to the treatment.

## Method

A randomized controlled trial was carried out to evaluate the efficacy of a cognitive behavioral group therapy in a sample of dysthymic patients (N= 63). Half of the subjects were randomized to care as usual and the other half received group CBT during 16 weekly sessions according to a standardized procedure (psychoeducation, anxiety management techniques, behavioral activation, cognitive restructuring, social skills and relapse prevention). BDI-II (Beck Depression Inventory-II) was administered to assess the efficacy of the treatment by a general linear model repeated measures. We also examined whether personality disorder or relevant personality dimensions have an adverse impact on treatment. Thus, subjects were assessed with the Personality Diagnostic Questionnaire-Revised (PDQ-4+) and the TCI (The Temperament and Character Inventory).

## Results

General linear model repeated measures showed that the CBT was effective for dysthymic patients (ANOVA,  $p=0,024$ ). Lineal logistic regression analyses demonstrated that response to CBT was not significantly predicted by the temperament and character dimensions of the TCI or for any of the personality disorders or clusters of the PDQ-4+ ( $p>0,05$ ).

## Discussion

In conclusion, this exploratory study shows the CBT efficacy for dysthymia in reducing depressive symptoms. Nevertheless, it does not support the prediction that patients with personality dysfunctional traits would have a less favorable treatment outcome. The character and temperament scales also do not predict treatment response for patients with dysthymia randomized to cognitive-behavioral therapy. This work suggests that there is perhaps no need to exclude patients from these types of treatments based on scores on personality scales, since, as it has been observed, they can also benefit from this effective treatment. However, in order to validate these conclusions, we should replicate the study with a more extensive sample, using a structured interview for personality disorder diagnoses, and evaluating long-term follow-up data.

## Increasing the Direct Retrieval of Overgeneral Categorical Memory in Depression

Noboru Matsumoto, Nagoya University, Japan

Yoshifumi Takahashi, Hosei University, Japan

Jun Kawaguchi, Nagoya University, Japan

### Introduction

Previous researchers have found that overgeneral categorical memory is increased in individuals with dysphoria and a history of depression. These studies assumed that OGM (overgeneral memory) is caused by the impairment of generative retrieval and that direct retrieval is not responsible for OGM. However, recent studies in relevant fields suggest increased direct retrieval of categorical memory in depression. In two experiments, we examined whether increased categorical memory among individuals with depression occurs through generative or direct retrieval.

### Method

In study 1, dysphoric individuals (Beck Depression Inventory - Second Edition: BDI-II > 13;  $n = 25$ ) and controls (BDI-II < 8;  $n = 25$ ) participated in the experiment. In study 2, individuals with a history of major depressive episode (MDE;  $n = 20$ ), a depressed control group with a uniform degree of depression as the past depression group but no past MDEs ( $n = 36$ ), and a healthy control group that had never experienced depression and had no past MDEs ( $n = 36$ ) participated in the experiment. These participants completed the Autobiographical Memory Test with minimal instructions (Debeer et al., 2009). We used the procedure of Uzer et al. (2012) as a method to separate generative retrieval and direct retrieval. Participants were asked whether each retrieval was generative or direct.

### Results

We confirmed that the direct retrieval determined by participants had a shorter latency than the generative retrieval (Study 1: direct = 5.78 sec, generative = 11.07 sec; Study 2: direct = 5.35 sec, generative = 13.08 sec). In study 1, three-way interaction was significant ( $F(1, 48) = 5.10$ ,  $p = .028$ , partial  $\eta^2 = .10$ ) and revealed that the dysphoric group reported a high proportion of categorical memory via direct retrieval in response to negative cues compared with the control group ( $t = 5.65$ ,  $p < .001$ ,  $d = 3.19$ ). In Study 2, this result was also observed in individuals with a history of depression compared with the healthy control group ( $t = 2.74$ ,  $p = .007$ ,  $d = 0.78$ ) and the depressed control group ( $t = 2.55$ ,  $p = .013$ ,  $d = 0.72$ ). Study 1 found that the dysphoric group reported fewer specific memories via generative retrieval in response to negative cues ( $t = 3.19$ ,  $p = .002$ ,  $d = 1.80$ ), which is evidence of the functional avoidance of negative specific memories in depression.

### Discussion

We found that high levels of categorical memory via direct retrieval in response to negative cues is involved in depression across two studies. We suggest that the direct retrieval of categorical memory could indicate vulnerability to depression. Decomposing the OGM caused by multiple factors can help us consider the association between OGM and its negative outcomes.

## The Impact of Comorbid Depressive Symptoms and Borderline Personality Disorder on Treatment Outcomes in Dialectical Behavior Therapy

Lynn McFarr, Zhibo Zhang, Anastasia McGlade, Hollie Granato & Lynn McFarr, Harbor - UCLA, USA

### Introduction

Depressive symptoms are prevalent among patients with borderline personality disorder (BPD) (Lieb, Zanarini, Schmahl, Linehan, & Bohus, 2004). Although we might expect BPD symptom reduction to include improvements in the severity of depressive symptoms (Gunderson et al., 2004), the nature and impacts of depression in BPD presentations remain unclear (Köhling, Ehrenthal, Levy, Schauenburg, & Dinger, 2015). The present article presents descriptive information concerning the prevalence of comorbid depression and BPD in patients enrolled in Dialectical Behavior Therapy (DBT) in a community mental health setting. We then seek to compare DBT outcomes between patients with low (none to mild) and high (moderate to severe) levels of depressive symptoms.

### Method

This sample will include approximately 50 adults between the ages of 24-65 enrolled in Dialectical Behavior Therapy at an outpatient mental health housed within a community hospital. Depressive symptoms will be measured using the Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer & Williams, 2001) and DBT outcomes will be assessed with change in score from pre to post treatment on the Outcomes Questionnaire-45 (OQ-45; Lambert et al., 1996), Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004), and Borderline Symptom List (BSL-23; Bohus et al., 2009). All participants completed survey measures prior to commencing treatment and again at 6 months and 12 months.

## **Results**

We hypothesize that DBT outcomes for the treatment of BPD patients who endorse moderate to severe depressive symptoms at pre-treatment will be significantly poorer than those of BPD patients who endorse none or mild depressive symptoms. Data has been collected at this time and preliminary analyses are underway.

## **Discussion**

While many studies have highlighted the comorbid rate of depressive symptoms among individuals diagnosed with Borderline Personality Disorder, this study will be among the first to examine how depressive symptoms impact treatment outcomes. Additionally, this study will describe additional descriptive information about participants with baseline depression severity in order to explore additional aspects related to comorbid BPD and depression, such as aspects of emotion dysregulation and how these may vary depending on depressive symptom severity.

## **The Effectiveness of a Mindfulness Training Programme in Schools Compared with Normal School Provision (MYRIAD): Study Protocol for a Randomized Controlled Trial**

**Emma Medicott, Oxford University, United Kingdom**

### **Introduction**

The onset of mental health problems often occur during adolescence and 50% of adults with psychiatric disorders experience clinically impairing psychopathology before age 15, and 75% by age 24. Mindfulness training (MT) has been shown to be effective in enhancing mental health and reducing emotional distress in adults but few controlled trials have explored the effects in adolescents. The primary aim of the trial is to evaluate the effectiveness of MT in enhancing mental health, wellbeing and social-emotional behavioural functioning in adolescents when delivered in a school context (Kuyken et al. 2017). The study takes a universal approach to the primary prevention of mental-ill health by using the whole school population rather than just those at risk.

### **Method**

The design is a superiority, cluster randomised controlled, parallel-group trial. 84 schools were recruited. Half were randomly allocated to deliver MT and half were allocated to continue their social-emotional teaching-as-usual.

Approximately 27,000 pupils aged 11-12 completed three primary measures in a baseline assessment prior to randomisation of schools, assessing depression, socioemotional and behavioural functioning, and wellbeing.

Teachers in the MT schools attended an eight-week personal MBCT (Mindfulness Based Cognitive Therapy) course and a four-day mindfulness curriculum training. The MT curriculum is drawn from MBCT and taught to pupils over 10 weeks. A secondary aim of the trial is to examine teacher wellbeing and participating teachers are completing wellbeing measures at the same five time points as pupils.

### **Results**

The trial is ongoing and delivery of MT to pupils will be completed this academic year. Approximately 7,000 of the pupils assessed at baseline will complete measures at four further time-points, including a final two year follow-up at age 15-16. Secondary measures at these time-points include cognitive functioning, self-harm, suicidal ideation, pupil perceptions of school climate and use of health services. The final data collection will be in autumn 2020 and results will be published in 2021.

### **Discussion**

This cluster RCT aims to provide a rigorous evaluation of the effectiveness of a MT programme, compared with good practice social-emotional teaching. The results will explore whether MT can shift an adolescent population away from mental-ill health towards flourishing, having significant implications for public health. In addition, training which enhances the mental health of teachers that support and interact with pupils has potential for enhanced pupil wellbeing and may support teachers to manage occupational stress that could otherwise negatively impact pupils.

## **Reduced White Matter Fiber Integrity in Depressed Patients Due to Childhood Maltreatment Rather than Diagnosis**

**Susanne Meinert, Katharina Förster & Hannah Lemke, University of Münster, Germany**

**Igor Nenadic, Axel Krug & Tilo Kircher, University of Marburg, Germany**

**Udo Dannowski, University of Münster, Germany**

### **Introduction**

Previous studies found that white matter fiber structure is associated with Major depressive disorder (MDD) compared with healthy controls (HC) and childhood maltreatment in the corticospinal tract, the inferior fronto-occipital fasciculus and the superior and inferior longitudinal fasciculi among other regions. These white matter alterations in MDD might be partially tracked back to the higher occurrence of childhood maltreatment in patients.

### **Method**

Two large, independent cohorts (total N=1,256) were investigated in a diffusion tensor imaging study: The Münster Neuroimaging Cohort (MNC, N=187 MDD, N=210 HC), and the Marburg-Münster Affective Disorders Cohort Study (MACS, N=397 MDD, N=462 HC) as replication sample. The effects of diagnosis (HC vs. MDD) and Childhood Trauma Questionnaire (CTQ) scores on fractional anisotropy (FA) corrected for age, sex and total intracranial volume were analyzed.

### **Results**

A main effect of diagnosis was found in the MNC (pFWE=.021). This, however, could not be replicated in the MACS (pFWE=.52). Rather, a trend was found in the MACS with differing directions: MDD patients had higher FA values in the MNC, while the inverse association was observed in the MACS. Any effect of diagnosis was abolished after correcting for CTQ (MNC: pFWE=.562, MACS: pFWE=.115). Instead, a significant negative correlation of FA values with CTQ emerged in both cohorts (MNC: pFWE=.006, MACS: pFWE=.012) a network comprising the corticospinal tract, the inferior fronto-occipital fasciculus and the superior and inferior longitudinal fasciculi among other regions. No CTQ x diagnosis interaction could be detected.

### **Discussion**

No differences in fiber structure between MDD and HC could be found after correcting for maltreatment, suggesting that previously reported group differences might be attributed to higher levels of maltreatment experiences in MDD patients rather than diagnosis itself. Furthermore, a well-established finding of reduced fiber integrity following maltreatment was replicated. Opposing main effects of diagnosis previous to correction for childhood maltreatment in the two cohorts might be due to differences in medication.

## **The Effect of Mindfulness on the Relationship Between Mind Wandering and Depression**

**Sung Min & Soo Hyun Park, Yonsei University, South Korea**

### **Introduction**

Our mind wanders often. Although mind wandering makes it possible for individuals to learn, reason, and plan, it also seems to negatively impact mental well-being. Previous research has shown that mind wandering shows a positive correlation with depression. Mindfulness, on the other hand, appears to be an opposite state to mind wandering. Yet there are only few studies examining the relationship between mind wandering and mindfulness. In the present study, the relationship between mind wandering and depression and the moderation effect of mindfulness in this relationship was investigated.

### **Method**

Fifty-one students (36 women, aged between 19 to 27) attending university in Seoul, Korea participated in the study. The degree of mind wandering was measured with the Sustained Attention to Response Task (SART). SART is a go/no go task in which participants were instructed to press a space bar when a number with the exception of 3 appears on the screen. As in previous research, error rates were considered as the behavioral index of the participants' mind wandering. Dispositional mindfulness and depression were measured with the Korean Mindfulness Attention and Awareness Scale (KMAAS) and Center for Epidemiological Studies Depression Scale (CES-D).

### **Results**

To investigate the effect of mind wandering on depression, a simple regression analysis were conducted. Mind wandering explained 11.6% of the variance in depression [ $F(1, 49) = 6.4, p = .02$ ]. The beta coefficient of mind wandering was .34. In addition, a moderated multiple regression was conducted to test the moderation effect of mindfulness in the relationship between mind wandering and depression. Mind wandering and mindfulness were centered, and the moderation term was created by multiplying the two centered variables. The first block of the model including mindfulness and mind wandering as predictors explained 32.9% of the variance in depressive symptoms ( $p < .001$ ). The moderation term in the second block explained an additional 9.1% of the variance on the CES-D ( $\Delta R^2 = .091, p < .01$ ).

### **Discussion**

The present study showed that mind wandering predicts depression such that greater degree of mind wandering predicts a higher level of depression. In addition, the association between mind wandering and depression was influenced by dispositional mindfulness. If you have a high level of mindfulness, depression level may not be high even if the degree of mind wandering is greater. However, if you have a low level of mindfulness, the level of depression may increase when your mind wanders. Therefore, mindfulness may serve a protective role against mind wandering.

## **Mindfulness Versus Traditional Emotional Intelligence Training - Different Outcomes in Difficulties of Regulating Emotions and in Depression, Anxiety and Stress Symptoms**

**Mirela Simona Calinici, Babes Bolyai University Cluj Napoca, Romania**

**Tudor Calinici, Iuliu Hatieganu Medicine and Pharmacy University Cluj Napoca, Romania**

**Ioana Unk, APA Member, USA**

### **Introduction**

Research study Poster Introduction

Why emotional intelligence training matters? There are interventions addressed to many people, with role of improving performance, but also to decrease vulnerabilities, and the main outcomes are improvements in persuasion and in emotional regulation.

Emotional regulation difficulties are common factors in emotional distress, both in clinical and non-clinical population; emotion dysregulation is an excellent transdiagnostic indicator of vulnerability and are a comorbidity across various diagnoses like anxiety, depression, addictions, borderline.

Traditional and mindfulness based approaches to emotion regulation are different, mindfulness based ones are focus on acceptance of emotion, rather than in regulation itself and different regulations strategies. (Gratz, K. L., & Tull, M. T. (2010).

A comparative analyse of impact of this two types of emotional intelligence training could inform further interventions about the benefits of each approach.

### **Method**

Clinical randomised trial intervention for emotional intelligence in non-clinical population, one group is control and two intervention groups, each group has 30-35 persons, mostly students in social sciences and medicine. Interventions were designed according to David. R. Caruso – the traditional one and to Joseph Ciarrochi – the mindfulness based one, as described in the book of Ciarrochi, J., & Mayer, J. D. (2013).

Applying emotional intelligence: A practitioner's guide. Psychology Press.

Before intervention and after the intervention participants filled in the next questionnaires: Wong and Law Emotional Intelligence Scale (WLEIS 2002) DERS (Gratz and Roemer, 2004) and Depression Anxiety Stress Scale DASS21.

### **Results**

Both intervention had in post-intervention measurements statistically significant results for emotional intelligence improvement level, for decrease of difficulties in regulating emotions and also for depression/anxiety/stress symptom reduction ( $p < 0.05$ ), compared to control group (and to pre-intervention measurements).

ANOVA and post-hoc analyses revealed that on some subscales there are important differences – for Stress Subscale of DASS21 the Mindfulness group had a statistically significant decrease of scores compared to Caruso group ( $p = .01$ ). Concerning difficulties of regulating emotions in 4 out of 6 dimensions of DERS, Caruso group had not statistically significant reduced the scores compared to control group: difficulties in acceptance of emotions ( $p = .205$ ), impulse control ( $p = .288$ ), perseverance in goals ( $p = .421$ ) and emotions awareness ( $p = .12$ ). For acceptance of emotions and impulse control subscales differences between Caruso group and Mindfulness are statistically significant

### **Discussion**

Discussion

As expected both interventions had significant results in improving emotional intelligence level and decrease of negative emotions (and depression, anxiety, stress level). The results of Mindfulness based intervention on stress and emotional regulation difficulties strongly suggest that this approach it is more efficient to address this vulnerabilities and emotional impairments than the traditional ones.

Further studies should replicate the findings and investigate more the impact of mindfulness based elements and the best ways to integrate them into psychological interventions designed to enhance performance and to foster personal growth.

## **Construction of Screening System for Depression Used by Portable Terminal and Wearable Devices**

**Shigeki Nakayama, Yonago College, Japan**

**Shinya Takeda & Masaaki Iwata, Tottori University, Japan**

### **Introduction**

One out of ten men, and one out of five women has depression. Furthermore, one out of ten persons, who has been regarded as depression, has proved as bipolar disorder. It is necessary to ascertain the patient's condition because the treatment method and medicine of depression differs from that of bipolar disorder. Then, we construct the portable screening system for depression based on simple medical sheet and kinetic state.

### **Method**

The system consists of portable terminal unit, camera, and wearable sensors. First, we apply the screening test, Beck Depression Inventory (BDI), to some subjects. Secondly, we detect walking posture of some subjects by video camera. And we estimate the angle of looking-down posture by detected images. Finally, we count the number of blinking by eyeglasses type wearable device.

### **Results**

The screening test has been carried out against 10 men. We have judged probability of getting depression if the following condition has been satisfied. 1) The score of BDI test is over 20 points. 2) The angle of looking-down posture is over 60 degree. 3) The number of blinking in a minute is over 20 times.

### **Discussion**

In this study, the result of screening test has not been verified sufficiently due to few subjects.

However, we have confirmed low degree of positive correlation between the score of BDI and the number of blinking.

## **Influence of Temperament on Subjective Menstrual Symptoms**

**Mayu Naruse & Takeshi Inoue, Tokyo Medical University, Japan**

### **Introduction**

Many women are experiencing premenstrual discomfort (e.g. Takada et al., 2006). That symptom persists chronically and interferes with life and is called premenstrual dysphoric disorder (PMDD). Personality factor is related to menstrual cycle (Freeman, 1995; Patel, et al., 2018). However, these studies were conducted with adolescence (unstable menstrual cycle) or suffer from psychiatric disorders. Therefore, in this study, we investigate the effect of temperament and personality factors based on Cloninger's personality theory on subjective PMDD symptoms in healthy women who have stable menstrual cycle.

### **Method**

This study conducted Between February 2014 and January 2015. Two hundred fifty-six women aged 20 to 45 who consented to participate in research were answered below questionnaire; (1) demographic data (such as age, sex, marital status, employment status or so), (2) subjective PMDD symptoms using visual analog scale (average for one week before the last menstruation and average for one week after the end of menstruation) and TCI for measuring temperament were used. In the statistical analysis, the descriptive statistics were calculated and the correlation coefficient between each variable was calculated. Furthermore, multiple regression analysis was performed.

### **Results**

Descriptive statistics showed that the mean age of the participants was 39.27 years, the average educational history was 14.54 years, and the average of the menstrual cycle was 28.74 days. Secondly, correlation analysis showed significant correlation that Harm Avoidance (HA) between subjective PMDD symptoms ( $r = -.20$  to  $.19$ ), and Self-direction (SD) between PMDD symptoms ( $r = .19$  to  $.22$ ). Moreover, multiple regression analysis showed significant relationship that HA between almost PMDD symptoms. especially, in subjective fatigability ( $\beta = -.48$  and  $\Delta R^2 = .13$ ).

### **Discussion**

The results suggest that the higher HA, the more PMDD symptoms are. Furthermore, the lower SD, the more depressed mood, concentration difficulty, and insomnia / hypersomnia were shown. Moreover, the results of multiple regression analysis showed that the influence of HA on subjective fatigability was significant, and accounts for 13% of the variance. HA is related to various difficulty such as less serotonin (Ishiura et al., 2004), major depressive disorder (Tanaka et al., 1997). Since fatigability is associated with their prodromal symptoms of their disorder, it is considered that the high-HA may predict the deterioration of PMDD symptoms.

## **CBASPersonalized@home: An Online Continuation-Treatment Program Following an Inpatient Treatment to Stabilize Treatment Success for Persistent Depressive Disorder**

**Anna-Lena Netter, Philipps University Marburg, Germany**

**Jörg-Tobias Hof, Schön Klinik Bad Arolsen, Germany**

**Eva-Lotta Brakemeier, Philipps University Marburg, Germany**

### **Introduction**

The Cognitive Behavioral Analysis System of Psychotherapy (CBASP) developed by James McCullough is the only psychotherapy specifically designed for the treatment of persistent depressive disorder (PDD). Due to a growing number of positive studies (e.g., Negt et al., 2016; Schramm et al., 2017) CBASP can be labeled as an "empirically supported treatment". In addition, a modified multidisciplinary inpatient CBASP concept (Brakemeier & Normann, 2012) has proven its effectiveness in open pilot studies (Brakemeier et al., 2011, 2015; Sabaß et al., 2017). However, comparatively high non-response and relapse rates (e.g., Schramm et al., 2017) give reason to further optimize CBASP by personalizing strategies for patients with high comorbidity. In addition, clinically significant and long-term therapeutic success seems to be favored by long therapy duration and a constant application of CBASP strategies in everyday life (e.g., Wiersma et al., 2014). To address this issue, the use of internet an

### **Method**

After implementing CBASPersonalized@home in a CBASP-specific concept of a psychosomatic inpatient clinic in Germany, feasibility and usability are tested in a pilot study. Expectations and plausibility of the interventions as well as the satisfaction of the patients with the online continuation-treatment program and pre- and post-measurement of depressive symptoms are assessed via online survey.

## Results

First results can be presented in July 2019, which should provide information about feasibility, usability, and acceptance among patients as well as first indications of effectiveness. The results are presented along with a case report.

## Discussion

The results of this pilot study will be used to optimize CBASPersonalized@home for subsequent evaluation in a RCT study. In the long run, online continuation-treatment programs can help patients maintain treatment success and prevent relapses.

### Preliminary Tests of Mindfulness/ Acceptance Self-Help Intervention: Does the Sequence of Exercises Matter?

Zdenka Novović, Ljiljana Mihić & Snežana Tovilović, University of Novi Sad, Serbia

Tanja Petrović, Faculty of Sport and Tourism TIMS, Serbia

#### Introduction

There is growing evidence suggesting efficacy of the mindfulness and acceptance-based intervention for a variety of mental and physical health conditions (e.g., Hoffman, et al., 2010). However, the availability of adequate resources for such interventions in low- and middle-income countries is often lacking. One solution to this problem has been development of efficacious low intensity self-help programs (Cavanagh, et al., 2014). Hence, one purpose of this study was to test feasibility of a self-help program based on mindfulness/acceptance in a sample of dysphoric students. Mindfulness/acceptance practice exerts its effects through attention regulation, body awareness, emotional regulation, and decentering (Hölzel et al., 2014). Therefore, another purpose was to determine whether the timing of exercises, supposedly tapping different mechanisms, matters. In particular, whether the sessions oriented toward emotional regulation should precede the decentering sessions or vice versa.

#### Method

The self-help training consisted of 8 small-group weekly meetings during which participants listened to the recorded exercises. The sessions were followed by brief instructions related to practice and potential obstacles during home-based training. Body awareness, emotional regulation, and decentering were covered by two exercises each. The final two exercises represented an integration of previously practiced components. Participants were 18 students with mild to moderate depressive symptoms who were randomly assigned to two conditions: body awareness-emotional regulation-decentering-integration (n=8), or body awareness-decentering-emotional regulation-integration (n=10). Participants did not differ in their initial levels of depression, ruminations, and psychological flexibility, which were all tested at baseline, after the last group meeting, one-month and three-month follow-ups. Cognitive fusion was observed eight times, after each group session.

#### Results

Profile analysis revealed that there was a global pattern of improvement regarding psychological flexibility,  $F(3,48) = 6.70$ ,  $p = .001$ ,  $\eta^2 = .295$ , rumination,  $F(2,32) = 8.55$ ,  $p = .001$ ,  $\eta^2 = .348$ , and cognitive defusion,  $F(7,126) = 2.99$ ,  $p = .006$ ,  $\eta^2 = .140$ , with the gains evident at the follow up. The group which practiced emotional regulation followed by decentering benefited more in terms of flexibility,  $F(7,112) = 2.70$ ,  $p = .01$ ,  $\eta^2 = .151$ , and defusion,  $F(3,48) = 2.85$ ,  $p = .047$ ,  $\eta^2 = .144$ . However, the number of depressive symptoms increased in both groups at the end of the program and the follow-ups,  $F(3,48) = 14.36$ ,  $p < .001$ ,  $\eta^2 = .889$ .

#### Discussion

Our participants benefited in terms of development of mindfulness/acceptance skills but not of their depressive symptoms. It seems that practicing emotional regulation earlier in this treatment might have contributed to the development of greater acceptance and less entanglement with inner experiences through exposure and decreased reactivity to feelings. Future research needs to explore whether the observed increase in depressive symptoms resulted from a less avoidant attitude towards emotions, whether it is a prerequisite of change or a result of life events unrelated to the self-help intervention.

### Affective Realism Hypothesis on Depression and Anxiety: An Analysis of the Perspective of Reinforcement Learning

Hiro Yoshi Ogishima, Waseda University, Japan

Shunta Maeda, Tohoku University, Japan

Yuki Tanaka & Kazutaka Nomura, Waseda University, Japan

Kanami Takahashi, Tohoku University, Japan

Hironori Shimada, Waseda University, Japan

#### Introduction

Dysfunction of reward prediction is observed in many mental disorders such as mood disorders and anxiety disorders. However, it is unknown why it appears cross-sectionally across diseases. To understand this dysfunction, we focused on "Affective Realism Hypothesis (ARH)," which is a theory that posits that whether the outside world's reality is positive or negative will be decided by one's inner emotional value. In this study, we investigated ARH of reward prediction, focusing in particular on depression and anxiety from the reinforcement learning paradigm.

#### Method

A total of 52 college students (37 woman, mean age = 24.5±6.4) participated. First, we determined participants' trait and state emotional condition of depression and anxiety using self-rated questionnaires. Next, as a measure of interoception, which is the basis of emotional experience, we determined the tendency to focus with a probe detection task. In addition, we determined reward prediction by letting the participants accomplish a probabilistic reversal learning task. Following the reinforcement learning paradigm, the probabilistic reversal learning task computed learning rate ( $\alpha$ ), discount rate ( $\gamma$ ) and inverse temperature ( $\beta$ ). Note that some of the data set in this study overlaps with reports by Ogishima et al. (2018), but the present study mainly reports unpublished data used for different research purposes.

#### Results

While trait depression symptoms were weakly related to level of seeking reward ( $\beta$ ;  $r = -.24$ ,  $p = .09$ ), depression mood state was moderately related to seeking behavior ( $\beta$ ;  $r = -.42$ ,  $p = .00$ ). Furthermore, positive mood state was weakly related to the reward rule's learning rate ( $\alpha$ ;  $r = -.37$ ,  $p = .01$ ). Furthermore, in the case of interoception, we found that as quickly as the participant reacted to an inner probe, he/she can maintain reward value for a long time ( $\gamma$ ;  $r = -.32$ ,  $p = .03$ ).

#### Discussion

In the case of depression, ARH was correlated to the level of seeking reward. On the other hand, regarding anxiety, parameter had no significant relationship with either trait or state anxiety. Based on the knowledge that people with anxiety disorder have a dysfunction of

excessive prediction of punishment stimulus rather than a dysfunction of reward prediction, we need to conduct an experiment using a task that includes a punishment stimulus in future studies.

### **Development of a Short Psychoeducational Program Focusing on Distraction and Reappraisal**

**Megumi Oikawa, Tokyo Gakugei University, Japan**

**Akiko Kameyama & Shinji Sakamoto, Nihon University, Japan**

#### **Introduction**

Both distraction and reappraisal are common emotion regulation strategies and are effective for reducing negative affect and increasing positive affect. However, these strategies are not always effective for regulating emotion. Previous studies have suggested that distraction has both adaptive and maladaptive features as an emotion regulation strategy, and it might lead to avoidance if it is used maladaptively. It has also been suggested that reappraisal is not always effective when experiencing a strong negative affect. Therefore, appropriate knowledge and skills are needed so people can use these strategies effectively. In this study, we targeted university students because it has been suggested that they experience many stressful events and are at a high risk for depression. The purpose of this study was to develop a psychoeducational program focusing on these two strategies, as well as to investigate the effectiveness of the program.

#### **Method**

We developed a new four-session psychoeducational program based on our previous program, which intended to prevent depression among undergraduates. Each session consisted of lectures on effective reappraisal and distraction techniques, group work, and homework. Participants were university students from a Japanese university who participated in the program as a part of a psychology class. They completed questionnaires measuring self-efficacy, meta-cognitive beliefs about distraction, knowledge of effective distraction activity, and other mental health indices. These measurements were undertaken before and after the program.

#### **Results**

The results of t-tests indicated that, after participating the program, self-efficacy, positive meta-cognitive belief, and knowledge of effective activity were higher than the corresponding scores before participating the program.

#### **Discussion**

The results suggest that this psychoeducational program is effective for enhancing appropriate knowledge and skills for using distraction and reappraisal among university students.

### **The Relationship Between Cognitive Distortion, Depressive Symptoms, and Social Adaptation: A Survey in Japan**

**Maki Ota & Shinya Takeda, Tottori University, Japan**

#### **Introduction**

Improving depression should be determined not only by an improvement in symptoms but also by a satisfactory level of social adaptation. Cognitive therapy may be useful for improving social adaptation.

We assumed a causal pathway in the order of cognitive distortion, depressive symptoms, social adaptation, and examined these relationship using covariance structure analysis.

Further, The study used analog study and assumed that depression is on a continuum with a healthy state (e.g. Flett et al, 1997; Cox & Parker, 1999).

#### **Method**

Subjects were 490 employees of manufacturing companies in Japan (74.2% male, 24.7% female, 1.2% unknown, the ages ranged from 20 to 59 years). The questionnaires were consisted of the following scale; the Worker's Cognitive Distortion Scale (WCDS), including cognitive distortion of self-contained (WCDS-S) / cognitive distortion of environment-dependent(WCDS-E), the Beck Depression Inventory-Second Edition (BDI-II), and the Social Adaptation Self-Evaluation Scale (SASS).

#### **Results**

We got a good fit model ( $\chi^2 = 1.80$ ;  $df = 1$ , ns; GFI = 0.998; AGFI = 0.979; CFI = 0.999; RMSEA =  $<.05$ ; with 90% CIs: 0.144): an indirect pathway from the cognitive distortion subscale to social adaptation with depressive symptoms as the mediator, and a direct pathway from the subscale to social adaptation.

It was found that cognitive distortion affects social adaptation via depressive symptoms. In addition, Self-contained cognitive distortion influenced depressive symptoms to a greater extent than environment-dependent cognitive distortion. Social adaptation was predicted directly by depressive symptoms ( $\beta = -.516$ ,  $p < .001$ ) and self-contained distortion ( $\beta = -.096$ ,  $p < .001$ ).

#### **Discussion**

When treating depression with a view to improving social adaptation, instead of only providing CT, professionals should measure the patient's cognitive distortion in order to identify the degree to which the patient suffers self-contained cognitive distortion. They should then formulate a treatment plan accordingly and assess its effectiveness.

### **Neuropsychological Evaluation of Depressive Patients**

**Gustavo Bustamante & Norah Michelli, Fundación Fobia Club, Argentina**

**Alexandra Pagiatis\*, Sanatorio Franchín, Argentina**

#### **Introduction**

Depression has direct consequences on the mood, but its scope does not limit to it. It also involves physical, social and intellectual impairment, aggravated by life expectancy increase and the consequent possibility of facing more stressful events.

Depressive patients often complain about difficulties to concentrate, being easily distracted, forgetfulness and inability to carry out every day activities.

Therefore, cognitive deficits could be the reason why they seek treatment, especially when they interfere with their job performance (Goodale, 2007).

This paper aims at revealing depression indicators impact on Neuropsychological Evaluation.

For such purpose, we have presented 23 clinical cases, which, through neuropsychological evaluation and using the same tests, explain alterations in cognitive functions.

Neuropsychological evaluations were carried out in a multi-center study by Sanatorio Franchín and Fundación Fobia Club

## **Method**

Subjects: 23 (twenty-three) patients (N=23). Ages: between 16 and 65 years old.

Inclusion criteria: patients derived by the Neurology Department who had amnesic failure and attention problems.

Techniques and Instruments: Semi-structured interviews, Addenbrooke's Cognitive Examination-Revised (ACE-R), Ineco Frontal Screening (IFS), Clock Drawing Test, Rey Complex Figure Test (RCFT), Rey Auditory Verbal Learning Test (RAVLT), Trail Making Test A-B (TMT), Stroop Test, Wechsler Digit Subtest, Hamilton Anxiety Scale (HAS) and Beck Depression Inventory - II (BDI-II).

## **Results**

According to the results shown, patients with depression indicators had impaired executive functions, attention and verbal and visual episodic memory, both in the short and long term.

These results resemble those of the comparative study carried out by Landro (2001) among 22 patients with non-psychotic major depression disorder and 30 normal and healthy participants. Such study found that patients with Major Depression Disorder had significantly lower performance in attention, working memory, long term memory and verbal memory, and it also showed deterioration of cognitive flexibility (Beblo, 1999; Leuchter, 2004).

## **Discussion**

The Major Depression Disorder constitutes a personal problem which has an impact on labor, family and social environments. Furthermore, people who suffer from Major Depression Disorder also have a clear deficit in cognitive functions (Austin et al., 1999, Goodwin, 1996; Veiel, 1997). Therefore, and in view of the results, and according to other studies, we should consider including cognitive stimulation and rehabilitation in patients with Major Depressive Disorder, who show cognitive difficulties, apart from already efficient treatments such as cognitive behavioral therapy and pharmacological treatment.

## **Accessibility and Using Challenges: Health Equity of Chinese Depression Related Clinical Guidelines/ Consensus in 2010-2018**

**Yuanqing Pan, Tianjin Medical College, China**

**Haiqian Liang, Tianjin Pingjin Hospital, China**

**Yi Dong, Tianjin Medical College, China**

**Weidong Tian, Gansu Health Vocational College, China**

**Xiping Shen & Qi Cui, Lanzhou University, China**

## **Introduction**

Promoting health equity reflects a concern and value for distributive justice for health and health care, current quality of evidence is the best starting point for judgements about effects, when considering health inequity, guideline panels need to decide which populations are disadvantaged in relation to the topic or problem. This article aims to evaluate the health equity of Chinese clinical practice guidelines of depressive disorder published in 2010-2018.

## **Method**

Chinese depression related clinical guidelines/consensus were identified by searching CBM, CNKI, VIP, Wan Fang, databases databases through October 2018. A search was also performed for China's Ministry of Health and related professional societies and associations. We also searched in the following databases: Pub Med, BMJ Best Practice, Web of Science, Science Citation Index Expanded (SCI-EXPANDED), EMBASE.com, PubMed, Cochrane Library, PsycINFO (formerly PsychLit), Elsevier, Springe, Dyna Med (EBSCO) and common guidelines related websites. The health equity quality of the included guidelines was evaluated according to the Equity Checklist standards from GRADE EQUITY GUIDELINES.

## **Results**

In total, the 13 analysed Chinese type of clinical guidelines/consensus were retrieved from 23 different associations and journals between 2010 and 2018. The scores of Equity Checklist domain showed that the best-performing domains were considering potential implications for health equity and suitable describe sociodemographics (eg socioeconomic status, gender, etc.), These details are contained response rate, compliance, detailed psychosocial evaluation, lower spirituality and emotion-based coping). It was found that among the domains of Equity Checklist, the reporting quality of The domain of research objectives showed 84.6% and 61.5% guidelines/consensus were fully reported differences in relative effects between advantages and disadvantaged populations and other information. There were problems in the domain of evidence and recommendation. Were many deficiencies in three domains, such as the prior problem in the disadvantaged group and how to influence the key problem, subgroup analyses across criteria of disadvantage, specific process of health and equity from evidence to recommendation. All guidelines have insufficient information on recommendation issues among vulnerable members of society and how to affect key Issues of equity.

## **Discussion**

Our assessment results show that Chinese health concerns of the disadvantaged group is lower than that of the comparative advantage group, the accessibility of health care services is lower, and the quality of health care services accepted is not as good as the dominant group in China today. The key stages at which depression-related practice guideline developers in China could consider equity include whether can ensure equitable access to health care for vulnerable. Barriers to mental therapy across these Characteristics may relate to evidence access and coverage and systems issues, provider and/or Patient behavior, attitudes, and conscious of unconscious social biases, how to consider and how to rationally reflect equity is still facing challenges for China today with huge population pressure and unbalanced Health input, the differentiation problem covered by accurate clinical guideline s still requires systematic evidence recommendations.

## **Interpersonal Counselling in the Treatment of Adolescent Depression. A Randomized Controlled Effectiveness and Feasibility Study in School Health and Welfare Services in Finland**

**Pauliina Parhiala & Klaus Ranta, Helsinki University Hospital, Finland**

**Mauri Marttunen, University of Helsinki, Finland**

## **Introduction**

Only a part of adolescents with depression receive effective treatments. In addition, delays between the onset of symptoms and beginning of the treatment are typical. To avoid negative outcomes, depressive disorders should be treated at an early stage. Improving early access to effective treatments near adolescents' everyday life is needed. Some evidence-based treatments have been modified shorter, and promising results from trials exploring effectiveness of interpersonal counselling for adolescents (IPC) in primary health care exists. This randomized

controlled trial studied preliminary effectiveness and feasibility of IPC in comparison to brief psychosocial support (BPS) in Finnish school health and welfare services.

#### **Method**

The study was conducted in the 28 secondary schools of Finland, randomized to provide either IPC or BPS. Half of professionals in the trial received a focused IPC training. Of the 12- to 16-year-old adolescents seeking help for depressive symptoms in school, those with mild to moderate depression were included in the study. Adolescents received 6 weekly sessions of IPC (n=33) or BPS (n=22) and two follow-up sessions. Outcome measures were self-rated (BDI) and clinician-administered (ADRS<sub>c</sub>) measures of depression, global functioning (CGAS), and well-being (YP-CORE). To assess feasibility, adolescents' and counselors' satisfaction with treatment and treatment compliance were assessed.

#### **Results**

Both treatments were effective in reducing depressive disorders and improving adolescents' overall functioning and well-being. At post-treatment over 50% of adolescents achieved recovery based on self-report and over 70% based on observer report in both groups. Effect sizes for change were medium or large in both groups at post-treatment and increased at 6-months follow-up. A trend indicating greater symptom severity and more common comorbid anxiety disorder at baseline among adolescents treated in the IPC-providing schools was observed. 90% of adolescents completed treatment and follow-ups. Adolescents and counselors in both groups were satisfied with the treatment.

#### **Discussion**

Our trial suggests both IPC and BPS are feasible and effective treatments for mild to moderate depression in the school setting. In addition, IPC seems effective even if comorbid anxiety exists. A clear strength of the study is that both treatments were delivered in a community setting – in the public schools. As the school-based intervention are ideally located for reaching adolescents in their everyday lives, our findings show promise for improving the early treatment of adolescent depression in school setting.

### **Inflexibility in Assigning Causal Explanations: Effects on Mood and State Rumination**

**Baruch Perlman & Nilly Mor, Hebrew University of Jerusalem, Israel**

#### **Introduction**

People who possess a negative inferential style tend to assign global and stable attributions to negative events and to infer negative consequences and negative characteristics of the self. A negative inferential style confers an increased risk for depression. However, little is known about people's ability to shift between different causal inferences, and in particular, about the possible benefits of shifting from a negative to a positive inference for a specific event. In the current research, causal inferences were examined not as a stable style but as a dynamic process that requires cognitive flexibility and facilitates emotion regulation. Specifically, we focused on the effect of shifting from negative to positive inferences for a negative event, on depressed mood and ruminative thinking. We refer to this process as 'retribution'.

#### **Method**

78 Participants completed a newly developed procedure designed to assess retribution. They were asked to imagine a specific negative situation they fear might happen and describe it as it unfolds. Participants were then asked to generate a negative inference for the event. Next, they were allocated to one of two conditions. Those in the retribution condition were asked to think about and describe an alternative cause that pertains to someone or something in that specific situation and is irrelevant to additional domains in their life (a positive causal inference). Participants in the control condition were presented with the initial causal inference they provided and were asked to reread it and elaborate on the cause they described. Participants completed mood and state rumination questionnaires as well as trait questionnaires.

#### **Results**

As predicted, participants in both conditions experienced a significant increase in sadness and state rumination, and a decrease in happiness after providing a negative causal inference. However, following the second causal inference, the participants in the retribution condition reported a significant decrease in sadness, anxiety and state rumination and a significant increase in happiness, whereas those in the control condition reported no significant change in mood. In addition, a trait tendency to engage in reappraisal, significantly moderated the effect of experimental condition on sad mood. Thus, participants who tend to use reappraisal habitually, were more successful in regulating their sad mood using retribution compared to those who do not tend to use reappraisal.

#### **Discussion**

In this study, using a novel retribution task, we have demonstrated the beneficial effects of retribution on mood regulation and state rumination and its link to reappraisal. Considering the significant role that inferential style plays in the development and maintenance of depression, further research examining the ability to shift flexibly between causal inferences may substantially contribute to our understanding of depression and lead to novel avenues for clinical interventions.

### **Self-Stigma, Hope, Dissociation, and Personality Features in Treatment of Depressive Inpatients Resistant to Pharmacotherapy**

**Jan Prasko, Marie Ociskova, Petra Kasalova & Ales Grambal, University Hospital Olomouc, Czech Republic**

**Michaela Holubova, University Palacky Olomouc, Czech Republic**

**Milos Slepceky & Antonia Kotianova, Constantine the Philosopher University in Nitra, Slovakia**

#### **Introduction**

The of the study was to examine the influence of dissociation, hope, personality trait and selected demographic factors in treatment response of this group of patients.

#### **Method**

Pharmacoresistant depressive inpatients completed Clinical Global Impression – both objective and subjective form, Beck Depression Inventory, and Beck Anxiety Inventory at baseline and after six weeks of combined pharmacotherapy and psychotherapy (group cognitive behavioral or group psychodynamic). The Internalized Stigma Of Mental Illness Scale, Dissociative Experience Scale Adult Dispositional Hope Scale, and Temperament and Character Inventory were completed at the start of the treatment with the intention to find predictors of treatment efficacy.

#### **Results**

The study included 72 patients hospitalized for the pharmacoresistant major depression, 63 of them finished the study. The mean scores of BDI-II, BAI, subjCGI, and objCGI significantly decreased during the treatment. BDI-II relative change statistically significantly correlated with the total ISMI score, Discrimination Experience (ISMI subscale), and Harm Avoidance (TCI-R personality trait). According to step-

wise regression, the strongest factors connected to BDI-II relative change were the duration of the disorder and Discrimination Experience (ISMI). ObjCGI relative change significantly correlated with the level of dissociation, the total ISMI score, hope in ADHS total score, and Self-Directedness. According to step-wise regression, the strongest factor connected to objCGI relative change was Discrimination Experience (ISMI).

#### **Discussion**

According to our results, the patients with pharmacoresistant depressive disorders, who have had more experience with discrimination because of their mental struggles, showed a poorer response to treatment.

### **Cognitive Behavioral Therapy Group in Dysthymic Patients: Changes in Coping Strategies**

**Mireia Primé-Tous, Patrícia Gavín, Inés Martín, Víctor Navarro & Joana Guarch, Hospital Clínic, University of Barcelona, Spain**

#### **Introduction**

Dysthymia has a morbidity rate as high as the one of major depression and it is associated with a poorer prognosis and greater impairment, but is relatively less studied. It is suggested that the elevated stress perception of these patients followed by an inadequate coping styles (wherein emotion-based strategies predominated) may be related to the perpetuation of the illness. Cognitive Behavioral Therapy (CBT) in dysthymia works on identifying and correcting negative thought patterns and promoting, at the same time, positive and alternative actions. It has been effective in modifying coping styles so patients learn how to use more adaptive strategies and better social skills. The aim of the current study is to examine the effectiveness of CBT group in dysthymic patients and to identify if changes in coping strategies are related to the clinical improvement.

#### **Method**

Dysthymic outpatients (N=63) were randomly assigned to CBT group or Treatment As Usual (TAU), which consists in pharmacotherapy. The CBT intervention included 16 weekly sessions according to a standardized procedure (psychoeducation, anxiety management techniques, behavioral activation, cognitive restructuring, social skills and relapse prevention). Beck Depression Inventory-II (BDI-II) was administered to evaluate the effectiveness of the treatment and Coping Orientation for Problem Experiences (COPE) scale was used to assess coping strategies. Measures were gathered at pre and post-treatment. Treatment effects were analyzed with repeated measures analysis of variance. Matched-pairs t-test was used to explore differences in coping strategies in the CBT group pre and post-treatment.

#### **Results**

There were not significant differences in gender, age and education or in BDI-II pre-treatment scores between the two groups. Significant differences between the two groups were detected on repeated measures analysis of variance (ANOVA,  $p=0.024$ ;  $\eta^2=0.09$ ). That proves a significant reduction of depressive symptomatology assessed by BDI-II in CBT group from TAU. Matched pairs T-test showed a significant increase of two coping strategies in CBT group: instrumental social support ( $t(30) = -2.148$ ,  $p = 0.040$ ) and positive reinterpretation ( $t(30) = -2.169$ ,  $p = 0.038$ ).

#### **Discussion**

CBT group for dysthymic patients has shown its superiority in reducing depressive symptomatology against TAU. Furthermore, CBT group learned useful coping strategies: positive interpretation and instrumental social support. Both benefits a coping style focused on the problem. This study sought to extend current knowledge on the relationship between changes in coping strategies and the benefits of CBT in dysthymic patients. With the results obtained and considering that cognitive coping styles may have important implications with respect to illness recurrence, further research is needed in order to establish whether the changes of these coping strategies can predict the clinical improvement. In addition, if the results go in the planned line, an opportunity is opened to think about changes in CBT to make it more efficient for these patients.

### **Discrepancies Between Observed and Self-Reported Severity in Depression: The Role of Personality Traits**

**Irene Ramos-Grille, Consorci Sanitari de Terrassa and Universitat Autònoma de Barcelona, Spain**

**Montserrat Gomà-i-Freixanet, Universitat Autònoma de Barcelona, Spain**

**Núria Aragay, Consorci Sanitari de Terrassa, Spain**

**Sergi Valero, Fundació ACE, Institut Català de Neurociències Aplicades and CIBERSAM, Spain**

**Vicenç Vallès, Consorci Sanitari de Terrassa, Spain**

#### **Introduction**

Depression is a remarkably heterogeneous disorder implying difficulties in diagnosis, classification and treatment. In this line, an important feature of interest is the concordance between self-informed and clinician-observed rating of depression severity. The aim of this study is to determine which personality traits would predict discrepancies between self and clinician rated depressive symptoms, as measured by BDI II and HDRS.

#### **Method**

For the purposes of this study, we count on a clinical sample consisted of 88 treatment seeking depressed outpatients (87.5% women) who sought treatment at Consorci Sanitari of Terrassa. To evaluate personality traits we used the SCID II questionnaire.

To analyse the patient's differences according to the type of discrepancy we made two groups: "under-reporters" (patients who under-rated their depression severity in comparison to the clinician, if they had a negative ZBDI-II -ZHDRS discrepancy score less than or equal to -1); "over-reporter" (having a positive ZBDI-II -ZHDRS discrepancy score greater than or equal to +1). All other patients were considered to be in agreement. We tested group differences by Mann-Whitney U test and conducted a logistic regression analysis.

#### **Results**

Comparing two groups we found significant differences on schizoid and obsessive-compulsive personality traits, with high scores in "over-reporter" group. The only variable that remained significant in the logistic regression analysis was schizoid traits.

#### **Discussion**

A possible explanation of our result is that the self-report measure elicits a specific response set in individuals with these individual differences because some depressive symptoms are similar to schizoid characteristic, and also, depressive patients with schizoid characteristic may be perceived by observers to be less severe than their subjective reports. In view of our results, completing data using personality information may represent a technique to understand why assessments diverge.

## **The Role of Coaches' Online Written Feedback in an Acceptance and Commitment Therapy-Based Intervention for Enhancing University Students' Well-Being and Reducing Psychological Distress: Results from a Randomized Controlled Trial Study that Employed A. I**

**Panajiota Rasanen, Riku Nyrhinen, Raimo Lappalainen & Asko Tolvanen, University of Jyväskylä, Finland**

### **Introduction**

Internet-delivered cognitive and behavioral interventions have been shown to be effective in enhancing well-being and reducing symptoms of stress and depression. Internet-based interventions can be easily accessible, time-saving for counselors, and allow the clients to work independently at their own pace. However, there is still limited research examining the active components that may contribute to the effectiveness of Internet interventions. One substantial component particularly in guided interventions is the feedback given to the clients. Little is known as to what kind of feedback would be effective and useful in treatment outcomes. The present study aimed at exploring the role of providing online written feedback from coaches on clients' outcomes.

### **Method**

ACT trained psychology students, offered support as coaches (N=48; 87,5% female, M=26 years) to university students (N = 123; 83,7% female, M=25 years), who were randomly assigned to two groups that both received 3 face-to-face sessions and an online 5-module ACT-based program. The sole difference between the groups was the form of feedback given, dividing the groups to one (iACTa, N=62) with personalized, individually-tailored written feedback and the other group (iACTb, N=61) with semi-structured written feedback, and minimal personalization options. Participants' texts from the program's weekly homework assignments as well coaches' feedback were analyzed with artificial intelligence (AI) tools.

### **Results**

The results showed that there were no significant differences between the two groups except for the primary outcome of well-being favoring the semi-structured group. Participants in both groups had significant gains in psychological well-being, psychological flexibility and mindfulness skills. Perceived stress and symptoms of depression were significantly reduced. The length of the coaches' feedback did not have an effect on treatment outcomes. In both groups, feedback that was rich, diverse, targeting the participant's reflections was associated in significant reduction of stress and depression. The difference was larger for the semi-structured group (iACTB) for stress outcomes.

### **Discussion**

To our knowledge, this is the first study that examined the role of written online support of ACT-based internet interventions by employing text analysis through artificial intelligence. The implications and limitations of the findings, as well as recommendations for future research are discussed.

## **Long-Term Effects of Expectations on Mood: An Experimental Investigation**

**Lea Rebstock, Tobias Kube & Winfried Rief, Philipps-University of Marburg, Germany**

### **Introduction**

Sadness represents a core symptom of depression. Patients' expectations (one important component of the placebo response) play a major role in antidepressant treatments. In a previous experiment we demonstrated that an expectation manipulation (intake of an active placebo, labelled: "fast-operating antidepressant") reduces the intensity of sadness after a sadness-inducing film sequence in healthy participants. In the present study we aimed at investigating the long-term effects of expectations induced by placebo treatments on sadness over a period of one week. We hypothesised that participants in the treatment group receiving a deceptive placebo experience less sadness after the mood induction and have a brighter mood over the course of one week than participants in the no treatment control group.

### **Method**

It is planned to randomly assign 90 healthy participants to the treatment group or the no treatment control group; data collection will be completed until April 2019. Participants in the treatment group were given an active placebo (labelled: "fast-operating antidepressant") and have been told that the drug protects from becoming sad as well as generally improves their mood. At the first appointment participants watched a sadness-inducing film sequence. The Sadness Score of the Positive and Negative Affect Schedule assessed sadness at baseline (T1), after randomisation (T2) and after placebo intake (treatment group) and sadness-induction (T3). Sadness ratings were also assessed daily over the course of one week (T4, mean sadness over seven days). At the second appointment one week later participants rated their sadness again (T5), then watched another sadness-inducing film and completed another sadness rating (T6). Data will be analysed by analysis of variance for repeated measures.

### **Results**

Preliminary data, based on data from 37 participants (18 in the treatment group, 19 in the control group), were inspected graphically. On a descriptive level, it was found that the participants from the treatment group experienced less sadness after watching the film than the control group (T3). This group difference disappeared over the course of one week (T4). After watching the film a second time (T6), the treatment group again experienced less sadness than the control group.

### **Discussion**

Consistent with the findings from the previous study, preliminary results suggest that the expectation to react less sensitive to a sad film actually led to reduced sadness in the treatment group compared to no treatment. Further, while this effect seemed to disappear over the course of one week, it could be established again after watching a sad film for a second time. The final analyses with the complete sample will provide inferential statistics for these trends and can thus contribute to a better understanding of the sustainability of placebo and expectation effects in sadness and depression

## **Is It Us or the Fellow Patients? Therapeutic Alliance Within Cognitive Behavioral Analysis System of Psychotherapy Group Therapy and Its Effect on Treatment Outcome**

**Matthias Alexander Reinhard, Julia Dewald-Kaufmann, Barbara B. Barton, Andrea Jobst, Richard Musil & Frank Padberg, Ludwig Maximilian University Munich, Germany**

### **Introduction**

The Cognitive Behavioral Analysis System of Psychotherapy (CBASP; McCullough, 2000) is a third wave cognitive behavioral therapy and was shown to be an effective treatment for patients with chronic depression (CD). CBASP can be applied in an individual setting and as a group format. A major aspect of CBASP is the therapeutic relationship between patient and therapist. However, in an inpatient program with individual and group therapy, therapeutic alliance to fellow patients may have an additional effect on therapy outcome.

## **Method**

Patients with CD participated in a 10-week inpatient program consisting of individual CBASP sessions and CBASP group therapy. After the fifth CBASP group therapy patients filled in the German version of the Group-Questionnaire (GQ-D; Bormann et al., 2011). The GQ-D measures three dimensions of group therapy: positive bonding, positive working and negative relationships. These dimensions can be further analyzed regarding the relationships between patient and group therapist, between patient and fellow patients or between patient and the group as a whole. In addition, clinical outcome was assessed by the 21-item Hamilton Depression Rating Scale (HAMD-21) and the Beck Depression Inventory-II (BDI-II).

## **Results**

So far, 18 patients with CD (6 male, 12 female; mean age: 40.7+-13.8) were included in the study. Preliminary results show that HAMD-21 and BDI-II were significantly reduced after 10 weeks (HAMD-21:  $t[17]=3.3$ ,  $p<.01$ ,  $d=-1.0$ ; BDI-II:  $t[17]=3.0$ ,  $p<.01$ ,  $d=-0.9$ ). Patients perceive the working alliance with the group therapist to be stronger than the working alliance with fellow patients (positive working:  $t[17]=2.4$ ,  $p=.03$ ). Regression analysis show that higher positive working and higher positive bonding scores were related to a greater reduction of depressive symptoms. The subscale positive working between patient and group therapist seems to have the strongest impact on therapy outcome. Therapeutic alliance with fellow patients seems to strengthen this effect. As data are currently collected, further results will be presented at the conference.

## **Discussion**

Combining individual and CBASP group therapy is effective in reducing depressive symptoms. The preliminary results support the importance of the relationship with the therapist and show that this alliance is also important in a group setting. Besides working alliance with the group therapist, the alliance with fellow patients has an additional impact on treatment outcome and may be supported to facilitate therapeutic effects.

## **Early Change of Depression as Predictor of Inpatient Psychotherapy Outcome**

**Robert Mestel, Helios Kliniken Bad Grönenbach, Germany**

### **Introduction**

Early change of depression has been found as a relevant predictor in outpatient psychotherapeutic treatment of patients with major depression (Lutz et al., 2009).

### **Method**

Aim of the study was to replicate this finding in an inpatient psychotherapy Setting (integrative cognitive-behavioral). 157 patients with major depression were tested at admission, after three weeks and at discharge with Beck Depression Inventory II. Other pre-post-outcome instruments were a direct change scale and a pre-post observer-rating of severity of distress.

### **Results**

Descriptive statistics replicate log-linear relationship of dose and length of therapy (Howard et al, 1986). Early depression-symptom change was definitely predictive for outcome change of depression. Patients with early mood recovery had a six times higher probability to reach a clinical significant pre-post-change of depression. Severity of depression was no relevant alternative predictor but chronicity was relevant.

### **Discussion**

Outpatient findings about early treatment response can be generalized to inpatient settings. To use the predictive power of early change of depression for treatment planing, clinics should screen depression after three weeks with standardized reliable depression measures.

## **Do We Have the Guts to Try this Nauseogenic Stimulus as Interoceptive Exposure?**

**Arnon Rolnick, Private Practice, Israel**

**Hannah Boettcher, Center for Anxiety and Related Disorders, USA**

### **Introduction**

We propose a method for Interoceptive Exposure (IE) which aims to provoke feelings of malaise, nausea, lifelessness and apathy in order to facilitate the treatment of medical, depressive and other psychiatric disorders.

IE is designed to reduce sensitivity to unwanted physical sensations by repeated exposure to these sensations without avoidance it is central to interventions for panic disorder, and it is also used in cases of social anxiety, posttraumatic stress disorder and specific phobias.

IE has been done in the past with provocations such as CO<sub>2</sub> inhalation, lactate infusions, or caffeine. In recent years, simpler, cardio-vascular methods like hyperventilating, breathing through a straw, spinning, running in place and muscle tensing have been employed.

However, while these stimuli reliably provoke anxiety and tension they are less likely to apply to the wide variety of mental and medical conditions characterized by low energy, depression, and feeling sick.

In their review of the concept, Boettcher, Brake and Barlow (2016) write: "One area of promise is the application of IE to depressive disorders. It has long been recognized that depressed individuals experience higher levels of physical symptoms than nonclinical populations."

In our work on motion sickness we studied the Sopite syndrome, which accompanies motion sickness and is characterized by yawning, drowsiness, disinclination for work, and lack of participation in group activities. We showed that exposure to nauseogenic stimulation produces feelings of lethargy, apathy and helplessness which might lead to depression (Rolnick, 1984). Relatedly, depression is associated with persistent fatigue and feelings of heaviness (APA, 2013) and standardized rating scales for measuring depression frequently include physical symptoms such as gastrointestinal disturbance.

Thus, interoceptive exposure to nauseogenic sensations is a potential inroad for reducing sensitivity to physical sensations in depressive and physical disorders. The current study explores several questions: Can we produce feelings of malaise, lethargy and sickness in the laboratory? Can this be translated into interoceptive exposure for the treatment of depressive disorders and medical conditions such as chronic fatigue?

### **Method**

We used the Coriolis technique (cross coupled angular accelerations) to produce motion sickness in a six-minute test. This method involves tilting the subject's head, while his body is rotated about the vertical axis, which produces an otolith - canals conflict leading to motion sickness. We also added the Sudden Stop technique which causes the semi-circular canals to signal rotation to the other direction while the eyes signal that the body is stationary.

## **Results**

Two type of results will be presented: A) The level of malaise and nausea produced with such procedures. This produced aversive feelings in almost every subject we tested. (B) We will also present data showing that exposure to nauseogenic stimuli produces significant apathy, lethargy and depression.

## **Discussion**

Exposure to internal stimuli is crucial for the treatment of many mental and medical disorders. The motion sickness-provoking procedure described above can produce a powerful yet harmless and transient Interoceptive Exposure. We believe that the unique stimulus we developed can be an important addition to the Interoceptive Exposure concept.

## **Psychomotor Retardation and Factors Related to It in Recurrent Depression**

**Katarzyna Romanowicz, Institute Psychiatry and Neurology, Poland**

**Klaudia Kozłowska, Wrocław Institute of Technology, Poland**

**Adam Wichniak, Institute Psychiatry and Neurology, Poland**

### **Introduction**

Cognitive model of depression emphasises the importance of person's belief system in the etiology and treatment of depression. Severely depressed patients suffer from impaired cognitive processing that regresses during the course of the effective therapy. Patients with recurrent major depressive disorder (MDD) differ from each other in temperament, functions of inhibition, emotional arousal and intensity of anxiety. Taking above into consideration, to adequately plan the therapeutic process (psychotherapy or pharmacotherapy) individual variability must be taken into account.

To improve efficiency of the treatment, validated questionnaires, clinical scales and biological parameters, basic measures of physical activity, dynamics gait and regulation of balance can be used. The aim of this study is to evaluate psychomotor retardation in patients with MDD as a potential biomarker which could be used to monitor the response to the CBT treatment of depression.

### **Method**

Three group of participants: patients in a depressive episode, patients in remission and clinical control group have been investigated. Patients filled out A-TEMPS (Temperament Evaluation of Memphis, Pisa and San Diego Autoquestionnaire), BIS/BAS (Behavioural Inhibition and Activation System), STAI (State- Trait Anxiety Inventory) questionnaires to assess their individual differences. They also were rated with MADRS (Montgomery-Asberg Depression Rating Scale), QIDS (Quick Inventory Depression Symptomatology-Self report) clinical scales to assess their mood. Motor symptoms were measured with accelerometer and platform for postural balance evaluation. To assess the cognitive functions Stroop Emotional Test, Trail Making Test, Verbal Fluential Test were used. To check the statistical significance of the group differences ANOVA test was applied.

### **Results**

To this day 48 patients have been investigated. Patients in a depressive episode performed impaired in the conducted many of the tests.

Patients in a depressive episode had impaired performs in many of the conducted tests.

Surprisingly, the response to neutral stimuli in the Stroop Emotional Test was better differentiated in patients with MDD and in control group rather than the responses to emotional stimuli.

### **Discussion**

This ongoing study shows that motor retardation is present at many levels of assessment in patients with MDD and can be used as a marker of improvement during CBT therapy of depression.

## **Rumination, Metacognitions and Experiential Avoidance in Depression: Differential Associations with Symptoms, Emotional Quality of Life and Life Satisfaction**

**Beatriz Rueda, National University of Distance Education, Spain**

**Esperanza Valls, Actur Sur Mental Health Center, Spain**

### **Introduction**

Rumination and metacognitions are considered dysfunctional cognitive processes characterized by a recurrent and prolonged thinking about personal concerns. Experiential Avoidance (EA) represents another unhelpful process involving the unwillingness to remain in contact with aversive internal experiences, and the set of actions taken to alter these aversive experiences and the situations that elicit them.

Although rumination, metacognitions and EA seems to be associated in people with depression due to their avoidant function, clarification of the relationships between these variables is a relevant issue that requires more clinical investigation. Furthermore, exploring the differential contribution that rumination, metacognitions and EA can make in the prediction of distress, quality of life (QoL) and life satisfaction (LS) in depressed patients can provide a greater understanding of the nature and impact of these unhelpful processes.

The aims of this study were: (1) to examine the relationships between Brooding and metacognitions with EA in a sample of depressed patients; and (2) to compare the predictive power of Brooding, metacognitions and EA on depressive symptoms, emotional QoL and LS.

### **Method**

The sample was composed of 50 patients (36 females and 14 males) who had a diagnosis of Major Depressive Disorder, Dysthymia or Bereavement. All patients were recruited from a mental health center and completed the questionnaires before receiving cognitive-behavior therapy.

### **Results**

Brooding, EA and the metacognitions of Negative beliefs about worry and Need to control thoughts were positively and moderately interrelated. Brooding was the only variable that positively predicted depressive symptoms and was negatively related to emotional QoL. None predictor was significantly associated with LS.

### **Discussion**

These findings evidence that although rumination, metacognitions and EA seem to be partially related, their contribution to symptoms, quality of life and LS is different. Implications of the toxic role played by Brooding are also discussed.

## **On the Efficacy of the Barlow Unified Protocol for Transdiagnostic Treatment of Emotional Disorders: A Meta-Analysis**

**Aristide Saggino, Leonardo Carlucci & Michela Balsamo, G. d'Annunzio University of Chieti-Pescara, Italy**

### **Introduction**

A considerable growing amount of evidence-based cognitive behavioral (CBT) treatments has been reached in recent years. Consequently, verifying the effectiveness of these treatments has become increasingly urgent. As suggested by Butler et al. (2006), several adaptations of CBT protocol treatments were developed for treating unique and specific psychological disorders (eg., anxiety, bipolar disorders, suicidal ideation).

Within this panorama, unlike the extant single-diagnosis treatments, the Barlow Transdiagnostic Unified Protocol (UP) of Emotional Disorders was developed aimed at treating the negative affective processes underlying several diagnostic categories, and accounting for the covariance of different emotional disorders. Thus, addressing the core processes contributing to an increase in negative affect present across the emotional disorders, rather than discrete, disorder-specific symptoms, might more efficiently target the root of these disorders and result in reductions in

### **Method**

The present meta-analysis aimed at evaluating whether the Barlow UP results to significant changes in anxiety and depression symptom severity in adults, as well as in children and adolescents.

### **Results**

Results from selected studies showed that Barlow UP was efficacious, with large overall mean uncontrolled effects (pre- to post-treatment) for anxiety and depression in adults, and a small overall mean uncontrolled effects in children/adolescents. Further results from 13 Randomized Clinical Trials (RCTs) showed that Barlow UP outperformed control conditions (eg. waitlist, single-disorder program) on all outcome measures.

### **Discussion**

These findings showed that the manualized Barlow UP treatment is efficacious for anxiety and depression disorders. However, higher quality studies included different control conditions and specific outcome measures are needed in order to explore the heterogeneity amongst treatment effects.

## **The Development and Evaluation of a Cognitive Behavioral Therapy Program via Telephone on the Stress Reaction of Dementia Caregivers**

**Yoshihiro Saito, International University of Health and Welfare School of Nursing at Fukuoka, Japan**

**Hiroki Tanoue, University of Miyazaki, Japan**

**Yuko Shiraishi, International University of Health and Welfare School of Nursing at Fukuoka, Japan**

### **Introduction**

Recently in Japan, the support provided to a family caregiver supporting a person of at home dementia is becoming an important issue with the rise in aging rate and increases in the number of people with dementia. Cognitive behavioral therapy (CBT) has been reported as useful for dementia caregivers outside Japan, and in recent years the effect of a CBT intervention via telephone (TP-CBT) is notable. One study found that TP-CBT relieved depression and improved quality of life, as compared with a CBT intervention using confrontation (CT-CBT). Therefore, the purpose of this study is to develop a TP-CBT program based on the results of a precedent study, and to evaluate its effectiveness.

### **Method**

1. Program development method: The program was developed in reference to a previous study (The authors searched PubMed, CINAHL, MEDLINE, and The Cochrane Library using the search keywords "CBT" "dementia," and "caregiver".) 2. Program summary: The CBT program consisted of six sessions in total. The first was psychology education (explanation of dementia and stress reaction of caregivers), the second and third were "Behavioral activation (Weekly activities record table)", the fourth and fifth were "Cognitive reconstruction (Column table)", and the last session provided feedback. 3. Intervention researcher: A registered nurse holding a master's degree in nursing who specialized in the care of mentalis. 4. Intervention method: The first and last sessions consisted of CBT utilizing confrontation and the others were conducted via a home telephone. 5. Intervention: Location (the room where researchers set the first and the sixth sessions, the second-fifth sessions were conducted at homes), Interval (o

### **Results**

1. Dementia characteristics: The degree of dementia was Ila with two people (everyday life independence degree criteria of dementia elderly). 2. Intervention time: The TP-CBT intervention lasted an average of approximately 20 minutes. 3. Psychology scale score: No significant differences were observed between the two types of intervention. However, SDS and ZBI scores decreased from before to after the intervention and RSES scores rose in only one of the participants. GSES scores did not change.

### **Discussion**

These results suggest that TP-CBT may have reduced depression. We think that demand for TP-CBT will increase in the future because of its convenience, low cost, and lack of time limitations compared to CT-CBT. But in this study, it cannot be said that we were able to adequately evaluate the effectiveness of the intervention because of the very small number of participants. It may be said that more research is required.

## **Pathway to Depression in Institutionalized Adolescents: The Role of Memories of Warmth and Safeness, Shame and Self-Criticism**

**Sara Santos & Maria do Céu Salvador\*, University of Coimbra, Portugal**

### **Introduction**

Institutionalization is a current problem, associated to several indicators of psychological maladjustment. There are also several studies that show the role of shame and self-criticism in the development of psychopathology. Therefore, our study explored, in institutionalized adolescents, if early memories of warmth and safeness (EMWS) were associated to depressive symptoms through the effect of external shame and self-criticism.

### **Method**

The sample included 171 institutionalized adolescents (60.2% girls; Mage = 15.56; SD = 1.49). Depression, EMWS, external shame and self-criticism were assessed.

## **Results**

The EMWS didn't show a direct effect on depressive symptoms, exerting its effect indirectly through external shame and self-criticism. The relationship between EMWS and self-criticism was fully mediated by external shame. Similarly, the relationship between external shame and depressive symptoms was fully mediated by self-criticism.

## **Discussion**

The study shows a clear path between the variables. EMWS influence thoughts and feelings about how one exists in the mind of others. This construction in the institutionalized youth will be possibly deteriorated, since the situations that lead to institutionalization are in most cases parental neglect or maltreatment. In the process of trying to find a meaning for the experienced neglect, children, in a self-referential way that characterizes this development phase, can perceive themselves as the reason for the lack of warmth and affection on the part of the caregivers, which leads to a view of self as inadequate.

## **Videoconferencing-Delivered Cognitive Behavioral Therapy for Patients with Major Depression Disorder: A Feasibility Study**

**Yohei Sasaki & Atsuo Nakagawa, Keio University, Japan**

**Noriko Kato, National Center for Cognitive Behavior Therapy and Research, National Center of Neurology and Psychiatry, Japan**

**Shigetsugu Nakao & Taishiro Kishimoto, Keio University, Japan**

**Masaru Horikoshi, National Center for Cognitive Behavior Therapy and Research, National Center of Neurology and Psychiatry, Japan**

**Masaru Mimura, Keio University, Japan**

### **Introduction**

Major depression is a highly prevalent psychiatric disorder that affects an estimated 300 million people globally. Cognitive Behavioral Therapy (CBT) is recommended alongside antidepressants as one of the standard treatments for depression (Weitz et al. 2015). However, CBT has not been widely implemented due to a shortage of therapists and mobility issues such as patients residing in a geographically isolated area. Using videoconference is a novel strategy for wide dissemination of CBT (Nelson and Duncan, 2015). We conducted a study to evaluate the feasibility of videoconference-delivered CBT for people with major depression in Japan.

### **Method**

A 16-week open trial was conducted in a teaching hospital in Tokyo. Outpatients aged 20-65 years with a primary diagnosis of major depression disorder as confirmed by the Structured Clinical Interview for DSM-IV-TR and had a 17-item GRID-Hamilton Depression Rating Scale (HAMD) score of  $\geq 14$  were assigned to 16 sessions of individualized CBT via videoconference. Patients received GRID-HAMD interview and completed self-report measures (functional impairment, therapeutic alliance, treatment satisfaction) at pretreatment, throughout treatment, post treatment (at 16 weeks), and at 3 and 6 months follow-up.

### **Results**

Total of three patients received 16-week of videoconferencing-delivered CBT without premature dropouts. At 6 months follow-up, all patients showed improvement on depressive symptoms. Two out of three patients showed improvement on functioning at 6 months follow-up. The level of therapeutic alliance showed to be high, and for treatment satisfaction, one reported "satisfied" while others reported as "neutral."

### **Discussion**

These findings provide preliminary support for videoconference-delivered CBT as an alternative treatment approach for patients with major depression with limited access to treatment facilities. The factor that affected patient satisfaction might be compromised in what we face with telemedicine in general (e.g., how to share worksheets, line disconnection). Despite these limitations, symptoms and functioning improved with a high level of the therapeutic alliance. Future research should employ a control group with an appropriate sample size, and incorporate solutions to improve treatment satisfaction.

## **Passive Aggression in Major Depression: Impact on Treatment Outcome in Outpatient Psychotherapy**

**Christian Günter Schanz, Monika Equit & Tanja Michael, Saarland University, Germany**

### **Introduction**

Both self-harm and aggression against others are very common in patients with major depression. However, major depression is also associated with pronounced anger-suppression and fear of anger-expression. One explanation for this paradox is that active forms of aggression (e.g., cutting his arm or beating another person) are primarily seen in situations of reduced self-control, as for example under substance-consumption or when inhibitory processes are less accessible. Other forms of aggression, such as passive aggression (e.g., withhold of needs satisfaction), do not require circumstances of increased impulsivity, are socially more accepted and are more often shown by persons with simultaneously heightened anger and pronounced anger-suppression. Research examining passive aggression in patients with mental disorders is rare. Thus this trial aims to assess the association between passive aggression and depressive symptoms as well as its influence on therapy outcome.

### **Method**

Symptom severity and passive aggression of 220 patients are assessed at the beginning of outpatient psychotherapy and after the course of twelve psychotherapeutic sessions. Diagnoses are based on a structural clinical interview. Primary endpoints are correlations between depressive symptom severity and passive aggression as well as group differences according to passive aggression between patients with different mental disorders (e.g. anxiety disorders, depressive disorders). Furthermore, the impact of passive aggression on treatment success is analysed.

### **Results**

The trial is still in progress. Results and discussion will be presented at the congress.

## **Resting-State Functional Connectivity Predicts Response to Mobile-App Delivered Cognitive Behavioral Therapy in Major Depressive Disorder**

**Hyemin Shin, Gieun Nam, Hyeri Moon, Gyumyoung Kim, Min-Jee Seo & Ji-Won Hur, Chung-Ang University, South Korea**

### **Introduction**

To date, the directionality of the altered resting-state functional connectivity (rsFC) in depression is still a matter of considerable debate, and also there is no study of the effect of mobile Health Cognitive Behavioral Therapy app (mHealth CBT app) on rsFC in depression. This study aimed to investigate the effects of mHealth CBT app on seed-based network connectivities in Major Depressive Disorder (MDD) and to examine whether pretreatment rsFC could predict clinical symptom changes in response to the CBT app.

### **Method**

Twenty-seven drug-free MDD subjects diagnosed based on the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) and 25 healthy controls without any therapeutic interventions underwent an eye-closed rsFC scan. Participants with MDD were scanned pre- and post- intervention of 3-weeks mHealth CBT app. At each fMRI session, all participants completed self-report questionnaires to evaluate treatment outcome. Pre-post changes were calculated for clinical variables using the formula [(pre – post)/pre] \* 100] for normalizing the baseline differences. Resting-state neuroimaging data were analyzed with a seed-based approach using medial prefrontal cortex (MPFC) and posterior cingulate cortex (PCC) to explore the default mode network abnormalities in MDD via the CONN toolbox.

### **Results**

At baseline, attenuated rsFC was found in individuals with drug-free MDD relative to healthy controls. In particular, MDD subjects demonstrated decreased connectivity between PCC and right lateral occipital cortex (LOC, uncorrected  $P < .05$ ,  $k = 79$ ). After the 3-week intervention, the rsFC between the PCC and the LOC, which showed decreased pattern compared to the controls, appeared to increase (uncorrected  $P < .05$ ,  $k = 52$ ). Additionally, pretreatment connectivity of the PCC with LOC predicted the magnitude of treatment response in MDD with the use of the CBT app. Specifically, MDD subjects with high reduction in baseline connectivity between LOC and PCC revealed a greater reduction in depression and anxiety following mobile CBT sessions (Beck Depression Inventory-II score changes;  $r = -.45$ ,  $P < .05$  and State-Trait Anxiety Inventory-X score changes; state:  $r = -.40$ ,  $P < .05$ ; trait:  $r = -.49$ ,  $P < .05$ ).

### **Discussion**

This is the first study exploring the predictive value of pretreatment rsFC for the mobile CBT app response in MDD. Our findings suggest that the aberrant default-mode network involving PCC and LOC may be a biomarker for predicting the treatment response with the likelihood of success of mHealth CBT program for depression.

## **Improving Outcomes in Group Behavioural Activation for Depression**

**Mel Simmonds-Buckley, Stephen Kellett & Glenn Waller, University of Sheffield, United Kingdom**

### **Introduction**

A considerable number of patients do not benefit from therapy, highlighting much more could be done to improve treatments. This project investigated whether attendance and clinical outcomes could be improved during the delivery of group behavioural activation.

### **Method**

A practice-based sample was used to compare historical routine outcomes of an extant 8-session Behavioural Activation Group (BAG-) treatment with the delivery of an augmented version of BAG treatment (BAG+). BAG+ patients (N=31) were matched to BAG- patients (N=31) using propensity score matching. BAG+ was augmented with 1) dose-response psychoeducation targeted at increasing attendance and 2) 'implementation intentions' targeted at increasing between-session work compliance.

### **Results**

Attendance and improvements in functioning did not differ between the two BAG treatments, but significantly greater reductions in depression and anxiety were observed for BAG+. Significantly fewer patients failed to benefit from BAG+ treatment, due to increased rates of reliable improvement or full recovery.

### **Discussion**

Results support the effectiveness of BAG for depression, but shows treatment can be further enhanced to produce better outcomes. Meaningful benefits for individual patients were produced through small, easily implementable tweaks to an effective current intervention, without the need for large-scale changes, expensive developments or new therapies. Conclusion: Findings advocate the augmentation of extant treatments as a simple and direct method of improving outcomes. Future research should aim to identify low-cost theory informed strategies to enhance outcomes.

## **Neural Correlates of Emotion Processing in Depression with Comorbid Anxiety**

**Lisa Sindermann, Elisabeth Leehr & Ronny Redlich, University of Münster, Germany**

**Axel Krug, Igor Nenadić & Tilo Kircher, University of Marburg, Germany**

**Udo Dannlowski, University of Münster, Germany**

### **Introduction**

Depression and anxiety disorders are highly prevalent and often co-occurring conditions, both associated with aberrant emotion processing. However, it remains unclear, whether and how the neurofunctional correlates of emotion processing in depression are affected by comorbid anxiety disorders. Therefore, the study aims at investigating neural underpinnings of emotional processing in non-comorbid depression and depression with comorbid anxiety disorder.

### **Method**

N=32 comorbid unipolar depressed patients (MDD+Anxiety) and N=32 non-comorbid patients (MDD) matched for age, gender, medication intake and depressive symptom level, as well as N=32 healthy controls (HC) underwent functional magnet resonance imaging (fMRI). The study investigates in neural activity during a frequently employed face-matching task including angry and fearful faces. Group comparisons were performed employing a threshold-free cluster enhancement (TFCE) and a conservative family wise error (FWE)-corrected threshold. The amygdala and insula were defined as a priori regions of interest (ROI). Additionally, an explorative whole brain analysis was conducted.

### **Results**

Within groups, increased amygdala and insula activation was found for facial stimuli compared to shapes stimuli (control condition). While we found no differences in amygdala activity between groups, MDD+Anxiety revealed a significantly higher BOLD signal in the left insula compared to MDD without comorbid anxiety in response to emotional stimuli. Furthermore, MDD showed decreased left insula activity

compared to HC. Whole brain analyses resulted in higher activation in several brain regions, including bilateral insula, right putamen, right caudate and right inferior frontal gyrus in MDD+Anxiety compared to MDD.

#### **Discussion**

Our results provide first evidence that insula activation might differ between depression and depression with comorbid anxiety. A higher reactivity of the insula could implicate more physical engagement in the processing of emotional stimuli. Functional differences in regions associated with emotional processing, in dependency of comorbid anxiety disorder, might indicate a possible anxious biotype of depression. Nonetheless, results should be interpreted with caution due to a missing control group with only anxiety disorder and small sample size.

### **A Qualitative Exploration of the Developmental Pathway to Experiential Knowledge in Depression**

**Dorien Smit, Mental Health Care Pro Persona Nijmegen, the Netherlands**

**Janna Vrijzen, Jan Spijker & Janneke Peelen, Mental Health Care Pro Persona and Radboud University Nijmegen, the Netherlands**

#### **Introduction**

The chronic nature of depression as well as frequent insufficient improvement after treatment suggests that this disorder requires long-term management in addition to active coping on a day-to-day basis (Judd, Akiskal, & Paulus, 1997; Lorig et al., 1999). Previous research on long-term management and coping in depression mainly focused on self-management strategies. The current study concentrated on the conditions for deployment of self-management, which are part of the broader concept of 'experiential knowledge'.

#### **Method**

We used a qualitative design, addressing experiential knowledge as a sensitizing concept. This enabled a thorough examination of this topic from the patients' perspectives (Burda et al., 2016). Semi-structured interviews were conducted with 15 patients who experienced at least two depressive episodes.

#### **Results**

The results provide new insights in the processes of the development of experiential knowledge, namely: 1) Introspection which refers to self-research, 2) A process of personal growth, 3) Self-management strategies, skills about managing the illness as a practical realization of coping with depression in daily life, and 4) The wider environment, in which helping factors in the social context can be distinguished. This complex set of developmental factors underscores the need of a holistic view on coping with depression (Chambers et al., 2015).

#### **Discussion**

A greater emphasis on an individualized holistic model in mental health care – including understanding of experiential knowledge – can contribute to a comprehensive understanding of what is needed to deploy self-management by depressive patients. To date, experiential knowledge receives scant attention in mental health care for depression. Sharing experiential knowledge offer many possibilities for improvement of mental health care for depression. An eHealth intervention, such as a digital community for depressive patients where they can exchange experiences on coping with depression, can be a powerful tool for the deployment of self-management.

### **Latent Profile Analysis of Cognitive Themes Related to Depression Symptoms in Patients Undergoing Treatment for Cancer**

**Phillip Smith, Nicholas Fadoir & Kimberly Zlomke, University of South Alabama, USA**

#### **Introduction**

Patients undergoing treatment for cancer are at risk for depression. Cognitive Behavior Therapy (CBT) is effective for reducing distress and pain associated with cancer treatment. CBT involves increased awareness of and specific strategies to challenge distorted and maladaptive beliefs. Few studies have examined how specific cognitive themes relate to depression in patients undergoing cancer treatment and most typically use analyses that restrict findings to bivariate relations. The current study extends previous research by examining patterns of cognitive themes and depression symptom severity in patients receiving treatment for cancer using latent profile analysis (LPA). LPA identifies patterns of beliefs that can be examined in relation to depression symptoms. Such classification is useful for better understanding rates of patterns of adverse outcomes, identifying vulnerability factors to patterns of experience, and markers of potential treatment resistance or risk for relapse. Understanding such patterns furthers the understanding of potential mechanisms in therapy and informs clinical case conceptualization and interventions with the ultimate goal of improving patient care.

#### **Method**

Participants were 133 men (41.6%) and women receiving outpatient treatment for a variety of cancer types at a university medical center (Mage=57.01 years, SD=12.00). Data was collected via validated self-report measures of depressive symptoms and beliefs about the self as a burden on others (perceived burdensomeness), social disconnectedness (thwarted belongingness), fear about death/dying, hopelessness, and pain catastrophizing.

#### **Results**

The optimal LPA model was chosen based on goodness-of-fit indices as well as parsimony and interpretation. A four-group solution was retained. Profile 1 (11.3% of the sample), labelled generalized negative cognitions, was characterized by high hopelessness, thwarted belongingness, and pain catastrophizing. Profile 2 (15.8%), labelled pained and burdensome, was characterized by elevated burdensomeness and pain catastrophizing. Profile 3 (42.9%) labelled fearful of dying, was characterized by high fear about death and no other elevations. Profile 4 (30.1%) labelled undisturbed, was characterized by low fear about dying and no other elevations. A one-way ANOVA was used to compare profiles in their expression of depressive symptoms. Profile 1 endorsed higher depressive symptoms than Profiles 3 and 4, but not Profile 2. Profile 2 possessed higher depressive symptoms than Profile 4, but not Profile 3. There were no significant differences in depression between Profile 3 and 4.

#### **Discussion**

Individuals undergoing treatment for cancer may express unique patterns of cognitive themes that differentially relate to depressive symptoms. Patients with a cognitive vulnerability to hopelessness and global negative beliefs experience the most severe depressive symptoms whereas those with negative beliefs specific to pain and burdensomeness evidence more moderate symptoms. Some patients exhibited a lower fear of dying, perhaps akin to acceptance of mortality, which coincides with few negative cognitions and minimal depressive symptoms. Other patients experience high fear of death in the absence of depressive symptoms. Pending replication, future research should examine factors that predict at profile membership and how such membership remains stable or changes over the course of treatment.

## **The Influence of Ruminative Processing Mode on the Trajectory of Intrusive Memories**

**Adele Stavropoulos & David Berle, University of Technology Sydney, Australia**

### **Introduction**

Rumination following an event has been found to lead to increased emotional reactivity and the subsequent formation of intrusive memories (Ehring, Fuchs & Klasener, 2009). The effect of rumination is especially pronounced when undertaken in an abstract, as opposed to concrete, processing mode (Watkins, 2004). The current experimental study aimed to test the differential effects of abstract and concrete ruminative processing or distraction on the frequency and characteristics of intrusive memories for a six-hour period following a negative mood induction in a healthy community sample.

### **Method**

One hundred and sixteen healthy participants watched a 5-minute video sequence designed to induce negative mood. Participants in the abstract or concrete processing condition were instructed to write a 15-minute essay in their assigned processing mode. Participants in the distraction condition were required to read 28 distraction statements. Participants then completed hourly ratings of rumination and intrusive memories about the video on their smartphone after leaving the laboratory. They were also asked to rate the characteristics of any intrusive memories, including the distress, interference, vantage perspective, as well as sensory and verbal characteristics of the memory.

### **Results**

The negative mood induction appeared to work and was associated with increased negative mood and intrusive memories throughout the subsequent six hours. There were no differences in the frequency or characteristics of intrusive memories in the abstract or concrete condition. In contrast, participants in the distraction condition reported significantly more intrusive memories in total across the 6-hours, than either ruminative condition.

### **Discussion**

These findings contradict previous studies which have found that abstract rumination is maladaptive with respect to intrusive memory formation and suggest that any form of processing about an event (whether in an abstract or concrete mode) may be more beneficial than distraction. Implications are discussed for the development of a theoretical model and treatment protocol targeting intrusive memories in depression.

## **What Are Factors That Affect the Sustainable Effect of Behavioral Activation: One Year Follow-up Survey**

**Koki Takagaki, Satoshi Yokoyama & Ran Jinnin, Hiroshima University, Japan**

**Asako Mori, The University of Tokyo, Japan**

**Yuri Okamoto, Yoshie Miyake & Yasumasa Okamoto, Hiroshima University, Japan**

### **Introduction**

In behavioral activation mechanism, previous study suggested that mood changes will occur following behavior that elicits environmental rewards (Manos et al., 2010). Our previous study of the mediation analysis indicated that behavior had a significant indirect relationship with depressive symptoms through environmental reward, indicating that change score of environmental reward was a mediator in the relationship between activation and depressive symptoms (Takagaki et al., 2016). However, it was not clear whether the change of environmental reward from pre-treatment or post-treatment to 1-year later affect to depressive symptoms of 1-year later. Therefore, the purpose of this study was to examine whether not only baseline depression severity and residual symptoms of depressive symptoms but also the change of environmental reward from pre-treatment or post-treatment to 1-year later affect depressive symptoms of 1-year later.

### **Method**

We conducted the intervention to examine the efficacy of a behavioral activation program (Takagaki et al., 2016). And we examined the enduring effect of behavioral activation during 1-year follow-up (Takagaki et al., 2018). Participants were 51(19 women, and 32 men, mean age = 18.20±0.40 years) undergraduate students who completed pre-treatment, post-treatment and 1 year follow-up assessments in intervention group. Measures were the Japanese version of Beck Depression Inventory-II (BDI-II), and the Japanese version of the Environmental Reward Observation Scale (EROS).

### **Results**

We conducted stepwise multiple regression analyses in order to examine whether the BDI-II in pre-treatment, the BDI-II in post-treatment and two exploratory independent variables (the EROS change score from pre-treatment to 1-year follow-up and the EROS change score from post-treatment to 1-year follow-up) affect the BDI-II score of 1-year follow-up. The results reported that the models were significant at step 1 ( $F(2, 48) = 2.64, p = .08, R^2 = .10$ ) and step 2 ( $F(3, 47) = 10.42, p < .01, R^2 = .40$ ). In the step 1, the BDI-II scores at pre-treatment ( $\beta = .13, t = .76, p = .45$ ) and post-treatment ( $\beta = .21, t = 1.20, p = .23$ ) were no significant effect. In the step 2, the BDI-II scores at pre-treatment ( $\beta = .30, t = 2.00, p = .05$ ), the BDI-II scores at post-treatment ( $\beta = .21, t = 1.45, p = .15$ ), the EROS change score from pre-treatment to 1-year follow-up ( $\beta = -.57, t = -4.85, p = .01$ ). The EROS change score from post-treatment to 1-year follow-up was excluded in the result of stepwise

### **Discussion**

The current study investigated whether there were predictors that affect depressive symptoms in 1-year later in behavioral activation. The results of stepwise regression analysis indicated that increase of environmental reward from pre-treatment to 1-year follow-up significantly affected to decrease of depressive symptoms in 1-year follow up. The present study is the first to assess maintenance factor of depressive symptom. Because it is considered that behavior and positive reinforcements change earlier than depressive symptoms, it might be necessary to check the change scores of behaviors and positive reinforcements in booster sessions.

## **Interceptive Awareness Mediates the Relationship Between Mindfulness Group Therapy and Decrease in Depression: The Interim Analyses of Randomized Controlled Trial**

**Toru Takahashi & Tomoki Kikai, Waseda University, Japan**

**Fukiko Sugiyama, Bunkyo Gakuin University, Japan**

**Siqing Guan, Mana Oguchi, Taro Uchida & Hiroaki Kumano, Waseda University, Japan**

### **Introduction**

Mindfulness-based intervention (MBI) has been shown to affect depression and anxiety. However, the action mechanism remains incompletely understood. There are many possible mediators of the relationship between MBI and decreases in depression and anxiety. We

aimed to explore the mediating model by measuring various variables which are considered to relate to mindfulness. Although mindfulness and repetitive negative thinking are well-known as the mechanism variables of MBI, we examined mind-wandering, self-compassion, and interceptive awareness which have a lack of sufficient investigation in addition to mindfulness and repetitive negative thinking. We will report results by interim analyses in a randomized controlled trial of mindfulness group therapy for depression and anxiety in Japan.

#### **Method**

We examined 24 adults who complained of depression and anxiety. They were assigned to the 8-week mindfulness group therapy group (5 males and 7 females) or wait-list group (4 males and 8 females). We measured depression (BDI-II) and trait-anxiety (STAI-T) as outcome variables, and mindfulness (FFMQ), mind wandering (Mind-Wandering Questionnaire), repetitive negative thinking (Perseverative Thinking Questionnaire), self-compassion (self-compassion scale), and interceptive awareness (Multidimensional Assessment of Interoceptive Awareness; MAIA) as mediating variables by using self-reported scales at pre-intervention and post-intervention. We conducted ANOVAs and mediation analyses for the variables which showed the significant interaction.

#### **Results**

ANOVA showed that interaction on depression was significant ( $p < .05$ ). The test of a simple main effect showed that depression was significantly decreased in the intervention group ( $d = 1.06, p < .001$ ). The interaction on anxiety was not significant. In regards to mediating variables, the only interaction on a sub-scale of MAIA, "body listening", was significant ( $p < .05$ ). The test of a simple main effect showed that body listening was significantly increased in the intervention group ( $d = -1.37, p < .01$ ). Mediation analyses showed that the direct effect of the intervention on the decrease in depression was significant ( $p < .05$ ). That significance was lost when the change in body listening was taken into the model as a mediating variable. The indirect effect was marginally significant ( $p < .10$ ).

#### **Discussion**

Only interceptive awareness was significantly improved and mediated the relationship between the intervention and decrease in depression. Unexpectedly, there were no significant interactions on the other variables including mindfulness and repetitive negative thinking. It is possible that the Japanese tendency to respond to scales about mindfulness is different from the Western populations'. It is necessary to confirm the mediation by increasing sample sizes.

### **Work-Related Intrusive Memories and Linked Beliefs in Japanese Employees on Sick Leave Due to Depressive Disorders**

**Rieko Takanashi, Chiba University and Kokorono Kaze Clinic, Japan**

**Hajime Sasaki, Kokorono Kaze Clinic, Japan**

**Eiji Shimizu, Chiba University, Japan**

**Shotaro Araki, Yasuko Takahashi, Ayana Sento & Yuriko Ino, Kokorono Kaze Clinic, Japan**

#### **Introduction**

The number of employees on sick leave due to depressive disorders is increasing, and a high rate of repetitive absence is reported after returning to work in Japan. Takanashi et al., (2017) demonstrated that such patients perceived their work-related stressful events as serious psychological distress (measured by the Impact of Event Scale-Revised [IES-R]) with frequent experience of intrusive memories of work-related stressful events. Based on previous studies suggesting the intrusive memories of negative events as a maintaining factor of depressive disorder (Brewin et al.,1999; Brewin et al.,1998), and the correlation between negative interpretations of those memories and depressive severity (Starr and Mould 2006), intrusive memories and linked beliefs could be important targets for intervention. This study explores the nature and quality of work-related intrusive memories and linked beliefs in employees on sick leave due to depressive disorders in Japan.

#### **Method**

Forty-five participants who were on sick leave for depressive disorders (32 men and 13 women with a mean age $\pm$ SD of 36.69  $\pm$  10.39) participated in a survey concerning the nature and quality of their work-related intrusive memories based on Intrusive Memory Interview (Hackmann et al.,2004). The survey form also asked people to describe their beliefs linked to those memories.

#### **Results**

Forty patients (89% of the sample: 28 men and 12 women) experienced one or more work-related intrusive memories (mean $\pm$ SD =2.76 $\pm$ 2.28; range 1-10). The most stressful memory for each was investigated concerning their nature and quality. As for the frequency of intrusion in previous weeks, three patients out of forty (9%) experienced an intrusion of the memory around ten times. Another three (9%) experienced this five–nine times. Seventeen (43%) experienced visual modality in memories, thirteen (33%) experienced auditory modality, and twenty-one (53%) experienced body sensations/perceptions. The content of intrusive memories were assigned to "negative feedback regarding work achievements (n=9; 23%)," "conflicts with coworkers (n=6; 15%)," "negative remarks about them (aside from work; n=6; 15%)," "death of coworkers (n=5; 13%)" and so on. Twenty-seven patients (68%) had negative beliefs about self linked to work-related intrusive memories.

#### **Discussion**

Consistent with previous studies, our finding revealed a high rate of experience of intrusive memories among patients with a depressive disorder. Even though patients on sick leave can successfully recover from depression and return to work, they are exposed to triggers for these intrusive memories in their workplace, which activate linked negative beliefs.

### **Mediation Effect of Anxiety on Relationship Between Self-Compassion and Depression: Controlling the Effects of Narcissism and Self-Esteem**

**Keiko Takemori, Kwansei Gakuin University, Japan**

**Masaya Takebe, Rissho University, Japan**

**Hiroshi Sato, Kwansei Gakuin University, Japan**

#### **Introduction**

It has been indicated that self-compassion (SC) training decrease depression and anxiety (Kirby et al., 2017). Several studies have found that the presence of anxiety symptoms predicts depressed mood (Mineka et al., 1998). Thus, whether SC decreases depression directly or mediates decreased anxiety needs to be researched. Neff (2003) showed that SC is related to mental health and other constructs such as self-esteem (SE). Some researchers did not distinguish SC from some constructs such as narcissism (Neff, 2003). However, these constructs have a negative effect on mental health, accordingly, SC differs from them (Arimitsu, 2014). Previous studies have proposed that SE has a strong association with SC as a feeling of self-worth (Neff, 2003), while high SE may have negative results such as self-absorption (Damon, 1995).

Thus, it needs to differ SC from narcissism and SE. This study aimed to reveal the effect of SC on depression controlled with the effect of anxiety, narcissism, and SE.

#### **Method**

A total of 246 college students (94 males and 150 females with a mean age $\pm$ SD of 19.99 $\pm$ 1.15) completed the Japanese version of Self-Compassion Scale (Arimitsu, 2014), Self-Esteem Scale (Rosenberg, 1965; Yamamoto et al., 1982), Narcissistic Personality Inventory (Raskin & Hall, 1979; Ojio, 1998), the Japanese version of Beck Depression Inventory-II (Kojima & Furukawa, 2003), and State-Trait Anxiety Inventory (Hidano et al., 2000). This research was conducted after an explanation of the surveys and with the participants' informed consent.

#### **Results**

Structure equation modeling (SEM) revealed that SC did not affect depression ( $\beta$  = -.02, n. s.), but it decreased anxiety ( $\beta$  = -.38,  $p$  < .001). Moreover, anxiety increased depression ( $\beta$  = .59,  $p$  < .001), and in contrast, narcissism did not influence anxiety or depression ( $\beta$  = .07, n. s.;  $\beta$  = .01, n. s.). Further, SE decreased depression slightly ( $\beta$  = -.12,  $p$  < .10) and anxiety ( $\beta$  = -.45,  $p$  < .001). Both CFI and TLI were 1.00, and RMSEA was less than .001, respectively, suggesting that the data fit well with the model.

#### **Discussion**

The results revealed that SC did not decrease depression directly but mediated the reduction of anxiety. In contrast to SC, narcissism did not influence depression and anxiety, and SE slightly decreased depression directly. Thus, similar to previous studies (e. g., Neff, 2003), this study suggested that narcissism and SE were different from SC. Consequently, this study leads to a better understanding of how SC decreases depression. Unfortunately, the measure (STAI) is not well suited to differentiating the effects of anxiety from those of depression, and so it is hoped that future research using other measurements can differentiate anxiety and depression while analyzing SC.

### **Developing a Universal Prevention Program for Depression Among Secondary School Adolescent in China**

**Xinfeng Tang & Daniel Fu Keung Wong, The University of Hong Kong, Hong Kong**

#### **Introduction**

Depression is a common and deliberating condition for adolescents. The prevalence of depressive symptoms among adolescents in Chinese secondary schools was 24.3%, according to a meta-analysis. There were many universal prevention programs for adolescents in the world (such as Resourceful Adolescent Program and Aussie Optimism: Optimistic Thinking Skills Program), but there was a lack of such programs for Chinese adolescent. This study attempts to develop a universal prevention program specifically for depression among adolescents in secondary school in China. Study 1 is a meta-analysis that aimed at identifying risk factors that are related with depression. Study 2 was to developing a universal prevention program for this population.

#### **Method**

In Study 1, literature searches were conducted in both English and Chinese databases from database inception to January 2018. The keywords included "adolescent", "depression" and "China". All risk factors that had been examined in more than three articles were included in the analysis. The Pearson correlation coefficient  $r$  was used as the effect size. A larger  $r$  indicated stronger correlation between risk factors and depression. The random effects model was used to combine effect size. We ranked the pooled effect size and identified several risk factors in the top ten risk factors as potential targets for the prevention program. In Study 2, based on the selected risk factors, our group reviewed techniques from existing programs that were used to modify these risk factors, and finally developed this program manual.

#### **Results**

In Study 1, there were 18,313 articles retrieved from the database and 241 articles were included in the analysis. A total of 50 risk factors were finally identified. Three categories were extracted from ten risk factors that had the largest effect size. The first category was negative cognition (dysfunctional attitudes,  $r$  = 0.449; automatic thoughts,  $r$  = 0.626), the second category was rumination (rumination,  $r$  = 0.428; brooding,  $r$  = 0.446), the third category was interpersonal stressors (negative life events,  $r$  = 0.406; parental communication,  $r$  = -0.433). In Study 2, after reviewing and discussing with experts and professionals in different fields, we identified three techniques to modify the three kinds of risk factors: Cognitive Behavioral Therapy (Session 1-5), mindfulness technique (Session 6-7) and Interpersonal Psychotherapy (Session 8-9). The manual had ten 40-minute courses, and was integrated into the regular curriculum. The 10th session was a summary and relapse prevention.

#### **Discussion**

Universal prevention for adolescent depression is valuable and necessary in secondary schools in China. A randomized controlled trial is further needed to examine the effect of this program.

### **Depressed Specialized Care Patients' Experience with an Imagery-Interpretation Bias Modification Intervention: A Qualitative Study**

**Denise te Paste, Radboud University, the Netherlands**

**Stephanie Leone, Trimbos Institute, the Netherlands**

**Jan Spijker, Pro Persona, the Netherlands**

**Eni Becker, Radboud University, the Netherlands**

#### **Introduction**

Current treatment options for major depressive disorders, such as psycho-, pharmaco-, or combination therapies, are not always effective or acceptable for all patients. Psychological treatment is also often paired with drawbacks such as long waiting lists, high costs, and scheduling difficulties. Interpretation bias modification is a low-threshold computerized intervention that might be a good addition to current treatment options for depression. However, not much is known about how patients experience such an intervention. Is IBM as a treatment option for patients acceptable, believable, doable, and user-friendly?

#### **Method**

To assess this, we are currently conducting interviews with patients with major depressive disorder who have been referred to specialized outpatient care. These patients are a part of our quantitative study on the effectiveness of an IBM intervention and will be interviewed after having completed all 10 sessions of this training. A number of factors regarding the intervention are discussed such as general experience, content, set-up, use of imagery, location, and perceived helpfulness. Since participants from both the experimental group and the control group reported specific elements of the intervention that were beneficial for them, the interviews will also be conducted with participants from both groups. This is especially relevant in the recent debate about the use and design of control groups in CBM interventions.

**Results**

Will be presented in July

**Discussion**

Will be presented in July

**Metta-Based Therapy. Increasing Benevolence in a Chronically Depressed Patient**

Isabel Thinnies, Artjom Frick & Ulrich Stangier, Goethe University Frankfurt, Germany

**Introduction**

Depression takes a chronic course in about 20 % of depressive disorders. It is associated with high comorbidity and suicide rates and poor treatment prognosis. We present the case of a 54-year-old female patient with a history of 40 yrs. of depression. She worked as a biotechnical assistant and was living alone since she left the parental home. She had no children, and she hadn't had a romantic relationship for sixteen years. Besides feeling worthless, she suffered from the feeling of being isolated from others. She reported an uncaring childhood environment, characterized by emotional abuse by her mother who showed typical patterns of Borderline personality disorder. The patient reported of several outpatient and inpatient treatments since the age of 25.

**Method**

Based on the results from two pilot studies (Hofmann et al., 2015; Graser et al., 2016), we developed a Metta-based therapy that combines metta ("Loving kindness") meditation and CBT ("MeCBT"). The treatment explicitly focusses on promoting the motivation for positive affective states by introducing Metta meditation and translating Buddhist philosophy into Western psychological concepts (benevolence). First, metta-based group meditation was offered in eight weekly sessions, focusing on the wish to develop a positive and kind attitude towards oneself and others, using images and body sensations to elicit positive emotions. Subsequently, eight sessions of individual CBT aimed at transferring meditation into daily life and increasing benevolent behaviors. The interventions included behavioral activation, cognitive restructuring, and elements of schema therapy to support patients in disengaging from dysfunctional cognitions, emotions and behaviors.

**Results**

Independent observer ratings of depressive symptoms (Quick Inventory of Depressive Symptoms, QIDS; pre-measure: 13) declined after group (QIDS: 7) and individual treatment phase (QIDS: 2). Self-reported ratings of compassionate love and benevolence (Compassionate Love Scale, CLS; pre-measure: 138) declined after group (CLS: 145) and remained stable after individual treatment phase (CLS: 144).

**Discussion**

The outcome of this individual case study gives further support to the efficacy of this low-intensity, cost-effective intervention as a new approach in the treatment of chronic depression. The combination of group and individual setting may have provided advantages over each setting alone. The efficacy of this treatment for chronic depression is currently evaluated in a randomized controlled trial, including a six-month follow-up (Frick, Stangier & Thinnies, submitted).

**Blending Internet- and Mobile-Based Treatment for Depression with Face-to-Face Psychotherapy: Case Report of a 48-Year Old Female Patient**

Ingrid Titzler & Viktoria Egle, University Erlangen-Nürnberg, Germany

David Daniel Ebert, VU University Amsterdam, the Netherlands

**Introduction**

Introduction: Blended therapy (BT) combined with internet-/mobile-based- and on-site-sessions can extend the number of treated patients and reduce waiting time for psychotherapy through reduced therapist-time and used online-based modules as prolonged therapeutic arm. Little is known about this new blended approach for treating depression yet. The aim of this report is to present an exemplary treatment case to gain insights into the therapeutic process.

**Method**

Method: The treatment of a 48-year-old female patient with diagnosed recurrent depressive disorder (MDD) was conducted within a RCT (www.e-compared.eu) to evaluate the efficacy of BT. The 13-week-BT consisted of six on-site therapy sessions, ten online modules, and a daily app-based course measurement (e.g. mood, sleep). Face-to-face therapy was conducted by a psychologist in the university outpatient clinic. The course of treatment is presented by quantitative measures (e.g. PHQ-9, CSQ-8, WAI, fidelity checklist) as well as qualitative criteria (treatment documentation, videos). The case report follows the CARE guidelines.

**Results**

Results: Depressive symptoms were reduced significantly by 10 points (PHQ-9:  $t_0=17$ ;  $t_1=7$ ) from a severe to a subclinical-mild degree at the end of treatment. This remained stable at 12m-FU ( $t_3=6$ ). The criteria for MDD weren't met in the 12m-FU-diagnostic-interview. Adherence rates were high (84%). App-based mood ratings showed an increase over time. The patient was very satisfied with the treatment (CSQ:  $t_1=32$ ). She invested over five hours to edit the online modules (45 minutes per session). The therapeutic working alliance (WAI) was described as very high by the therapist ( $t_1=44$ ) and patient ( $t_1=57$ ). The technological alliance was also reported as high ( $t_1=79$ ). More insights will be reported.

**Discussion**

Discussion: Different strengths and weaknesses were identified by analyzing the treatment process in form of a case report. Examples for strengths were the reduction of scepticism about psychotherapy and the adaption of content and treatment course to individual needs. Adequate content was missed regarding sleeping problems and the number of face-to-face sessions was too low to cover all patient needs. Conclusion: Women of middle age can accept and benefit from BT, even in the case of recurrent depression and ultra-short-time treatment. Patient characteristics ( $t_0$  moderators such as education, treatment motivation, comorbidity) could influence the differential efficacy. Further studies should examine for which patient groups such a BT-concept may work or not.

## **The Effect of Mindfulness-Based Cognitive Therapy for Japanese Human Service Professionals: Focusing on Work Stress and Self-Compassion**

**Nanami Tomori, Shogo Tomori, Mika Aniya & Yoshinori Ito, Ryukyus University, Japan**

### **Introduction**

The suicide is a crucial problem in Japan. Although the numbers of people who committed suicide are decreasing year by year, more than 20,000 people commit suicide recent year. Particularly, work stress is the most influential factor of it. In the present study, we intended to examine the effect of Mindfulness-Based Cognitive Therapy (MBCT) for Japanese human service professionals on the stress reduction and the improvement of their nature as the professionals. Especially, our presentation focuses on the results of the acquirement of the self-compassion and the work stress and negative affect reduction by MBCT.

### **Method**

Sixteen professionals ( $M = 43.25$ ,  $SD = 10.12$ , women = 10) participated in the MBCT program. The MBCT program designed by Segal, Williams, and Teasdale (2002) for recurrent depression was partly modified to focus human service professional's stress and used for the present study. Participants completed Self-Compassion Scale-Short Form (SCS-SF), Action and Acceptance Questionnaire-II seven item version (AAQ-II), Hospital Anxiety and Depression Scale (HADS), Maslach Burnout Inventory (MBI), Work Stressor and Stress Reactions Scale (WSSRS) at two weeks before the program starts (Baseline), Pre- and Post-test, and one month Follow-up.

### **Results**

We conducted the one-way ANOVAs with Time as within-subject factor (Control period, Post-test and Follow-up). "Control period" was the mean of Baseline and Pre-test. Finally, analysis were conducted to fourteen participants ( $M = 41.50$ ,  $SD = 8.83$ , women = 9). We conducted the one-way ANOVA of all measures scores as dependent variables, due to examine the change in self-compassion, negative affect and work stress. In Self-Coldness, it was showed that significantly decreased from Control period to Post-test ( $t(13) = 2.32$ ,  $p < .05$ ) and to Follow-up ( $t(13) = 3.76$ ,  $p < .01$ ). For depersonalization, the result revealed it significantly reduced from Control period to Follow-up ( $t(13) = 2.99$ ,  $p < .05$ ). Similarly, in anger and depression in WSSRS, the results indicated significant reduction of anger from Control period to Post-test ( $t(13) = 2.29$ ,  $p < .05$ ) and Follow-up ( $t(13) = 3.85$ ,  $p < .01$ ). Depression also reduced significantly from Control period to Post-test ( $t(13) = 2.25$ ,  $p < .05$ ) and Follow-up ( $t(13) = 3.30$ ,  $p < .01$ ).

### **Discussion**

The results indicated that 8 sessions MBCT for Japanese human service professionals helped relieving various work stress and negative affect including depersonalization, anger and depression. In the present study, participants were comparatively healthy people. From now on, it is need to examine the effect of MBCT on people those who have mental health or social problem.

## **Effect of Attention Control and Self-Compassion on Mind-Wandering**

**Ayumi Umeda, Eriko Takahashi, Hiroto Ikeda & Kaneo Nedate, Waseda University, Japan**

### **Introduction**

In recent years, mind-wandering has attracted attention as a phenomenon related to negative feelings, and it is thought that psychological problems can be reduced by decreasing mind-wandering. Thus far, it has been shown that mind-wandering is reduced by mindfulness training, but its mechanism is not clear.

An increase in mindfulness may be based on improvement of attention control. In addition, self-compassion, which stems from mindfulness practice and has attracted attention recently, may be involved in decreasing of mind-wandering. Therefore, in this research, we examined the influence of attention control and self-compassion on mind-wandering.

### **Method**

In this study, 156 Japanese university and graduate students (69 male, 85 female, and 2 unknown sex; mean age = 20.05,  $SD = 1.39$ ) participated.

The questionnaire comprised the following: (1) the Japanese version of the Mind-Wandering Questionnaire (MWQ; Kajimura & Nomura, 2016; Mrazek, Phillips, Franklin, Broadway, & Schooler, 2013), (2) the Voluntary Attention Control Scale (VACS; Imai, Kumano, Imai, & Nedate, 2015), and (3) the Japanese version of the Self-Compassion Scale (SCS-J; Arimitsu, 2014; Neff, 2003).

### **Results**

Multiple regression analysis was conducted by introducing mind-wandering as the objective variable and attention control, self-compassion, and interaction as explanatory variables. Results of the analysis revealed that the interaction was significant ( $\beta = .159$ ,  $p = .043$ ,  $R^2 = .133$ ,  $p = .000$ ).

Moreover, a result of the simple slope test revealed that there was a significant association between attention control and mind-wandering in case of high and low self-compassion (+ 1 SD;  $b = -0.05$ ,  $p = .048$ , - 1 SD;  $b = -0.13$ ,  $p = .000$ ).

### **Discussion**

Through the analysis, it became clear that self-compassion is a moderator variable. Even when it is high or low, the low attention control was shown to increase mind-wandering. In addition, when self-compassion was low, participants with low attention control had the highest mind-wandering. Thus, self-compassion moderates the influence of the low attention control on high mind-wandering.

It is shown that the promotion of acceptance is important for the reduction in mind-wandering. Self-compassion is considered to promote acceptance. Hence, self-compassion may prevent mind-wandering by promoting acceptance.

## **Early Maladaptive Schemas and Its Association with Comorbidity of Major Depressive Disorder and Anxiety Symptoms**

**Catalina Uribe Castro, Yvonne Gómez, Diana Agudelo, Ileana Manzanilla & Maria Claudia Lattig, Universidad de Los Andes, Columbia**

**Eugenio Ferro, Instituto Colombiano del Sistema Nervioso – Clínica Montserrat, Columbia**

### **Introduction**

Different studies have repeatedly shown high comorbidity rates for depressive and anxiety disorders. The theory of early maladaptive schemas proposed by Young, Klosko and Weishaar (2003) shows how the cognitive component can act as a vulnerability factor for anxiety and depression. Halvorsen et al. (2010) found that the schema domains of Impaired Autonomy and/or Performance and Impaired Limits are the most important for predicting depressive symptomatology, meanwhile, Cámara & Calvete (2012) found that the schema of vulnerability to harm and dependence predict an increase in anxiety symptoms. In the present study, we examined the association between early maladaptive schemas and the presence of comorbidity of major depressive disorder (MDD) and anxiety symptoms.

## **Method**

The Spanish versions of the MINI International Neuropsychiatric Interview (Ferrando et al., 2000), the State-Trait Anxiety Inventory (STAI; Spielberger et al., 1970), and the State-Trait Depression Inventory (IDER; Spielberger et al., 2008) were used to measure negative affectivity derived from depression and anxiety symptoms in a sample of 192 individuals with a current diagnosis of major depression disorder and 211 healthy controls. Early Maladaptive Schemas were measured using the Young Schema Questionnaire Short-Form (YSQ-SF; Londoño, et al., 2012). Binary logistic regression analysis was used to determine association.

## **Results**

Patients who presented comorbidity between major depressive disorder and anxiety symptoms significantly reported higher scores on the 15 schemas when compared to the control group ( $p < 0.001$ ). Binary logistic regressions were made with schemas of each domain. Analysis showed that, with the exception of the schema of distrust and abuse, all schemas contribute to explain comorbidity of MDD and anxiety symptoms, being the domain of Disconnection/Rejection the one that explains the greatest variance (58.9%).

## **Discussion**

Results suggest that early maladaptive schemas are strongly related with comorbidity between major depressive disorder and anxiety symptoms. These results are consistent with literature, since evidence supports that there is a clinically relevant association between early maladaptive schemas and symptoms of affective disorders (Calvete et al., 2005). Most important, this study found no difference between the group of schemas that are related to depression and schemas related to anxiety disorders. Regarding the clinical implications of the study, it is relevant to emphasize the need to include early maladaptive schemas in current therapies and promote a healthy childhood in which basic needs of children are met.

## **The UvAcare Project: The Effectiveness of Online Health Support in University Students**

**Mariska van der Hoff, Anke Klein, Reinout Wiers, Claudia van der Heijde, Peter Vonk & Nine Wolters, University of Amsterdam, the Netherlands**

### **Introduction**

Over the past years, university students report more stress and concurrent mental health complaints than ever before. This is not surprising, as college years are considered as an important transition period into adulthood during which certain mental health problems first emerge. If not treated accurately, these problems may result in more severe consequences at a later age, such as decreased study or job performance, drop-out, serious mental health disorders and lower quality of life. As most students do not tend to seek help for their difficulties or end up on a waiting list, there is a clear need for early, immediate and easily accessible care among university students. Previous studies demonstrated that eHealth is a low-cost, effective technique to reduce symptomatology in adolescents and adults with clinical depression or anxiety. However, it is yet unknown whether online interventions could prevent the development of psychological disorders in a university student sample.

### **Method**

The current study aims to examine the effectiveness of an online intervention targeting anxiety and depression symptoms in at least 1100 university students. In a RCT a guided and an unguided intervention condition will be compared to one another and to an active control group allocated to treatment-as-usual (TAU). All university students and PhD candidates from the University of Amsterdam will be invited annually from 2019 to 2021 by email. Students with mild to severe anxiety- and/or depression symptoms will be randomly assigned to one of the three conditions. The intervention is based on Cognitive Behavioural Therapy for anxiety and depression and consists of 7 online sessions and 1 booster session after 4 weeks. In the guided eHealth group, participants will receive personalized feedback from a coach: a trained psychologist. Participants in the unguided condition will receive automatically generated feedback after each session.

### **Results**

The RCT includes five assessment points: (1) a baseline questionnaire before randomization, (2) a mid-intervention questionnaire 5 weeks after randomization, (3) a post-treatment questionnaire 8 weeks after randomization and (4) follow-up measures at 6 months and (5) at 12 months after randomization. Anxiety- and depression symptoms, as indicated by GAD-7 and PHQ-9 scores, will be measured at all time points as main outcome measures. Secondary outcomes include quality of life, academic achievement, social anxiety, loneliness, treatment satisfaction and adherence. We hypothesize that both the guided and unguided eHealth will be more effective in reducing anxiety and depressive symptoms compared to TAU. However, it is to be expected that drop-out rates during the intervention will be lower for participants in the guided condition in comparison to the unguided condition. Data collection is currently ongoing and preliminary results will be presented during the poster presentation.

### **Discussion**

This project aims to increase university students' awareness of their mental health and offer them easily accessible and low-threshold care. Our online health support is focused on identifying and tackling psychological symptoms at an early stage and could be a cost-effective treatment to prevent the development of anxiety and depression disorders in students at risk, thereby shortening waiting lists for regular care services.

## **The Impact of Stress Coping and Organizational Climate on Work Engagement and Depression Among Managers**

**Miki Wakasugi, Hideki Sato, Yuri Ozawa, Misako Nakamura & Shin-Ichi Suzuki, Waseda University, Japan**

### **Introduction**

The Job Demands-Resources Model (Bakker and Demerouti, 2014) plays an important role in addressing occupational stress for both employees, and managers. However, there are few studies that have addressed managers' mental health in the workplace. Furthermore, a stress coping reaction has been shown to reduce stress reactions. Employees' stress reaction has proven to be lower when organizational climate has low traditionality, and the organization's environment, labour motivation, and workplace satisfaction are high. There are also few studies that address the relationships among coping reaction, organizational climate, and stress. Therefore, this study aims to reveal the correlation between stress coping and organizational climate, work engagement and depression in managers.

### **Method**

Data were collected from 420 managers at a prefectural government office (366 men and 54 women with a mean age of  $\pm 54.04$  and an SD of  $\pm 4.79$ ) through questionnaires. We used four scales in this study that are Tri-Axial Coping Scale-24 (TAC-24), 12-item Organizational Climate Scale (OCS), the Japanese version of the Utrecht Work Engagement Scale (UWES), and the Beck Depression Inventory-II in Japan (BDI-II). Then conducted a correlation analysis, cluster analysis, and a two-factor variance analysis.

## Results

The coping cluster analysis presented three types of coping: active coping, passive coping, and avoidance coping. Similarly, the organizational climate cluster analysis showed three types: neglected organization, feudal organization, and participatory organization. Examining the two-factor variance analysis with coping clusters and organizational climate clusters as independent variables and, work engagement and depression as dependent variables showed that the groups' main effect was significant for coping (work engagement:  $p < .01$ ; depression:  $p < .001$ ). Additionally, the main effect of the group was significant concerning organizational climate (work engagement:  $p < .001$ ; depression:  $p < .01$ ). The interaction between coping and organizational climate was not significant.

## Discussion

This study shows that referring to managers, the coping and organizational climate variables did not affect each other and that each variable affected work engagement and depression individually. Lee et al. (2016) suggested that the impact on work engagement is a leadership and management feedback issue, rather than a hierarchical organizational climate issue. Moreover, Fukui et al. (2004) pointed out that in the case of an organization with high work discipline and discretionary levels, each employee will be aware of their own hardiness and utilize it in their work. This study also shows that, the synergistic effect of organizational climate and coping may not affect work engagement and depression.

## Long-Term Effectiveness of Work-Focused Cognitive-Behavioral Group Therapy for Employees on Sick Leave Due to Depression - Focus on Difficulty in Returning to Work

Asuka Watanabe, Hyogo University of Teacher Education, Japan

Maki Nakaza, Ayako Ishihara & Kazuyoshi Yamamoto, Yamamoto Clinic, Japan

Daisuke Ito, Hyogo University of Teacher Education, Japan

### Introduction

In Japan, the increase in employees on sick leave due to depression has become a social problem and in recent years, cognitive behavior therapy has been actively introduced as support for reinstatement in psychosomatic medicine and day care. However, there are many cases where employees experience recurrence of symptoms and absence from work after receiving reinstatement support. Therefore, Ito et al. (2018) added elements to acquire coping skills that focus on problems experienced after returning to work, and anxiety experienced upon returning to work. These are in addition to conventional cognitive behavioral techniques used for treating depression. They found improvement in the social adaptation state, depression, and anxiety symptoms, as well as a partial reduction in the difficulty of returning to work. However, Ito et al. (2018) has not clarified the long-term effect of work-focused cognitive-behavioral group therapy on the post-return status. Thus, we aimed to examine the long-term effect of work-focused cognitive-behavioral group therapy on the condition three months after reinstatement to work.

### Method

A total of eight programs were held once a week for 150 minutes for 22 people (13 men, 9 women; average age  $41.73 \pm 8.56$  years) whose main complaint was depressive symptoms. The Automatic Thoughts Questionnaire-Revised (ATQ-R; Sakamoto et al., 2004), Cognitive Control (CC; Sugiura, 2007), Behavioral Activation for Depression Scale (BADS; Takagaki et al., 2013), Environmental Reward Observation Scale (EROS; Kunisato et al., 2011), and Sense of Acceptance and Rejection (SOA; Sugiyama & Sakamoto, 2006) scales were adopted as process variables. The Kessler-6 (Furukawa et al., 2008), Social Adaptation Self-Evaluation Scale (SASS; Goto et al., 2005), and Difficulty in Returning to Work Inventory (DRW; Tanoue et al., 2012) scale were adopted as effect variables. Participants completed each scale before intervention, before reinstatement, and three months after reinstatement. This research was conducted with the consent of the ethics committee to which the author belongs.

### Results

Analysis showed improvement in the process variables before intervention to before restoration, as well as before intervention to three months after reinstatement. The program also resulted in improvement of depression and anxiety symptoms ( $F [2, 42] = 15.46, p < .01$ ), social adaptation ( $F [2, 42] = 10.29, p < .01$ ), and partial improvement of difficulty in returning to work ( $F [2, 42] = 7.32, p < .01$ ) before intervention to before restoration, as well as before intervention to three months after reinstatement (partial  $\eta^2 = 0.26 \sim 0.42$ ).

### Discussion

We conclude that the intervention was effective in dealing with depression and other related problems after reinstatement to work following sick leave, and may help prevent recurrence of symptoms and leave of absence. One limitation of this study is a lack of control group. Future researchers would benefit from utilizing a control group, as well as examining the effect with a more rigorous design.

## Treatment Outcome in Chronically Depressed Patients with Comorbid Borderline Personality Disorder in a 10-Week Inpatient Program with the Cognitive Behavioral Analysis System of Psychotherapy (CBASP)

Franziska Welker & Matthias Reinhard, Ludwig-Maximilians-University Munich, Germany

Julia Dewald-Kaufmann, University of Applied Science Fresenius, Germany

Richard Musil, Andrea Jobst & Frank Padberg, Ludwig-Maximilians-University Munich, Germany

### Introduction

The Cognitive Behavioral Analysis System of Psychotherapy (CBASP) was developed for the treatment of chronic depression (CD), which is associated with high rates of comorbid personality disorders. Comorbid borderline personality disorder (BPD) is currently discussed as hampering the response to CBASP. Patients with comorbid BPD have usually been excluded in studies investigating the efficacy of CBASP. This study evaluates the outcome of a naturalistic 10-week inpatient program in terms of improvement of depression and change of interpersonal stimulus character in patients suffering from CD and comorbid BPD when compared to CD patients without BPD.

### Method

Treatment included 30 sessions of individual and 10 sessions of group therapy (CBASP) over a period of 10 weeks. Severity of depressive symptoms was assessed using the Beck Depression Inventory (BDI-II; self-rated) and the Montgomery-Asberg Depression Rating Scale (MADRS; rated by physician). Symptom severity was evaluated at week 1 (pre) and week 10 (post). Additionally the Impact Message Inventory (IMI-R; rated by psychotherapist) was completed (pre and post) to measure the individual stimulus value of the patient. Inpatients diagnosed with CD and comorbid BPD were included. Change in depressive symptoms was then compared to a matched sample of patients suffering from CD without comorbid BPD.

## Results

Until now, 10 inpatients with CD and BPD completed the 10-week treatment and showed a significant reduction of symptom severity in self-rated (BDI;  $t[9]=3.27, p=.01$ ) and in clinician-rated (MADRS;  $t[9]=3.86, p=.004$ ) measures. At the end of treatment, patients with comorbid BPD scored significantly higher on the IML-R scales friendly-dominant ( $t[9]=-2.79, p=.02$ ), dominant ( $t[9]=-6.82, p<.001$ ) and hostile-dominant ( $t[9]=-2.59, p=.03$ ). Compared to a matched CD sample without comorbid BPD ( $n=10$ ), we found a significant main effect of symptom reduction in both, self-rated ( $F[1,18]=16.16, p=.001$ ) and clinician-rated ( $F[1,18]=27.77, p<.001$ ) measures, but no significant interaction between BPD and symptom reduction ( $p>.05$ ).

## Discussion

The findings suggest that patients with CD and comorbid BPD benefit from attending CBASP therapy and that comorbid BPD does not reduce the effectiveness of CBASP. Additionally, results imply that patients with CD and BPD modified their interpersonal styles in a more dominant direction throughout the course of treatment. This pilot study provides preliminary evidence that CBASP may be considered as treatment for BPD patients with comorbid CD. The modalities how CBASP may be combined with more BPD tailored therapies, e.g. dialectical behavior therapy, transference focused therapy, mentalization based therapy or schema therapy are a further, but clinically relevant question in the field.

## What Makes One Student Lonely and the Other Not?

Nine Wolters & Anke Klein, University of Amsterdam, the Netherlands

Viviana Wuthrich, Macquarie University, Australia

Claudia van der Heijde, Peter Vonk, University of Amsterdam, the Netherlands

Ronald Rapee, Macquarie University, Australia

Reinout Wiers, University of Amsterdam, the Netherlands

## Introduction

The transition phase from high school to university education results in adaptations to someone's environment and social network. These changes can be exciting, but may also lead to feelings of being lonely. Indeed, college years are considered to be a peak period of feelings of loneliness. However, the majority of literature reports on loneliness in the elderly population and the relatively few studies reporting on university students investigated determinants of loneliness in relative isolation. Therefore, this cross-sectional explorative study aims to a) address determinants of loneliness among university students, and b) to investigate the combined influence of situational, personality, social network and mental health factors in relation to loneliness among university students as well as their unique contributions. This results in the research question 'which factors play a unique role in loneliness among university students?'

## Method

A total of 481 university students were included in this study. Loneliness (DJGLS), social isolation (LSNS) and subjective evaluation of the social network were assessed. Background factors included age, gender, cultural background, and field of study. Situational factors included homesickness (UHS) and living situation. Personality characteristics included introversion/extraversion (EPQ-S), self-esteem (RSES). (Mental) health factors included depression (K-6), social anxiety (SIAS-6), physical/psychological impairments, and alcohol use (AUDIT-C). Finally, academic performance was measured.

## Results

The data-analysis is currently ongoing and results will be presented in the poster presentation.

## Discussion

Loneliness is defined as the subjective and unpleasant experience of a discrepancy between one's actual and expected social connections. Knowledge is growing about the broad variety of significant consequences of loneliness on physical health outcomes, cognitive functioning and mental health. However, little research has focused on factors underlying feelings of loneliness, especially in a student population. In order to establish effective interventions for reducing loneliness among students, a better understanding of the mechanisms of loneliness is required. This study is the first to include multiple factors contributing to loneliness to gain understanding about the underlying mechanisms of loneliness in a student population. By increasing our knowledge about the identification of loneliness, we can move a step closer to prevent and treat these feelings of loneliness.

## Mobile Delivered Cognitive Behavioral Therapy Enhances Coupling Between Higher Self-Esteem and Lower Perceived Stress in Major Depressive Disorder

Gyummyoung Kim, Hoewon Won, Gyummyoung Kim, Hyemin Shin, Hyeri Moon, Gieun Nam & Ji-Won Hur, Chung-Ang University, South Korea

## Introduction

Perceived stress plays a vital role in mental health. While recent studies have identified mobile delivered Cognitive Behavioral Therapy (mobile CBT) as a plausible alternative to traditional CBT for individuals with mental illnesses, little is known about the underlying mechanisms that the mobile apps contribute to the symptom improvement. The present study aimed to investigate the potential clinical value of a mobile CBT program for Major Depressive Disorder (MDD) in terms of changes of perceived stress and related psychological characteristics.

## Method

Twenty-seven participants diagnosed with MDD according to the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) were recruited and were asked to use a CBT-based mobile-app once a day for three weeks. To test the effect of a mobile CBT program, the Korean version of the Perceived Stress Scale (PSS) scores before and after completing the 3-week program were compared by paired sample t-test. Pearson correlation was also used to investigate the relationships between perceived stress and other pre- and post-treatment assessments of clinical symptoms measured by Korean version of the Profile of Mood State (POMS), of the Beck Depression Inventory-II (BDI), and the State-Trait Anxiety Inventory-X (STAI). Correlation analyses and multiple regression were used, with scores of the Dysfunctional Attitude Scale (DAS), the Cognitive Style Questionnaire (CSQ), and the Rosenberg Self-Esteem Scale (RSES) related to the perceived stress. Data were analyzed with IBM SPSS Statistics 25.

## Results

After mobile CBT, perceived stress was significantly decreased in MDD participants ( $t = 3.49, P = .002$ ). And it was positively correlated with clinical symptoms of MDD both at baseline (POMS,  $r = .79, P < .001$ ; BDI,  $r = .66, P < .001$ ; STAI-State,  $r = .78, P < .001$ ; STAI-Trait,

$r = .77, P < .001$ ) and follow-up (POMS,  $r = .91, P < .001$ ; BDI,  $r = .85, P < .001$ ; STAI-State,  $r = .88, P < .001$ ; STAI-Trait,  $r = .90, P < .001$ ). At follow up, the influence of psychological variables on perceived stress increased compared to baseline (pre- vs. post-RSES,  $r = -.40, P = .04$  vs.  $r = -.65, P < .001$ ; pre- vs. post-DAS,  $r = .42, P = .03$  vs.  $r = .43, P = .03$ ; pre- vs. post- CSQ,  $r = .43, P = .02$  vs.  $r = .50, P < .01$ ). At follow up, a multiple regression analysis with a hypothetical model ( $P = .004$ ) showed that the self-esteem ( $P = .01$ ) was a significant predictor of perceived stress while dysfunctional attitude and cognitive vulnerability were not survived (both  $P$ s  $> .05$ ).

### **Discussion**

To our knowledge, this is the first study to examine the impact of mobile delivered CBT on the coupling between higher self-esteem and lower perceived stress in individuals with MDD. Mobile CBT apps are effective tools for reducing stress by enhancing self-esteem and they can be a great help for the prognosis of individuals with MDD. Future studies with a randomized controlled design are warranted to further investigate the effects and possible problems of mobile CBT programs.

### **The Mechanism of Improvement of Depressive Symptoms in the Treatments for the School Refusal**

**Tatsuto Yamada, Graduate School of Meisei University, Japan**

**Taisuke Katsuragawa, Waseda University, Japan**

**Yurika Tanaka, Tokorozawa City Board of Education, Japan**

**Yasushi Fuji, Meisei University, Japan**

#### **Introduction**

Although the treatments for the school refuser consist of graduated in vivo exposure and self-statement training, the original developer did not intend to reduce depression. Graduated in vivo exposure focuses on having the child return to the classroom in a stepwise or gradual approach, and cognitive self-statement training is used to assist the child during anxiety-provoking situations. However, the treatments of school refusal have reported not only reduction of anxiety but also of depressive symptoms. Thus, the present study aimed to investigate the mechanism of improvement of depressive symptoms in the treatments for the school refusal.

#### **Method**

Internalizing school refusal behavior (Watanabe & Koishi, 2000), response styles (Murayama et al., 2014), and depressed symptoms (Namiki et al., 2011) of 502 students attending a public junior high school in Japan was assessed using self-report measures. Internalizing school refusal behavior is a thought that would like to be absent from the class. The response styles are the cognitive response (e.g., problem solving, recreation) under difficult situations. In this study, we examined the mechanism of the effects of thoughts focused on problem solving and distraction to school refusal behavior and depression.

#### **Results**

As a result of covariance structure analysis, problem-solving reduces the depressive symptoms through the agency of internalizing school refusal behavior. In contrast, distraction does not significantly intermediate internalizing school refusal behavior; it directly affects depression.

#### **Discussion**

Self-statement training provides alternative thoughts for the idea that would like to be absent from the class. In particular, thoughts related to problem-solving and distraction. The result of the current study confirmed that self-statement training focusing on problem-solving contribute to the reduction of depression via reducing internalizing school refusal behavior. However, some problems cannot cope with in the class. Therefore, sticking to problem-solving may become a factor causing a new downward spiral.

### **The Mechanism and Application of Emotional Contagion: The Possibility of Improvement in Depressive Moods**

**Yuko Yamashita, Tokushima University, Japan**

**Motohiro Sakai, Miyazaki University, Japan**

**Masayuki Satake, Tokushima University, Japan**

**Yutaka Sato & Tetsuya Yamamoto, Tokushima University, Japan**

#### **Introduction**

The purpose of this study was to investigate the relationship between facial mimicry and emotional contagion. In addition, we investigated the possibility of the improvement of depressive moods through emotional contagion.

#### **Method**

Forty-nine participants were divided into two groups, one with subthreshold depression, and one with no depression (the control group). Moreover, each group was divided into people who were presented with pictures of happy faces and people who were presented with pictures of sad faces. They were asked to answer an inventory about their emotional state before and after viewing the emotional faces. While they were presented facial stimuli, their facial EMG activity from the Zygomaticus major and the Corrugator supercilii muscles was measured.

#### **Results**

No significant correlation was found between facial mimicry in response to the happy faces and an increased happy emotional state ( $r = .09, p = .701$ ), whereas there was a significant correlation between facial mimicry in response to the sad faces and an increased sad emotional state ( $r = .46, p = .025$ ).

To investigate the possibility of improvement in depressive moods by emotional contagion, separate ANOVAs were performed for the two emotional states, with facial stimuli (happy vs. sad) and depressive tendency (control vs. subthreshold depression) as between-subject factors. The ANOVAs revealed the main effects for facial stimuli (happy emotional state,  $F(1, 45) = 8.90, p = .005, \eta^2 = .165$ ; sad emotional state,  $F(1, 45) = 9.55, p = .003, \eta^2 = .175$ ), but found no interaction between facial stimuli and a depressive tendency in either of the emotional states ( $F(1, 45) < 1.68, ps > .202, \eta^2 < .036$ ).

#### **Discussion**

Our results revealed that facial mimicry in response to sad faces could mediate the influence of emotional contagion—though the mechanism differs according to the kind of facial mimicry. The facial expressions produced by the Corrugator supercilii (e.g., sad, fearful) have particularly important biological and social functions, so we may be especially sensitive to a response of that facial muscle. Our results showed that facial expressions can affect the emotional state of people with subthreshold depression through the effect of emotional contagion, although the effects on mood were moderate.

However, this study could not reveal the causal relationship between facial mimicry and emotional contagion. Future research should examine the temporal order of these phenomena. Moreover, we used a non-clinical group, so this may limit the generalizability of our findings to people with severe depression or other psychiatric symptoms. Therefore future studies should include clinical samples.

### **Negative Childhood Environment and Depression: The Mediator Role of Repetitive Negative Thinking**

**Ecem Yedidag & Ayse Altan-Atalay, Koc University, Turkey**

#### **Introduction**

Growing up in a traumatizing environment and having insecure attachment patterns had been documented to be linked to various mental disorders including depression. However, there is no consensus about the variables through which a negative childhood environment that is characterized by traumatic experiences and insecure attachment is related to depression. The present study, with the purpose of contributing to the literature on the association between negative childhood events and depression, aims to examine the mediating role of repetitive negative thinking (RNT) in this context. Ehring and Watkins (2008) explained RNT as entertaining negative thoughts about the self that appear in an abstract, repetitive and uncontrollable fashion. In the light of the available literature, disorder non-specific RNT severity is hypothesized to mediate the relationship between negative childhood environment and depressive symptoms.

#### **Method**

The data were gathered from 224 (175 female,  $M = 26.57$ ,  $SD = 9.18$ ) individuals from a community sample, who filled out questionnaires assessing severity of depression, frequency of experiencing RNT, traumatic experiences from childhood years, attachment related avoidance and anxiety, through an online data collection platform.

#### **Results**

In line with the expectations, RNT was found to be significantly mediating the relationship of the latent variable composed of childhood trauma and attachment with depression.

#### **Discussion**

That is, growing up in harsh conditions give way to the development of a tendency to engage in an uncontrollable abstract thinking process especially following difficult and negative situations. This pattern is considered to be beneficial in the short run, due to the fact that thinking about negative life events in a continuous way gives the feeling that one is actively working on the problematic aspects of life. However, in the long run, habitual use of this strategy transforms into perseverative thinking patterns, through keeping the negative life events active in memory pose as a risk factor for depression.

### **A Transdiagnostic Group Cognitive Behavior Therapy to Reduce Symptoms Disturbance and the Change of Psychological Feature in Emotional Disorder: A Pilot Study**

**Pancho Wang, Capital Medical University, China**

**Zhanjing Li, Hongyan Song & Jing Liu, Beijing Anding Hospital, Capital Medical University, China**

#### **Introduction**

To evaluate the effect of group cognitive behavioral therapy (CBT) on the symptoms of patients with emotional disorders in psychiatric outpatient clinics under the guidance of a unified cross-diagnostic therapy for emotional disorders, and to preliminarily explore the main therapeutic factors and the effectiveness of the unified cross-diagnostic therapy for emotional disorders in group therapy.

#### **Method**

Seventeen patients with anxiety disorder (including social anxiety disorder, obsessive compulsive disorder, generalized anxiety disorder) and depressive disorder in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) were screened by the MINI-International Neuropsychiatric Interview (MINI) for 12 weeks. Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), Ruminative Responses Scale (RRS), Young-Schema Questionnaire (YSQ-SF-C), Cognitive Emotion Regulation Questionnaire and Self-made Symptom Severity Level and Disturbance Scale were used to assess the severity of symptoms and psychological feature of patients before, during and after treatment. After that, the self-designed group cognitive behavioral therapy feedback questionnaire was completed.

#### **Results**

(1) In the early, middle and end stages of treatment, the frequency of avoidance places caused by symptoms was significantly different,  $F(1,16) = 5.00$ ,  $p = 0.041$ , partial  $\eta^2 = 0.250$ ; the degree of low interest was also significantly different in different stages of treatment,  $F(1,16) = 8.571$ ,  $p = 0.010$ , partial  $\eta^2 = 0.364$ ; the degree of interference of symptoms to work was different in different stages of treatment.  $F(1,16) = 8.459$ ,  $p = 0.011$ , partial  $\eta^2 = 0.361$ . Symptoms of social interference in different stages of treatment also have significant differences,  $F(1,16) = 5.292$ ,  $p = 0.036$ , partial  $\eta^2 = 0.261$ . (2) In the early, middle and end stages of treatment, there was no significant change in the scores of each dimension of the mental rumination scale. In the schematic characteristics of patients, we found that there were significant differences in the "lack of self-control/lack of self-discipline" schema in different stages of treatment.  $F(1,16) = 12.291$ ,  $p = 0.003$ , partial  $\eta^2 = 0.434$ . In the cognitive emotion regulation strategies of patients, there were significant differences in the "self-blame" of patients in the three stages of treatment,  $F(1,16) = 6.765$ ,  $p = 0.019$ , partial  $\eta^2 = 0.297$ .

#### **Discussion**

(1) The frequency of symptoms and the interference of symptoms on social and interpersonal relationships did not change significantly before and after treatment, but the frequency of avoidance, interest and work interference improved significantly. It was found that the change changed significantly during the sixth week of treatment. The improvement was maintained from the sixth week to the twelfth week, and there was no significant further improvement or recurrence. (2) In the first six weeks of treatment, the patient's schematic characteristics did not change significantly, but in the last six weeks of treatment, the patient's schematic characteristics changed significantly. (3) The cognitive emotion regulation strategy of "self-blame" has been continuously improved throughout the treatment stage. Further randomized controlled clinical trials are needed to explore the intervention effect of group cognitive behavioral therapy (CBT) on emotional disorders in psychiatric outpatient clinics under the guidance of the unified scheme of cross-diagnostic therapy for emotional disorders, and to provide reference for improving the efficiency of psychiatric outpatient psychotherapy services.

## Poster Session 4 (9.00-11.30)

### Basic Processes/Experimental Psychopathology - English Programme

- 1 **Emotion Reactivity in Women with Perinatal Anxiety and/or Depression and Healthy Controls**  
Arela Agako, McMaster University, Canada
- 2 **Interpersonal Emotion Regulation Strategies and Negative Mood Regulation Expectancies: Moderating Effect of Adaptive Cognitive Emotion Regulation**  
Ayse Altan-Atalay, Koc University, Turkey
- 3 **Self-Compassionate Cognitions as Mediators in the Relationship Between Aging and Well-Being**  
Kohki Arimitsu, Kwansei Gakuin University, Japan
- 4 **Just Smile and Breathe! You Will Feel...Better? Comparing the Impacts of Expressive Suppression and Expressive Dissonance on Indicators of Sympathetic Nervous System Arousal**  
Nancy Bahl, University of Ottawa, Canada
- 5 **Behavioral Response to Social Exclusion: A Transdiagnostic Study in Patients with Chronic Depression, Patients with Borderline Personality Disorder and Healthy Controls**  
Barbara B. Barton, Ludwig Maximilian University of Munich, Germany
- 6 **Fear-Linked Differences in the Appraisal of the Speed of Moving Spider Stimuli**  
Julian Basanovic, University of Western Australia, Australia
- 7 **Validity and Reliability of Antisaccade Measures of Attentional Control**  
Julian Basanovic, University of Western Australia, Australia
- 8 **Does Comorbidity with Autism Spectrum Disorder Affect the Depressotypic Bias in Depressed Psychiatric Patients? An Eye-Tracking Study**  
Annemiek Bergman, Radboudumc, the Netherlands
- 9 **The Importance of Considering Age when Designing Interventions: Differential Effects of the Pharmacological Adjunct WIN55212-2 on Fear Extinction Across Development**  
Madelyne Bisby, UNSW Sydney, Australia
- 10 **Attentional Bias to Threat and Dysphoria at Automatic and Strategic Stages of Processing**  
Andreas Blicher, University of Copenhagen, Denmark
- 11 **Intolerance of Uncertainty and Substance Use Disorders: A Structural Equation Modeling Study**  
Gioia Bottesi, University of Padua, Italy
- 12 **Intolerance of Uncertainty and Emotional Processing in a Mixed Psychiatric Sample: Distinct but Related Transdiagnostic Factors**  
Gioia Bottesi, University of Padua, Italy
- 13 **Combined Treatment with Transcranial Direct Current Stimulation and Working Memory Training in Women with Fibromyalgia: Randomized Clinical Trial**  
Prisla Calvetti, Federal University of Health Sciences of Porto Alegre, Brazil
- 14 **Sleep Deprivation Reduces Inhibitory Control and Increases Fear of Losing Control in Binge Eating**  
Silvia Cerolini, Sapienza University of Rome and School of Cognitive Psychotherapy srl SPC, Italy
- 15 **Retractions of Negative Misinformation are Effective in Depressive Rumination**  
Ee Pin Chang, University of Western Australia, Australia
- 16 **What is the Process of Self-Criticism: A Phenomenological Study**  
Hyunju Cho, Yeungnam University, South Korea
- 17 **Does Change in Attention Control Mediate the Impact of tDCS on Attentional Bias for Threat? Limited Evidence from a Double-Blind Sham-Controlled Experiment in an Unselected Sample**  
Charlotte Coussement, Université Catholique de Louvain, Belgium
- 18 **Altering Attachment Security Using Cognitive Bias Modification**  
Emma Doolan, University of New South Wales Sydney, Australia
- 19 **Fear of the Unknown: Is the Mother's Mental State a Risk Factor for Infant's Exploration Behaviour?**  
Samantha Ehli, Ruhr-Universität Bochum, Germany
- 20 **Links Between Interoception, Empathic Skills and Depressive Symptomatology: Contribution of Electrodermal Measures**  
Khira El Bouragui, University of Reims Champagne-Ardenne, France
- 21 **Intranasal Insulin as Adjuvant of Fear Extinction**  
Sonja Römer, Saarland University, Germany
- 22 **Can Perceived Social Support Reverse Limbic Scars of Childhood Maltreatment?**  
Katharina Förster, University Hospital Münster, Germany
- 23 **Reliability of the Phenomenon of Attentional Bias and the Paradigms Used to Index It**  
Jessie Georgiades, University of Western Australia, Australia
- 24 **Stigma Towards Prolonged Grief Disorder: Does Diagnostic Labeling Matter?**  
Judith Gonschor, Philipps-Universität Marburg, Germany
- 25 **Pinpointing the Contribution of Attentional Bias to Negative Socially-Relevant Information to Socially Anxious Responding**  
Ben Grafton, University of Western Australia, Australia
- 26 **Validation of the Compassionate Engagement and Action Scales (CEAS) in a German Sample**  
Johannes Graser, Witten/Herdecke University, Germany
- 27 **What Kind of Mind Wandering Reflects the Risk of Mental Disorders: A Systematic Review**  
Siqing Guan, Waseda University, Japan
- 28 **Reward Anticipation as a Potential Mechanism of Motivational Mental Imagery: An Experimental Study**  
Max Heise, University of Freiburg, Germany
- 29 **Signals from the Body: Validation of the German Version of the Interoceptive Awareness Questionnaire (IAQ-19)**  
Severin Hennemann, University of Mainz, Germany

- 30 **The Effect of Varying Danger Controllability on Attention to Threat Messages**  
Matthew Herbert, The University of Western Australia, Australia
- 31 **The Impact of tDCS on Rumination: A Systematic Review of the Sham-Controlled Studies Among Healthy and Clinical Samples**  
Yorgo Hoebeke, Psychological Sciences Research Institute (IPSY), Belgium
- 32 **Ecological Momentary Assessment in the Context of Inter-Session Processes: An Unrevealed Measurement Method or Rather a Covert Intervention?**  
Catherine Irniger, University of Zurich, Switzerland
- 33 **Smartphone Usage Patterns in Individuals with Bedtime Procrastination**  
Sonhye Jeoung, Sungshin University, South Korea
- 34 **Psychological Flexibility and Performance in Competitive Athletes**  
Lis Johles, Karlstad University, Sweden
- 35 **NoIlikesU – An Internally and Ecologically Valid Paradigm to Investigate Social Rejection Expectations and Their Adjustment in Human Samples**  
Lukas Kirchner, Philipps-University of Marburg, Germany
- 36 **Do Rumination and Depressive Symptoms Predict Eye-Tracking Based Attention Biases?**  
Joppe Klein Breteler, Radboud University Nijmegen, the Netherlands
- 37 **Differences in Clinical Indices Based on Patterns of Sleep Misperception in Insomnia Patients**  
Nari Koo, Sungshin University, South Korea
- 38 **Intra- and Interindividual Comparison and the Evaluation of Mental Well-Being**  
Marthe Sickinghe, University of Münster, Germany
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Alafia Jeelani, National Institute of Mental Health and Neuro Sciences, India

## Poster Session 4: Basic Processes/Experimental Psychopathology and Personality Disorders

### Basic Processes/Experimental Psychopathology

#### Emotion Reactivity in Women with Perinatal Anxiety and/or Depression and Healthy Controls

Arela Agako, Sheryl Green, Katherine Silang, Claire Hallett & Randi McCabe, McMaster University, Canada

##### Introduction

The perinatal period (i.e., pregnancy to 12 months postpartum) is a period of vulnerability in which women are more likely of developing mental health disorders (Accort et al., 2008). During this time up to 21% of women develop anxiety disorders and up to 19% develop depressive disorders. These disorders are associated with long-term negative outcomes for both mothers and infants. Yet, little research exists on why some women experience anxiety and depression and others do not. Emotion dysregulation (ED) has been linked to various psychopathological conditions and individual differences in ED may be associated with an increased vulnerability for an anxiety or depressive disorder (Campbell-Sills & Barlow, 2007). Moreover, the extensive biological, physical and social changes that women experience during the perinatal period may exacerbate existing, or lead to de novo disorders, making women more vulnerable to ED during this transition.

##### Method

The purpose of the current study is to investigate the relationship of ED and anxiety and depressive disorders by comparing emotional reactivity across three groups of women: 1) the experimental group of perinatal women with an anxiety and/or depressive disorder, 2) perinatal healthy controls (HC), and 3) nulliparous HCs. Participants are presented with emotionally provoking stimuli selected from the International Affective Picture System (IAPS; Lang et al, 1997) and are asked to make self-reported ratings on their emotions following the presentation of the stimuli. Participants also fill out self-report measures of anxiety and depression. Data collection is currently underway and analyses will be conducted on a projected sample of N=45 (n=15/group) that will have completed the study by June 2019.

##### Results

Three by three mixed-model analyses of variance will be conducted with group (experimental group/HC-perinatal/HC-nulliparous) as the between-group variable and stimuli (positive/negative/neutral) as the within-group variable. Regression analyses will be conducted to examine whether emotion reactivity relates to anxiety and depressive symptoms in the experimental group. The findings from this study will shed light on ED as an unexplored variable that may help explain why some women are more vulnerable to anxiety and depression during the perinatal period.

##### Discussion

The findings from this study will shed light on ED as an unexplored variable that may help explain why some women are more vulnerable to anxiety and depression during the perinatal period. If ED is found to be implicated anxiety and depression during this time, then 1) this would warrant further research to establish ED as a risk factor to anxiety and depression during the perinatal period and 2) will aid in adapting current psychological treatment protocols for women with anxiety and depression during the perinatal period (e.g., adding emotion regulation strategies) to target this variable and potentially increase treatment effectiveness.

#### Interpersonal Emotion Regulation Strategies and Negative Mood Regulation Expectancies: Moderating Effect of Adaptive Cognitive Emotion Regulation

Ayse Altan-Atalay & Elcin Ray, Koc University, Turkey

##### Introduction

Negative mood regulation expectancies (NMRE) which refer to one's beliefs about the effectiveness of own emotion regulation skills, had been postulated as an influential protective factor, associated with low levels of psychological distress. It is considered as a measure of coping self-efficacy. Higher levels of NMRE had been discussed to be associated with frequent use of adaptive internal emotion regulation skills. However, nearly all studies on the relationship between NMRE and ER focused on intrapersonal ER strategies, neglecting its association with interpersonal emotion regulation (IER) skills. A recent framework for IER, which covers IER based on the dimensions of Enhancement of Positive Affect (EPA), Perspective Taking (PT), Social Modeling (SM) and Soothing (S) had been proposed by Hofmann, Carpenter and Curtin (2016). A glance at the literature indicates that relying too much on IER strategies at every stressful life period reduces one's chances of examining and practicing with internal ER strategies and thus will contribute to lower levels of coping self-efficacy. However, the connection between the two had never been tested. The present study aims to test the relationship between IER and NMRE, by also focusing on the moderator role of adaptive cognitive ER skills in this process.

##### Method

204 (162 women) Turkish speaking individuals between the ages 18 and 32 ( $M = 22.78$ ,  $SD = 3.22$ ) participated in the study and filled out questionnaires assessing interpersonal emotion regulation strategies, adaptive cognitive emotion regulations strategies and NMRE.

##### Results

The results indicated that among the dimensions of IER, only enhancement of positive affect and Soothing were significantly associated with NMRE, with higher levels of NMRE being linked to low frequency of using soothing and frequently using EPA. In addition to that, the adaptive ER appeared to moderate the relationship of soothing with NMRE. Probing of the significant interaction revealed that soothing was associated with significantly lower levels of NMRE only among individuals who do not use adaptive ER strategies frequently ( $t = -2.41$ ,  $p = .017$ ). A similar association was not observed in the participants that report using adaptive ER strategies less frequently.

##### Discussion

In other words, frequency of using soothing as an ER strategy is associated with high levels of NMRE if the individual uses adaptive ER strategies frequently. However, high levels of soothing appeared to be associated with lower NMRE when the individual does not have adaptive ER skills. In conclusion, in the absence of good ER skills, reliance on soothing frequently interferes with the development of a high coping self-efficacy. The findings will be discussed in the light of available literature.

## **Self-Compassionate Cognitions as Mediators in the Relationship Between Aging and Well-Being**

**Kohki Arimitsu, Ryohei Arimitsu & Ryohei Sakakibara, Kwansei Gakuin University, Japan**

**Satoshi Shimai, Kansai University of Welfare Sciences, Japan**

### **Introduction**

The world's population is aging, including Japan, Italy, Portugal, Germany, and other European countries. Since older adults inevitably face aging events such as memory loss, back pain, and estrangement, coping with the events is important to keep their physical and mental health. Research has shown subjective well-being (SWB) increases by age but older adults show variability to cope with the process of aging. The present study focuses on Japan which is most rapidly aging but unhappier than other countries. Research on well-being promotion in older adults expanded to include positive psychological indicators such as emotion regulation, mindfulness, and self-compassion. Some studies investigated the mediating or moderating role of self-compassion to understand the relationship between aging events and objective and subjective well-being. Evidence showed that older adults high in self-compassion had higher SWB, maintained higher SWB when they have physical problems, and mediated the relationship between positive responses to aging and emotional tone than those low in self-compassion (Allen et al., 2012, 2013). The present study examines whether self-compassionate responses to aging has a mediating role between trait self-compassion and hedonic and eudaimonic well-being in Japanese older adults.

### **Method**

335 participants aged between the ages of 60 and 79 completed the Japanese version of Brief Self-compassion Scale (BSCS: Arimitsu et al., 2016; Raes et al., 2010), the Subjective Happiness Scale (SHS: Lyubomirsky & Lepper, 1999; Shimai et al., 2004), the Meaning in Life Questionnaire (MLQ: Shimai et al., 2018; Steger et al., 2006), and the Mindful Attention Awareness Scale (MAAS: Brown & Ryan, 2003; Fujino et al., 2015). The participants were also asked to recall their age-related events and their thoughts and feelings regarding the event. They also rated the degree to which four self-compassionate attitudes helped them cope with the event (1 = not at all; 5 = extremely). Two coders independently assessed the positive tone of each statement as well as the presence of six components of self-compassion identified by Neff (2003). To test the hypotheses, mediation analyses was conducted with self-compassion as the predictor, positive and negative self-compassionate cognitions regarding the event or self-compassionate attitudes as the mediators, emotional tone, SHS, and MLQ as the outcomes, and MAAS as a covariate.

### **Results**

Results showed that self-compassion predicted SHS and positive emotional tone mediating both positive and negative response to aging. The relationship between self-compassion and two factors of MLQ were not mediated indirectly by responses to aging, but were mediated by their self-compassionate attitudes to cope with aging events. Mindfulness was a significant covariate in the models.

### **Discussion**

The data partially supported our hypothesis that self-compassionate thinking about aging is a mediator between self-compassion and SWB. These results suggest that enhancing self-compassion program for older adults may increase their well-being in a rapid aging country.

## **Just Smile and Breathe! You Will Feel...Better? Comparing the Impacts of Expressive Suppression and Expressive Dissonance on Indicators of Sympathetic Nervous System Arousal**

**Nancy Bahl, Jude Nachabe, Molly Rooyakers & Allison Ouimet, University of Ottawa, Canada**

### **Introduction**

Emotion regulation (ER) is the ability to effectively manage and respond to an emotional experience. This study investigated two ER strategies: expressive suppression (ES; inhibiting an emotional expression—a “poker face”) and expressive dissonance (ED; displaying an emotional expression incongruent to emotional state –smiling when sad). Researchers have found increased sympathetic nervous system arousal when people engage in ES. In contrast to ES research, the facial feedback hypothesis suggests that positive facial muscle activity (i.e., generating a smile) may significantly increase positive affective states. Our goal was to investigate whether ED is a more adaptive strategy than ES on anxiety.

### **Method**

Participants (n = 94) first completed a baseline task, where they were asked to watch negative emotion-eliciting images. Then, participants were randomly assigned to use either Expressive Suppression (n = 47) or Expressive Dissonance (n = 47) while watching another set of negative emotion-eliciting images. The images were taken from the International Affect Picture System (IAPS; Lang & Bradley, 1994). Electrodermal activity (i.e., palm sweating) was measured throughout the baseline and the picture task, to measure sympathetic nervous system arousal, which is an indicator of anxiety.

### **Results**

To examine our research question, we calculated means of the electrodermal activity response in both the baseline task and picture task. We then used an independent samples t-test to compare the mean difference between the Expressive Suppression and Expressive Dissonance groups. Our analyses suggest that there were no differences between those in the Expressive Suppression or the Expressive Dissonance group ( $M_{\text{difference}}=.0052$ ,  $SE=.12$ ,  $t(78)=-.0432$ ,  $p=.97$ ).

### **Discussion**

Our results suggest that contrary to some research supporting the facial feedback hypothesis, displaying a positive expression (i.e., smiling) in response to a negative stressor, may not actually be any more adaptive than expressive suppression, which has generally been found to be maladaptive. Our results align with a recent Registered Replication Report (see Wagenmakers et al., 2016), which also did not find support for the facial feedback hypothesis, and instead found that inducing people to smile or frown did not affect their emotional state.

## **Behavioral Response to Social Exclusion: A Transdiagnostic Study in Patients with Chronic Depression, Patients with Borderline Personality Disorder and Healthy Controls**

**Barbara B. Barton & Julia Dewald-Kaufmann, LMU Munich, Germany**

**Torsten Wüstenberg, Central Institute of Mental Health (CIMH), Germany**

**Matthias A. Rinhard, Richard Musil, Andrea Jobst & Frank Padberg, University Hospital, LMU Munich, Germany**

### **Introduction**

A core feature of patients with chronic depression (CD) and borderline personality disorder (BPD) are interpersonal difficulties, leading to a restricted and instable social network and challenging the therapist-patient-relationship. Furthermore, long-term studies show, that while depressive symptoms and self-harm behavior decrease after termination of psychotherapy, social deficits persist (Rhebergen et al., 2010;

Zanarini, Frankenburg, Reich, & Fitzmaurice, 2010). The cyberball paradigm by Williams, Cheung, and Choi (2000) is a virtual ball tossing game for experimentally mimicking social exclusion in order to investigate behavioral and neurobiological underpinnings of behavior reactive to social exclusion. Here, we applied a novel variant allowing measurement of ball tossing behavior in a transdiagnostic comparison of CD and BPD patients with a healthy control group to further characterize both patient groups in their spontaneous reaction to social rejection/preference for others.

#### **Method**

In-and outpatients with CD or BPD and Healthy Controls (HC) between 18-65 years were included. The cyberball paradigm by Williams et al. (2000) was modified allowing a behavioral response to social exclusion. Each participant played an experimental condition (2 minutes: inclusion; 10 minutes: partial exclusion by one player, who only tosses the ball in 5 %) and a control condition (12 minutes of inclusion) in randomized order.

#### **Results**

So far 59 HC (50.8% female; Mage: 32.0, SD=12.2), 32 BPD (50% female; Mage: 29.6, SD=10.0) and 26 CD (46.2% female; Mage: 39.7, SD=13.0) have been included. The mixed model analysis showed a significant effect for the interaction of condition\*group\*time, following a quadratic trajectory ( $t(527)=2.44$ ;  $p<0.05$ ). Fitted to the single groups the interaction of condition\*time only remained significant within HC ( $t(1239)=-2.43$ ;  $p<0.05$ ). HC tossed the ball significantly more often to the excluding player in minute 1, 2, 3 and 5, patients with BPD did so in minute 2 and CD did not show a significant preference at any time.

#### **Discussion**

This study shows significant differences in behavioral response to social exclusion between conditions across time between the groups. However, only in the HC group the playing behavior over the time course varied significantly between experimental and control condition. Furthermore, only HC showed a lasting increase in ball tosses towards the excluding player in the first minutes of partial exclusion, which could be interpreted as an attempt to social repair. The missing of a consistent social repair behavior in patients with BPD and CD could be perceived as an unexpected behavior by the interaction partner leading to a lack of understanding and, thus, negatively influencing the relationship. This knowledge might contribute to a better understanding of the quality of interpersonal deficits and could be therapeutically used to reflect such behavior and analyze its interpersonal consequences.

### **Fear-Linked Differences in the Appraisal of the Speed of Moving Spider Stimuli**

**Julian Basanovic & Laurence Dean, University of Western Australia, Australia**

**John Riskind, George Mason University, USA**

**Colin MacLeod, University of Western Australia, Australia**

#### **Introduction**

Cognitive models of fear recognise that cognitive distortions in the appraisal of feared stimuli can contribute to and maintain elevated fear in the face of such stimuli. The looming vulnerability model of fear predicts that high fearful individuals, as compared to low fearful individuals, display a distorted tendency to appraise feared stimuli as moving disproportionately quickly when such stimuli are approaching, but not when they are receding (Riskind and Wahl 1992; Riskind and Williams 2006). This prediction has been examined experimentally by investigators who have endorsed its veracity (e.g. Riskind et al. 1992, Vagnoni et al. 2012). Critically however, these investigations have been compromised by methodological limitations and as a result cannot preclude alternative explanations for their findings. Hence, existing investigations are limited in their ability to determine the validity of the looming prediction. Understanding the manner in which cognitive distortions characterise spider-fear can enhance understanding of the cognitive mechanisms that underpin heightened fear and may provide targets for cognitive intervention. Thus, the present study employed a novel methodology designed to overcome these limitations to examine whether individuals with heightened levels of spider-fear exhibit this predicted distortion in the appraisal of movement.

#### **Method**

Two groups of participants who reported experiences either relatively high, or low, levels of spider-fear completed a perceptual task that presented a series of stimulus pairs comprising spider and butterfly images under two movement conditions. In one condition images displayed approaching movement, while in the other condition images displayed receding movement. Within each movement condition the spider and butterfly images varied in the discrepancy of their movement speed. Participants were required to indicate which stimulus they perceived to move fastest. The frequency at which participants identified each stimulus as having moved fastest was recorded and compared between participants groups and movement conditions.

#### **Results**

Analyses revealed that when stimuli displayed approaching movement participants in the high spider-fear group demonstrated a greater tendency to perceive the spider as moving fastest than did participants in the low spider-fear group. This relationship was not observed under conditions where stimuli displayed receding movement. Furthermore, it was revealed that level of spider fear was positively correlated with a tendency to identify the spider as having moved fastest when stimuli displayed approaching movement, but not when stimuli displayed receding movement.

Lastly, a signal detection approach was employed to examine the presence of fear-linked differences in sensitivity to instances in which the spider had moved fastest, or bias towards appraising the spider as having moved fastest. Results revealed that low spider-fearful participants demonstrated greater sensitivity generally, while high spider-fearful participants demonstrated a greater bias towards identifying the spider as moving fastest under conditions where stimuli displayed approaching movement, but not when stimuli displayed receding movement.

#### **Discussion**

These results provide support for the looming vulnerability model of fear. They also support the veracity of the prediction made by this theory, that high fearful individuals, as compared to low fearful individuals, display a distorted tendency to appraise feared stimuli as moving disproportionately quickly when such stimuli are approaching, but not when they are receding. Implications of these findings for understanding the cognitive characteristics of elevated spider-fear, and specific-fear, including avenues for furthering research on movement based cognitive distortions in fearful individuals, will be discussed.

### **Validity and Reliability of Antisaccade Measures of Attentional Control**

**Julian Basanovic, Owen Myles & Colin MacLeod, University of Western Australia, Australia**

#### **Introduction**

Cognitive theories of anxiety vulnerability, including Attentional Control Theory (Eysenck et al., 2007), identify impairment in control of attentional inhibition as a characteristic of heightened anxiety vulnerability. One of the most commonly used measures in the demonstration

of this anxiety-linked difference is the assessment of antisaccade performance. Antisaccade performance assessed using tasks that require participants to execute voluntary eye movements made in the direction opposite to an abruptly presented stimulus (an antisaccade). To do so effectively participants are required to engage control of attention processes to inhibit the execution of reflexive eye movement towards the stimulus (a prosaccade). Analysis of the errors in antisaccade execution and/or latencies of the execution of anti-saccades are used to indicate performance of attentional control processes. To measure performance investigators have typically examined variation in the performance of eye-movements, or the execution of manual response to target stimuli such as the latency or accuracy to identify stimulus probes. Critically however, investigators have not determined the relative validity or reliability of these alternate methods in their capacity to index antisaccade performance, and anxiety-linked variation in antisaccade performance. The present study investigated this.

#### **Method**

The study recruited individuals who varied in anxiety vulnerability, and subjected them to three commonly used variants of tasks designed to measure individual differences in the performance of antisaccades. One variant recorded the eye-movements of participants, and assessed the accuracy and latency of antisaccade movements executed during the task. A second variant recorded the accuracy and latency of participant's discrimination of target probes presented in the opposite location to the abrupt stimulus. A third variant recorded the accuracy of participants discrimination of target probes presented in the opposite location to the abrupt stimulus, which were presented only briefly making accurate discrimination difficult in the absence of effective antisaccades.

#### **Results**

Data collection for this study is currently ongoing. Antisaccade performance will be computed under each methodology. The convergent validity and internal reliability of the antisaccade measures produced by the tasks will also be computed. The results will reveal the relative psychometric properties of these commonly adopted measures of antisaccade performance. Furthermore, anxiety-linked differences in these measures will be assessed to determine the sensitivity of these tasks in detecting the commonly reported anxiety-linked impairment in control of attentional inhibition.

#### **Discussion**

The findings that will arise from this investigation will reveal the relative psychometric properties of commonly used variants of the antisaccade method of assessing control of attentional inhibition. Critically, this will establish whether these alternative variants hold convergent validity and appropriate reliability in measuring antisaccade performance. This will inform future investigation that may wish to measure antisaccade performance as an index of attentional control. Furthermore, the findings that will arise from this investigation will reveal the relative sensitivity of these task to detecting commonly reported anxiety-linked impairments in performance of attentional inhibition. Given that this anxiety-linked difference is of increasing interest to researchers interested in the cognitive basis of anxiety and emotional vulnerability, the determination of the task parameters most suitable to detecting this difference will critical to the effective investigation of the anxiety-linked effect.

### **Does Comorbidity with Autism Spectrum Disorder Affect the Depressotypic Bias in Depressed Psychiatric Patients? An Eye-Tracking Study**

**Annemiek Bergman, Janna Vrijzen, Mike Rinck, Constance Vissers, Iris van Oostrom & Aart Schene, Radboudumc, the Netherlands**

#### **Introduction**

The cognitive model of depression describes that cognitive biases engender and maintain Major Depressive Disorder (MDD). Given the high prevalence of MDD in Autism Spectrum Disorder (ASD), negative cognitive bias might serve as a cognitive risk factor for developing MDD in individuals with comorbid ASD.

#### **Method**

In the current eye-tracking study, we examined if a comorbid diagnosis of a current (CD) or remitted depression (RD) influenced biased attentional processing in patients with ASD. Therefore, 116 psychiatric patients with CD or RD and/or ASD and 64 healthy controls (HC) viewed two blocks of slides presenting social and non-social pictures, each picture was positively or negatively valenced. Glance duration, revisits and duration of first fixation were computed and analyzed with separate linear mixed model analyses.

#### **Results**

Results showed that RD and CD patients demonstrated longer overall glance duration for negative compared to positive stimuli. Contrastingly, the RD patients with ASD showed more positive bias than CD patients with ASD. Regarding revisits, the RD patients with ASD revisited positive stimuli more compared to negative; the CD patients with ASD showed no significant effects for revisits. No significant group differences were found for the first fixation duration. Further, no significant three-way interaction effects of valence, (non-)social stimuli, and groups were found for all attentional indices.

#### **Discussion**

No additional differentiation on the valenced (non-)social content of the stimuli was demonstrated for the groups. This finding is surprising, especially for the patients with ASD, given that substantial research indicate that individuals with ASD demonstrate decreased glance durations for social stimuli compared to HC. The presence of a negative bias in patients with CD and RD was found, thus, confirming results demonstrated in earlier studies. Moreover, patients with CD and comorbid ASD showed a negative bias, indicating that negative attentional biases are not solely present in MDD patients, but also in MDD patients with comorbid psychopathologies, such as ASD.

### **The Importance of Considering Age when Designing Interventions: Differential Effects of the Pharmacological Adjunct WIN55212-2 on Fear Extinction Across Development**

**Madelyne Bisby, Rick Richardson & Kathryn Baker, University of New South Wales Sydney, Australia**

#### **Introduction**

Anxiety disorders are among the leading causes of the global health burden, and mental illness broadly is the highest source of global economic burden. In particular, anxiety disorders that emerge prior to adulthood are more common and costly than those that emerge later in life. Further, unfortunately up to 55% of adolescents show significant relapse of anxiety symptoms after successful cognitive behaviour therapy – our gold-standard treatment for anxiety disorders. Clearly, there is a need to improve treatments for anxious youth. One approach is to identify pharmacological adjuncts that improve extinction processes (the basis of exposure-based therapy). Of note is that adolescents (both rodent and human) show deficits in the retention of extinction learning, paralleling fear relapse following therapy. Yet, there are few adjuncts to improve fear extinction in adolescents. We, and others, have identified that there are major changes in the endocannabinoid system from adolescence to adulthood in the brain regions essential for extinction. Dysregulations in this neurotransmitter system have been

implicated in several psychiatric disorders, including anxiety. Administration of the drug WIN55212-2 increases the activity of the endocannabinoid system and enhances extinction retention in adult rats but its efficacy in developing animals is unknown. Therefore, we investigated whether this drug improves fear extinction retention in two groups of developing rats: adolescents, and juveniles (the period akin to childhood in humans).

#### **Method**

Juvenile (postnatal days 24-26) and adolescent (postnatal days 34-36) rats received Pavlovian fear conditioning, extinction training, and an extinction retention test over consecutive days. Rats received either WIN55212-2 or a vehicle solution 20-min prior to extinction training.

#### **Results**

There were no group differences in acquisition of fear at conditioning across age or drug groups ( $p > .05$ ). Unexpectedly, WIN-treated rats of both ages showed higher levels of fear than vehicle-treated rats at extinction training ( $p = .04$ ). At test, adolescent rats showed significantly higher fear than juvenile rats ( $p = .002$ ), replicating previous findings, but there were no effects of WIN55212-2 administration in either age group ( $p = .75$ ).

#### **Discussion**

Our findings indicate that the neurobiology of fear extinction in developing animals is different to adult animals. Whereas WIN55212-2 administration improves extinction in adults, the same drug had no effect on extinction retention in juvenile or adolescent rats. This is likely to be a function of an immature endocannabinoid system in developing animals, and is consistent with other work showing that the effects of WIN55212-2 on memory tasks differ between adolescent and adults. It is important to consider the developing brain when selecting pharmacological adjuncts to improve treatment outcomes. Our findings highlight the need for treatment adjuncts to be tested at different stages of development prior to clinical use, as those that work for adults may have different effects in children and adolescents.

### **Attentional Bias to Threat and Dysphoria at Automatic and Strategic Stages of Processing**

**Andreas Blicher, Signe Vangkilde, Anders Petersen & Marie Louise Reinholdt-Dunne, University of Copenhagen, Denmark**

#### **Introduction**

Attentional bias to emotional stimuli is believed to be an important factor in the development and maintenance of emotional disorders. However, the mechanisms of selective attention in anxiety and depression are not well delineated. Studies suggest that anxiety is linked to an attentional bias to stimuli depicting threat, whereas depression is linked to an attentional bias to stimuli depicting dysphoria. Also, different treatments of anxiety and depression target different stages of processing, e.g., attention bias modification (ABM) aim at changing more automatic stages of processing, whereas cognitive behavioral therapy (CBT) aim at changing more strategic stages of processing.

#### **Method**

The aim of the present study was to investigate attentional bias at both automatic and strategic stages of processing using two visual search tasks. Both tasks consisted of a matrix of one threatening, dysphoric, or neutral target picture among fifteen threatening, dysphoric, or neutral distractor pictures. In the odd-one-out search task participants search for a target picture that is different from the distractor pictures. In the target search task participants search for a previously presented target picture among different distractor pictures. The odd-one-out search task is believed to measure automatic processing, and the target search task is believed to measure strategic processing.

#### **Results**

In the odd-one-out search task results were similar for threatening and dysphoric stimuli. Responses to threatening targets among neutral distractors were faster than neutral targets among threatening distractors, and responses to dysphoric targets among neutral distractors were faster than neutral targets among dysphoric distractors. However, in the target search task results were different for threatening and dysphoric stimuli. Responses to threatening targets among neutral distractors were faster than neutral targets among threatening distractors, whereas responses to dysphoric targets among neutral distractors were slower than neutral targets among dysphoric distractors.

#### **Discussion**

The present study suggests that threatening stimuli is processed similarly at different stages of processing, whereas dysphoric stimuli is processed differently at different stages of processing. During automatic processing threatening and dysphoric stimuli showed similar attentional patterns, whereas during strategic processing threatening and dysphoric stimuli showed opposite attentional patterns. The present study suggests that treatments of anxiety and depression aimed at changing attentional bias to threat and dysphoria should be tailored based on knowledge about similarities and differences between stimuli at automatic and strategic stages of processing, respectively.

### **Intolerance of Uncertainty and Substance Use Disorders: A Structural Equation Modeling Study**

**Gioia Bottesi, University of Padua, Italy**

**Marco Lauriola, Sapienza University of Rome, Italy**

**Enrico Duso, Miriana Maria Bressan & Marta Ghisi, University of Padua, Italy**

#### **Introduction**

Patients with Substance Use Disorders (SUDs) usually act impulsively to manage negative emotions due to poor emotion regulation (ER) and to the tendency to engage in rash behavior when experiencing negative affect (i.e., negative urgency, NU). Similarly, people with high levels of intolerance of uncertainty (IU) might perform impulsive behavior to reduce uncertainty and the associated emotional distress (Pawluk & Koerner, 2013). The current study investigated the association between IU, poor ER, NU, and emotional distress among patients with SUDs compared to healthy controls (HCs).

#### **Method**

One-hundred and thirty-one patients with SUDs (56 females and 75 males) and 131 HCs matched on gender entered the study. The two groups were comparable with respect to age and education. All participants completed self-report measures assessing IU, ER, NU, and emotional distress. Structural equation modeling was applied to test whether and how poor ER and NU mediate the path from IU to emotional distress in both groups. Specifically, it was tested whether IU indirectly predicts emotional distress through poor ER and then through NU (sequential mediation).

#### **Results**

Multigroup analyses showed no differences between groups in the path from IU to emotional distress ( $p = .06$ ); poor ER emerged as a significant mediator both in patients with SUDs ( $p = .02$ ) and HCs ( $p = .003$ ). On the contrary, the path from IU to NU was significantly mediated by poor ER only in patients with SUDs ( $p = .04$ ).

## **Discussion**

Current findings preliminary support literature suggesting that the association between IU and poor ER might contribute increasing emotional distress and that this association might bolster NU in individuals characterized by difficulties in ER (Bottesi, Tesini, Cerea, & Ghisi, 2018).

## **Intolerance of Uncertainty and Emotional Processing in a Mixed Psychiatric Sample: Distinct but Related Transdiagnostic Factors**

**Gioia Bottesi, University of Padua, Italy**

**Carolina Papa, Chiara Lucentini & Marco Lauriola, Sapienza University of Rome, Italy**

### **Introduction**

Both intolerance of uncertainty (IU) and emotional processing (EP) are cognitive constructs involved in the onset and course of mental disorders. With the refinement of clinical assessment, there is evidence that each construct is represented by a hierarchical arrangement of facets. Avoidance of uncertainty, doubting, overestimation of threat, worry, control of uncertainty, and seeking reassurance are the facets of IU. Suppression, signs of unprocessed emotions, control of the emotional experience, avoidance, and impoverished emotional experience are the facets of the EP model. We aim to test the degree to which the general factors underlying each construct are overlapping.

### **Method**

One-hundred and eighty-five patients (100 women, 85 men; mean age 43.5 years, SD=13.6 years) with mixed psychiatric conditions were recruited from mental health facilities (n=65) and residential therapeutic communities or day centers (n=120). Inclusion criteria for the study were age > 18, a diagnosed psychiatric condition, ability to fill in personality questionnaires. The patients, classified as psychotics (n=74), neurotics (n=62), or other conditions (n=54), completed the Intolerance of Uncertainty Inventory (Lauriola et al., 2018) and the Emotional Processing Scale (Baker et al., 2010). Structural Equation Modeling was applied to parse general and specific variance components in patient ratings.

### **Results**

A bifactor model had an acceptable fit to the data of both scales. The proportion of common variance explained by the general factor was .70 for the IUI and .64 for the EPS. Compared to reference data for the Italian population the broad diagnostic groups were all high on the general factor of IU and EP. A joint factor model also yielded an acceptable fit (CFI=.90, TLI=.89, RMSEA=.04, p-close =.998; SRMR=.07). The latent variable correlation between the general factors underlying IU and EP ( $r=.64$ ) was not so large to support a complete overlap of the two constructs.

### **Discussion**

The findings of the present study are consistent with the transdiagnostic hypothesis for both constructs. Although the general factors underlying IU and EP were elevated in all diagnostic groups, they cannot be equated. The latent variable correlation was below the recommended threshold for establishing discriminant validity. Future studies should explore clinical hypothesis concerning with the common and the distinct aspects of the constructs. We speculate that the relationships between IU and EP might lie in the high distressing value of uncertainty for patients, which might be unable to fully elaborate the negative emotions triggered by uncertainty.

## **Combined Treatment with Transcranial Direct Current Stimulation and Working Memory Training in Women with Fibromyalgia: Randomized Clinical Trial**

**Prisla Calvetti, Federal University of Health Sciences of Porto Alegre, Brazil**

**Vinicius Santos, Maxciel Zortea & Wolnei Caumo, Laboratory of Pain & Neuromodulation, Clinical Hospital of Porto Alegre, HCPA, Brazil**

### **Introduction**

This study aimed to assess the effect of working memory training (WMT) with or without concomitant transcranial Direct Current Stimulation (tDCS) on the cognitive performance in patients with fibromyalgia.

### **Method**

Randomized, double blind, sham-controlled clinical trial with 40 patients with fibromyalgia were included (20 patients on each arm) combined with WMT. Anodal tDCS (2mA) was applied over the left dorsolateral prefrontal cortex (DLPFC) along with WMT sessions, which consisted of auditory and visual dual n-back task, 8 sessions, 20 min per session. The following questionnaires and scales were assessed before and after the treatment: Controlled Word Association Test (COWAT; verbal and semantic fluency), Paced Auditory Serial Addition Test (PASAT), the subtests digits span of the Wechsler Adult Intelligence Scale (WAIS-III; working memory), Rey Auditory Verbal Learning Test (RAVLT; episodic memory and short-term memory), Beck Depression Inventory-II (BDI-II), Visual Analogue Scale (VAS) for pain intensity, State-Trait Anxiety Inventory (STAI) - reduced version, Brazilian Portuguese Pain Catastrophizing Scale (BP-PCS) and Brazilian Profile of Chronic Pain: Screen (B-PCP:S).

### **Results**

Collected data were analysed using two-way (factorial) ANOVA. Our findings show that WMT with concomitant anodal tDCS is associated with improvement in the following outcomes: COWAT-semantic ( $p=0.004$ ) and verbal fluency ( $p=0.001$ ), RAVLT part 1 to 5 ( $p=0.040$ ), BDI-II ( $p=0.015$ ), B-PCP:S ( $p=0.028$ ).

### **Discussion**

Our results suggest active-tDCS concomitant WMT would improve the cognitive performance possibly by modulating the brain regions involved in executive functions, affection and emotional and pain processing.

## **Sleep Deprivation Reduces Inhibitory Control and Increases Fear of Losing Control in Binge Eating**

**Silvia Cerolini, Sapienza University of Rome and School of Cognitive Psychotherapy srl SPC, Italy**

**Caterina Lombardo, Sapienza University of Rome, Italy**

### **Introduction**

Binge eating disorder and binge eating behavior have been associated with impairments in executive functions (EFs) and higher levels of food craving. Experimental findings suggest that EFs are markedly impaired by both chronic and acute sleep deprivation, thus potentially influencing binge eating. The present study aimed to evaluate the effect of acute partial sleep deprivation on EFs and food craving in a group of individuals reporting binge eating (BE) and in a self reported healthy control group (CT).

## Method

28 volunteers were enrolled (age  $M=23.75\pm 4.03$ , 21% male), divided in two groups according to the self-reported binge eating symptomatology (binge eating: BE,  $N=14$ ; controls: C,  $N=14$ ). They participated to two laboratory sessions after a habitual night of sleep and after a night of partial sleep deprivation (5 hours of sleep allowed). The Task Switching Paradigm was used for obtaining an index of inhibitory control. Food craving was induced by presenting 3 blocks of images (neutral non-foods, sweet and salty food stimuli), during which skin conductance was measured. Before and after each block, participants rated valence, arousal and craving through visual-analog scales. Fear of lacking control was also assessed pre and post task through a self-report questionnaire.

## Results

Results on inhibitory control showed a significant interaction Night  $\times$  Group ( $F(1,25)=4.68$ ,  $p=0.04$ ). Post hoc tests evidenced that after the habitual night inhibitory control is higher in BE than in CT ( $F(1,24)=6.32$ ,  $p=0.019$ ). Sleep deprivation decreases inhibitory control in BE ( $F(1,24)=4.69$ ,  $p=0.04$ ) while it has the opposite effect in CT ( $F(1,24)=3.60$ ,  $p=0.07$ ). As compared to baseline, skin conductance increases after exposition to sweet foods stimuli ( $ps<.05$ ) with no difference between nights and groups; similar results were found for self-reported desire to eat and valence induced by food stimuli (all  $ps<.05$ ). When exposed to food stimuli, BE report higher Fear of lacking control as compared to CT ( $F(1,26)=5.81$ ,  $p=.023$ ) although exposition to food stimuli as compared to baseline increases self-reported Fear of lacking control in both groups ( $F(1,26)=6.23$ ,  $p=.019$ ) and this effect is marginally bigger after sleep deprivation ( $F(1,26)=3.32$ ,  $p=.08$ ).

## Discussion

Results evidence that participants reporting binge eating symptoms show greater inhibitory control after a night of good sleep as compared to healthy controls. Sleep deprivation has opposite effects on this behavioral measure: binge eating lose inhibitory control while the other group increases it. This result should be coupled with the subjective experience of fear of lacking control that increases similarly after sleep deprivation in both groups. Taken together they are consistent with the Restriction/Disinhibition theory suggesting that sleep loss may act as a trigger for disinhibition.

## Retractions of Negative Misinformation Are Effective in Depressive Rumination

Ee Pin Chang, Ullrich K. H. Ecker & Andrew C. Page, University of Western Australia, Australia

### Introduction

One of the hallmark symptoms of depression is rumination. Previous research has suggested that depressive rumination is in part driven by valence-specific memory updating deficits that promote the persistence of negative information in memory (e.g., Joormann & Gotlib, 2008)—that is, difficulties replacing negative information in memory with more positive information. This research has relied largely on list-recall tasks in short-term memory. In the present study, we tested whether depressive ruminators “cling” to negative information in a task that more readily approximates conceptual real-world updating. This task is known as the continued-influence paradigm (e.g., Lewandowsky et al., 2012); it involves presentation of a piece of misinformation that is subsequently corrected. The continued-influence effect is the finding that people often continue to rely on the contested information in their inferential reasoning despite the correction. This reliable phenomenon has been observed in many domains including health and education. Retractions can be particularly ineffective when the retracted misinformation is consistent with a pre-existing worldview. Given the prevalence of depressotypic worldviews in depressive rumination, we hypothesised that the retraction of negative misinformation would be less effective in depressive ruminators, in line with the aforementioned findings in short-term memory. Such an effect would be relevant to cognitive-behavioural therapy (CBT) for depression because correcting a piece of negatively-valenced misinformation is akin to correcting maladaptive beliefs during CBT.

### Method

We recruited 255 (Experiment 1) and 86 (Experiment 2) undergraduates with high or low rumination and depression scores. Participants read a report including a piece of critical information that was or was not subsequently retracted. In Experiment 1, the reports depicted negative scenarios that dealt with suicide; in Experiment 2, the reports depicted both positive (e.g., increasing trend in charity giving) and negative (e.g., increasing trend in suicide rates) scenarios in a within-subjects design. Participants' inferential reasoning concerning the information presented in the reports was assessed via questionnaire. The dependent variable was the number of references made to the critical information. We expected the retraction of negative misinformation to be less effective in depressive ruminators, when compared to control participants (Exp.1), and compared to positive misinformation (Exp.2).

### Results

In both experiments, we replicated the robust continued-influence effect across groups and scenarios. However, contrary to expectations, retractions of negative misinformation in depressive ruminators were as effective as they were in control participants (Exp.1), and more effective than retractions of positive misinformation (Exp.2). In other words, we found no evidence that depressive ruminators cling to negative information.

### Discussion

We interpreted this unexpected finding in terms of a negative attentional bias in depressive rumination. An attentional bias towards negative information will enhance the salience of negative information in memory. The salience of to-be-corrected misinformation is known to facilitate updating following a retraction (see Kendeou et al., 2017). Our findings stand in opposition to findings of impaired updating of negative information in depression using short-term list recall tasks. We argue this highlights the complex and interactive relationships among individual cognitive processes, and provides an impetus to move towards more ecologically valid paradigms in psychopathology research.

## What Is the Process of Self-Criticism: A Phenomenological Study

Hyunju Cho, Seunghye Noh, Hyeonye Lee & Hyeonhui Jeong, Yeungnam University, South Korea

### Introduction

Self-criticism is usually defined as a negative self-evaluation about the self. Previous studies investigated the relationship between self-criticism and various psychopathology such as depression and anxiety. However, there is the lack of consensus definition about self-criticism. Some researchers regard self-criticism as personality trait, others regard it as one of the defensive mechanism or safety behavior. Nevertheless, most of advanced researches use self-report measurements usually focus on the self-critical trait. Therefore, the purpose of this study was (1) to define the concept of self-criticism, and (2) to find the process of self-critical experience (e.g. when, what, how, why) with a high level of self-criticism.

## **Method**

Seven people who had high score in K-FSCRS (Korean version of the Form of Self Criticizing/attacking and self Reassurance Scale) participated in this study. They were interviewed on their self-critical experience based on the five open-ended questions. The in-depth interview was conducted twice to meet the adequacy of data in qualitative research. The results were analysed using phenomenological methods. Meaningful categories and sub-categories were emerged through phenomenological reduction based on the subject for the study. The researchers repeatedly read raw data to avoid their preconceptions on self-criticism and did work it through hermeneutic circle. The analysed data was consulted by a researcher special in quality studies.

## **Results**

The definition of self-criticism based on the results was “self-criticism is one that negatively respond to one’s own experience as a cognitive-affect regulation strategies” The process of self-critical experience was categorized into 11 categories: trigger event, experience, self-criticism, derived experience, coping, habitual1, habitual2-1, 2, schema, culture, reason for self-criticism. The self-criticism was a regulation strategy after experiencing negative emotion, cognition, behavior and body reaction. Secondary experiences derived from self-criticism subsequently resulted in functional or dysfunctional forms of coping. The important finding was that the self-criticism was related to not only the relationships with family and peers when they were young but also a cultural atmosphere where they belong.

## **Discussion**

There are important implications in this study. First, different from previous studies which used quantitative method, this study used new methodology, lived experience phenomenology that it contribute to understand self-criticism in different respects. Second, the self-criticism is not a simple phenomenon like a personality trait, but more complex and dynamic one which interacts each other. Finally, the process of self-critical experiences revealed in this study can help our understanding of a variety of psychopathology and can contribute to intervene ideas for people who suffered from high self-criticism.

## **Does Change in Attention Control Mediate the Impact of tDCS on Attentional Bias for Threat? Limited Evidence from a Double-Blind Sham-Controlled Experiment in an Unselected Sample**

**Charlotte Coussemont & Pierre Maurage, Université catholique de Louvain, Belgium**

**Joel Billeux, University of Luxembourg, Luxembourg**

**Alexandre Heeren, Université catholique de Louvain, Belgium**

### **Introduction**

Neurocognitive models of attentional bias for threat posit that attentional bias may result from a decreased activation of the left prefrontal cortex, and especially of its dorsolateral part (dlPFC), resulting in an impaired attention control. Consequently, a transient increase of neural activity within the left dlPFC via non-invasive brain stimulation reduces attentional bias among both anxious and nonanxious participants. Yet, it is still unclear whether the impact of dlPFC activation on attentional bias is mediated by improvement in attention control.

### **Method**

In this experiment, we sought to test this hypothesis in an unselected sample ( $n = 20$ ).

Accordingly, we adopted a double-blind within-subject protocol in which we delivered a single-session of anodal sham transcranial Direct Current Stimulation (tDCS) over the left dlPFC during the completion of a task assessing attention control. We also assessed its subsequent impact on attentional bias.

### **Results**

Neither attention control nor attentional bias did significantly improve following anodal tDCS.

### **Discussion**

Although our results do not support our main hypothesis, we believe the present null results to be particularly useful for future meta-research in the field. We also formulated a series of methodological recommendations for future research aiming at testing the tDCS-induced modification of attentional bias.

## **Altering Attachment Security Using Cognitive Bias Modification**

**Emma Doolan & Richard Bryant, University of New South Wales Sydney, Australia**

### **Introduction**

Bowlby’s attachment theory (Bowlby, 1973) suggests that internal working models developed from early experiences with attachment figures biases cognitive appraisals a person makes of themselves and others. These internal working models underpin a person’s attachment style, whereby securely attached individuals will typically perceive themselves as worthy of love and believe others will be available and supportive in times of need. Alternatively, individuals who have developed an insecure attachment style will typically possess internal working models of themselves as unlovable, and perceive others as unavailable, untrustworthy and unsupportive (Bowlby 1969/1982). To date, the majority of research related to attachment theory proposes that a person’s attachment style, and associated internal working models, are typically stable across their lifetime and difficult to modify (Lyddon, Bradford, & Nelson, 1993). Given that insecure attachment is associated with poorer distress regulation and interpersonal difficulties (see Gillath, Karantzas, & Fraley, 2016 for review), ascertaining a way to alter unhelpful attachment-related biases, and thus increase attachment security, may improve treatment outcomes for this population. There is a growing body of research demonstrating how cognitive bias modification (CBM) techniques, whereby individuals are trained to interpret emotionally ambiguous events as benign rather than threatening, can shift long-standing cognitive biases in individuals with anxiety (Macleod & Mathews, 2012).

### **Method**

The current paper investigated whether CBM training adapted from Mathews and Mackintosh (2000) could shift interpretive biases related to a person’s attachment style in a sample of 80 individuals with increased attachment-anxiety.

### **Results**

The results provided preliminary evidence that CBM training may be an effective way of increasing attachment security.

### **Discussion**

This training may have significant implications for enhancing treatment for a range of clinical disorders, characterized by insecure attachments. Further research is currently underway to replicate the current findings, as well as investigate the effect of attachment CBM training on distress regulation.

## **Fear of the Unknown: Is the Mother's Mental State a Risk Factor for Infant's Exploration Behaviour?**

**Samantha Ehli, Albert Newen, Babett Voigt & Silvia Schneider, Ruhr-Universität Bochum, Germany**

### **Introduction**

In everyday life, infants frequently encounter ambiguous situations. Literature suggests that during these situations, infants increase their looking behaviour towards social partners and adjust their own one accordingly. Infants model their mother's behaviour in those situations and assume maternal behaviour patterns, which can be dysfunctional. Infants of mothers with depression, for example, show a decreased exploration behaviour if the mother is the social partner. It is not clear yet, whether those infants generalize dysfunctional behaviour patterns when the social interaction partner is not the mother. In general, research suggests that infant's exploration behaviour is increased, if the social partner is a stranger (novelty effect; e.g.: Stenberg & Hagekull, 2007). Whether this positive effect is also present in infants with mothers with depression has not yet been studied. Therefore, we examine how the mother's general mental health influences the infant's exploration behaviour

### **Method**

Preliminary data from a pilot study is presented. Using the visual-cliff paradigm, 21 Infants (8-15 months) are randomly assigned in one of two groups (mother vs stranger). Mother's general mental health was assessed using questionnaires (DASS-21, BSI). Infant's exploration behaviour was video coded using a category system. We expect that infants of mothers who score higher in depression, anxiety and stress (HS) have a decreased exploration behaviour across groups. Additionally, we expect infants of mothers who score lower (LS) in depression, anxiety and stress have an increased exploration behaviour, if the social partner is the stranger.

### **Results**

Both hypotheses were not confirmed. There was no significant effect of the mother's mental health on the infant's exploration behaviour. However, infants terminated the experiment faster, when the mother had higher scores (HS). Additionally, the identity of the social partner had an effect on the infant's exploration behaviour but in the opposite direction.

### **Discussion**

Limitations are discussed.

## **Links Between Interoception, Empathic Skills and Depressive Symptomatology: Contribution of Electrodermal Measures**

**Khira El Bouragui, University of Reims Champagne-Ardenne, France**

**Mandy Rossignol, Laurent Lefebvre, Erika Wauthia & Manon Smeers, University of Mons, Belgium**

**Chrystel Besche-Richard, University of Reims Champagne Ardenne, France**

### **Introduction**

Empathy consists of ability to infer and share others' emotional states, while interoception refers to ability to be aware of own body and physiological sensations. Cognitive theories posit that depression could be characterized by reduced empathy, enhanced distress and poor interoception skills. The purpose of this study is to investigate electrodermal activity (EDA) during empathy task in link with interoceptive cognition and depression levels.

### **Method**

To this aim, we recruited a sample of 50 women, aged 18 to 23 (M=19.8). Levels of depression were assessed with the Beck Depression Inventory (BDI, 1993; M=8.5) and the Spielberger Trait Depression Questionnaire (T-DEP, 2002; M=47.5). Self-reported distress was assessed with Vicarious Distress Questionnaire (VDQ, Grynberg et al., 2012), interoceptive metacognition skills with French Multidimensional Assessment of Interoceptive Awareness (fMAIA, Michael et al., 2016) and empathy with the Basic Empathy Scale (BES, Carré et al., 2013). To assess behavioral affective empathy (AE) and cognitive empathy (CE), participants performed the Multifaceted Empathy Test (MET, Dziobek, 2008), which consists of photographs depicting people in emotionally charged situations. Participants had to select the protagonist's emotional state and to rate their level of distress, compassion and empathic concern when watching pictures. During the task, EDA was recorded.

### **Results**

Results showed that depression levels were positively correlated with distress (VDQ) and emotional disconnection (BES) and negatively correlated with self-reported AE and CE (BES). However higher AE (BES) - contagion and disconnection dimensions - and behavioral compassion and empathic concern (MET) revealed higher EDA in emotional situations, both positive and negative. Finally, EDA amplitude observed at rest is positively correlated with interoceptive awareness levels (fMAIA).

### **Discussion**

If all dimensions of empathic response are associated with higher EDA, these results highlight that dysfunctional ones (contagion and disconnection) are linked with higher levels of depression. They are in line with limbic-cortical dysregulation model that posits higher autonomous physiological arousal in depression. Contribution for a better identification of different processes involved in empathy deficits (self-reported, behavioral, physiological levels) will be discussed in regard to depressive symptomatology.

## **Intranasal Insulin as Adjuvant of Fear Extinction**

**Tanja Michael & Sonja Römer\*, Saarland University, Germany**

### **Introduction**

Exposure-based therapies are one of the most effective treatments for fear-related disorders. However, treatment is still associated with high dropout rates and not every patient seems to profit from it. Fear extinction is one of the mechanisms underlying the effectiveness of exposure therapies and it can be easily studied in the laboratory through fear conditioning paradigms. In the last years, research has focused on the application of cognitive enhancers as adjuvants to fear extinction. It has been shown that central insulin not only plays a critical role in stress processes, but can also act as a memory enhancer. The present talk will provide first evidence on the capacity of intranasal insulin as an adjuvant of fear extinction.

### **Method**

A double-blind, placebo controlled differential fear conditioning was conducted in 123 healthy participants (63 Females). Three conditioning phases were conducted on different days: acquisition (day 1), extinction (day 2), reinstatement and re-extinction (day 3). A single intranasal dose of insulin (160 IU) or placebo was applied before fear extinction.

## **Results**

In the extinction phase, the group receiving intranasal insulin showed a significantly stronger decrease in differential fear potentiated startle (FPS) in comparison with the placebo group. Women in the insulin group showed also a significant decrease of the differential skin conductance response (SCR) in early extinction and late re-extinction, indicating better learning and maintenance of fear extinction.

## **Discussion**

These results offer first evidence that intranasal insulin enhances fear extinction processes and indicate it as a promising adjuvant for extinction-based therapies.

## **Can Perceived Social Support Reverse Limbic Scars of Childhood Maltreatment?**

**Katharina Förster, Lorenz Danzer & Udo Dannowski, University Hospital Münster, Germany**

### **Introduction**

Social support has been identified as a protective factor against multiple psychiatric disorders and has been positively associated with gray matter volume. In the present study, we explore if social support shows a different relationship with hippocampal volume in individuals exposed to childhood maltreatment.

### **Method**

We investigated a sample of 218 healthy controls from the MACS acquired at two sites. We separated the participants using the CTQ resulting in a group of N=135 participants in the non-maltreated group vs. N=83 in the maltreated group. Groups were matched in age, gender, education and social support. We calculated hippocampal volumes as generated with Freesurfer (Version 5.3) with default parameters. We conducted group x social support ANCOVA with left and right hippocampal volume as dependent variables. In the models, we controlled for site, age, gender and total intracranial volume as nuisance regressors.

### **Results**

Our analysis revealed a significant main effect of social support ( $p=.044$ ). The interaction of social support and maltreatment remained non-significant ( $p=.188$ ). Following up on our hypothesis, we calculated post-hoc t-tests and showed that social support showed a significant positive association with hippocampal volume in the non-maltreated group ( $p=.025$ ), while it was not significantly associated in the maltreated group ( $p=.609$ ).

### **Discussion**

We conclude that perceived social support has a positive effect on hippocampal volume in healthy individuals. As previously reported prior childhood maltreatment is negatively associated with hippocampal volume. This might explain why we did not find a significant relationship between social support and hippocampal volume in the maltreated group separately.

## **Reliability of the Phenomenon of Attentional Bias and the Paradigms Used to Index It**

**Jessie Georgiades, Lies Notebaert, Kelly Cusworth & Ben Grafton, The University of Western Australia, Australia**

**Elaine Fox, University of Oxford, United Kingdom**

**Colin MacLeod, University of Western Australia, Australia**

### **Introduction**

An elevated attentional bias towards threat is known to contribute to individual differences in the tendency to experience anxiety. Attentional bias towards threat is the tendency to preferentially allocate attention towards threatening stimuli, rather than neutral or positive stimuli, and is most commonly assessed using the dot-probe task. However, the reliability of this measure has been criticised. It is unclear however, whether this reflects the unreliability of the assessment paradigm, or unreliability of the phenomenon of attentional bias, as it is known this bias can change across time and contexts. The current study aims to distinguish between the psychometric reliability of the dot-probe task and novel dual-probe task across conditions that are known to vary in the degree they elicit an attentional bias. It was hypothesised that within a condition, the dot-probe would show lower internal consistency than the dual-probe task.

### **Method**

It was also hypothesised that the phenomenon of attentional bias would be unreliable, in that patterns of attentional bias would vary across conditions. University students completed either the dot-probe or dual-probe task. In both tasks, participants were presented with pairs of stimuli, including threat stimuli paired with positive stimuli. In the dot-probe task, participants were then required to identify a visual dot-probe presented in the location of one of the pairs and the latency to do this served as the dependent variable. In the dual-probe task, participants were then required to discriminate the identity of small visual probes. Critically, a different probe was presented in the location of each stimulus, and the proportion of trials in which participants identified the probe presented in the threat stimulus location served as the dependent variable. To assess the reliability of the phenomenon of attentional bias, in half of the blocks it was adaptive to attend to the threat

### **Results**

as this allowed avoiding an aversive stimulus, whereas in the other half the aversive stimulus could not be avoided and it was more adaptive to attend to the positive stimulus which provided a monetary gain. Reliability analyses within a context suggest the dot-probe task is a psychometrically unreliable ( $r=.097$  to  $r=.351$ ) and the dual-probe is a psychometrically reliable ( $r=.651$  to  $r=.897$ ) measure of attentional bias. Additionally, results highlighted the phenomenon of attentional bias is unreliable, as participants displayed varying patterns of attentional bias across two contexts, in both dot-probe ( $r=-.071$ ) and dual-probe tasks ( $r=.097$ ).

### **Discussion**

The results suggest the reliability of the dot-probe task could be affected by the low reliability of the assessment paradigm, as well as by the unreliability of the phenomenon of attentional bias. Clearly, both factors are important to take into account when assessing patterns of attentional bias, and further research should aim to establish more reliable assessment paradigms, as well as identify the conditions that affects the manifestation of the attentional bias phenomenon.

## **Stigma Towards Prolonged Grief Disorder: Does Diagnostic Labeling Matter?**

**Judith Gonschor, Philipps-Universität Marburg, Germany**

**Maarten Eisma, University of Groningen, the Netherlands**

**Bettina Doering, Katholische Universität Eichstätt-Ingolstadt, Germany**

### **Introduction**

Labeling certain grief reactions as a mental condition as in “Prolonged Grief Disorder” (PGD) may cause stigmatizing reactions towards bereaved persons, thereby increasing negative psychological outcomes of bereavement. A previous vignette experiment demonstrated that a person both suffering from PGD symptoms and having been diagnosed with PGD elicits more public stigma than a “normally” grieving person. However, it remains unclear whether stigmatization is brought about by the actual symptoms of prolonged grief or whether it is produced by labeling them as a mental disorder. Additionally we investigated the influence of the gender of the bereaved person on public stigma.

### **Method**

We conducted an online vignette experiment depicting a bereaved person using a 2x4 design with the factors “gender of the bereaved” (male vs. female) and “mental health condition” (MHC). The four MHCs were: (1) PGD symptoms and PGD diagnosis (PGD-S+PGD-D); (2) PGD symptoms and depression diagnosis (PGD-S+Depr-D); (3) PGD symptoms and no diagnosis (PGD-S+no-D) (4) no PGD symptoms and no diagnosis, i.e. bereaved person without PGD (no PGD-S+no D). 852 participants (659 women, 189 men, five other; mean age  $32 \pm 0.46$  years) were randomly assigned to read one of eight vignettes. Participants then rated the person depicted in the vignette on stigma-relevant characteristics. Emotional reactions and preferred social distance were assessed.

### **Results**

A significant multivariate effect was found for MHC ( $F(9, 829)=253.94, p<.001$ ) and for gender ( $F(9, 827)=2.42, p=.010$ .) Planned contrasts compared persons with PGD-S+PGD-D to bereaved persons without PGD (no PGD-S+no D): persons with PGD-S+PGD-D were evaluated less competent, less warm, more dependent, more sensitive, less emotionally stable and elicited more fear, anger and prosocial emotions and a stronger desire for social distance (all  $F \geq 10.91$ , all  $p \leq .001$ ). The same difference was found between no PGD-S+no D and PGD-S+Depr-D (all  $F \geq 7.158$ , all  $p \leq .008$ ). Importantly, no significant differences emerged between PGD-S+PGD-D compared to bereaved persons without PGD (all  $F \leq 2.528$ , all  $p \geq .112$ ). For gender, ANOVAs revealed non-significant effects on all outcome variables (all  $F \leq 2.706$ , all  $p \geq .10$ ) but social distance. Participants reported a larger desire for social distance towards men than women ( $F(7, 835)=9.43, p=.002$ ).

### **Discussion**

The present study confirms that PGD symptoms in combination with a PGD diagnosis elicit more public stigma in a vignette experiment than “normal” bereavement. However, our results show that when symptoms of PGD are present, stigmatization is not increased by the labeling of those symptoms as a mental disorder. Further research should investigate in detail which PGD symptoms elicit public stigma.

## **Pinpointing the Contribution of Attentional Bias to Negative Socially-Relevant Information to Socially Anxious Responding**

**Ben Grafton, Christian Long & Colin MacLeod, University of Western Australia, Australia**

### **Introduction**

There is considerable evidence showing that elevated social anxiety vulnerability is characterised by an attentional bias to negative socially-relevant information. However, it is unknown whether such bias contributes to state anxiety experienced in the lead up to a forthcoming social event, or whether it instead contributes to state anxiety experienced during a social event. The present study was designed to address this issue.

### **Method**

We exposed participants reporting high vs. low levels of social anxiety vulnerability to an interview stressor task, in which they were required to respond to questions asked by a recorded panel of interviewers, while their performance was video-taped. Levels of state anxiety experienced before, and during, this interview stressor task were measured. Attentional bias to negative socially-relevant information was assessed using a novel variant of the attentional probe task that involved exposing participants to pairs of videos in which individuals who had previously completed the interview stressor task discussed the positive vs. negative aspects of this task.

### **Results**

As expected, relative to participants with low levels of social anxiety vulnerability, those with high levels of social anxiety vulnerability reported higher levels of state anxiety before, and during, the interview stressor task, and exhibited greater attentional bias to negative socially-relevant information. However, of most importance to the issue under present consideration, such bias was associated only with state anxiety experienced during the interview stressor task, and not with state anxiety experienced in the lead up to this stressor task.

### **Discussion**

The ways in which the present findings bear upon cognitive models of social anxiety vulnerability will be discussed, and key issues for future research will be highlighted.

## **Validation of the Compassionate Engagement and Action Scales (CEAS) in a German Sample**

**Johannes Graser & Alisa Kybelka, Witten/Herdecke University, Germany**

**Lisa Lyssenko, Central Institute of Mental Health, Germany**

**Naomi Lyons & Johannes Michalak, Witten/Herdecke University, Germany**

### **Introduction**

Compassion-based interventions have proven to be effective in reducing psychiatric symptoms in a wide range of clinical populations (Graser & Stangier, 2018). Compassion can be defined as a “sensitivity to the suffering of self and others, with a commitment to try to alleviate and prevent it” (Gilbert, 2014, p. 19). The Compassionate Engagement and Action Scales (CEAS; Gilbert et al., 2017) allow to assess compassionate engagement and action towards oneself, others and from others and have so far been validated in student samples from the UK, the USA and Portugal. We report validation data from a German student sample.

### **Method**

So far  $N = 296$  non-clinical subjects completed the CEAS and further validation scales (Fear of compassion, depression, anxiety, stress, self-compassion, self-esteem, self-criticising, self-reassurance, life satisfaction). The goal regarding the data collection is to reach at least 600 non-clinical and 300 clinical participants.

## Results

The factor structure for the CEAS-Compassion from others and CEAS-Compassion to others scales could be replicated. The CEAS-Self-Compassion-action scale –comparable to the original study (Gilbert et al., 2017)– also led to an independent factor. The CEAS-Self-Compassion-engagement-scale, however, led to a different pattern of results as compared to the original validation: As in the original study, two factors were found for this subscale, but they consisted of different items. Good to very good internal consistencies were found. Expected correlations with further measures were discovered.

## Discussion

As of now, the data collection is not concluded, therefore these results have to be regarded as preliminary. Once the data collection is concluded, a confirmatory factor analysis will be conducted, as well. Regarding internal consistencies, intercorrelations between the CEAS-scales, and results for the construct validation, the preliminary results can be regarded confirming the results of the original validation study. A validation of the German CEAS scales will also be conducted in a clinical sample.

## What Kind of Mind Wandering Reflects the Risk of Mental Disorders: A Systematic Review

Siqing Guan, Toru Takahashi, Yusuke Nitta & Hiroaki Kumano, Waseda University, Japan

### Introduction

Mind wandering (MW) defined as task-unrelated thought that brings about both costs and benefits (Mooneyham&Schooler,2013). MW can be considered as a multidimensional construct composed of different basic properties (such as frequency, self-focus, temporal focus, valence, intentionality, cognitive process), some of which are of crucial interest for their clinical impact (Seil et al.,2018; Marchetti et al., 2016). In this theoretical framework, we propose that, apart from its possible adaptive functions, specific kinds of MW patterns can reflect the risk of mental disorders. We review research that explores the relationship between different basic properties of MW and mental disorders and identifies important avenues of future study.

### Method

The electronic databases (Web of Science, Science Direct, and PubMed) were searched out. The search term ("Mind wandering" AND "Mental Disorder" OR "Mind wandering" AND "Symptom") was used. 14 studies that met the inclusion criteria were included: (a) MW was assessed by questionnaires or behavioral tasks with thought-probe measure or experience sampling (b) "Mental Disorder" OR "Symptom" was described in DSM-5 (c)The relationship between MW and mental disorders was examined (d) It was not a review article (e) It was written in English.

### Results

In an aspect of frequency, MW associated with the inattentive, hyperactive, impulsive traits and emotional lability led to ADHD symptom severity, MW associated with higher depressive symptoms was seen among individuals with low self-compassion. Furthermore, more MW was present in patients with schizophrenia, which correlated with positive and general symptom severity and predicted positive, disorganized, and paranoid schizotypy, while less MW was present in Parkinson's disease and amnesic mild cognitive impairment. In an aspect of content, most MW was self-related, past-oriented and negative valence in MDD, and most MW was extreme self- and other-related with negative in borderline personality. In an aspect of intentionality, MW without intention was associated with ADHD symptomatology and OCD symptomatology. In an aspect of the cognitive process, more MW with perseverative cognition was seen in MDD, and meta-awareness of MW mediated the relationship between ADHD and MW negatively.

### Discussion

Different properties of MW have different impacts on mental disorders. Thus, we highlight that future studies should clarify when MW serves its adaptive function and when it turns into a risk factor for mental disorders. Furthermore, future studies should develop intervention methods that can promote adaptive MW and counteract dysfunctional MW.

## Reward Anticipation as a Potential Mechanism of Motivational Mental Imagery: An Experimental Study

Max Heise, Jessica Werthmann & Fritz Renner, University of Freiburg, Germany

### Introduction

Increasing motivation to engage in adaptive activities is an important treatment target in Cognitive Behavioural Therapy. Simulating engagement in activities through guided mental imagery can increase motivation for and actual engagement in these activities, which has recently led to the suggestion that mental imagery might act as a 'motivational amplifier' for planned activities (Renner et al, 2019). While the precise mechanism remains unknown, one explanation focuses on reward processing and more specifically on the anticipated reward associated with planned activities (Holmes et al, 2016). To test this prediction, the present study aims to experimentally manipulate reward anticipation. More specifically, we hypothesize that mental imagery focussing on rewarding aspects of planned activities, compared to neutral imagery, will lead to an increase in anticipated pleasure from, motivation for and actual engagement in these activities.

### Method

Participants (N = 120) will be randomized to one of three conditions: reward imagery, neutral imagery, or a non-imagery control group. In all conditions participants choose six activities they wish to perform in the seven days following the lab session. Subsequently these activities are scheduled following standard procedures of behavioral activation treatment. Participants in the mental imagery conditions will then be guided through one of two versions of a mental imagery script: one version geared towards emphasizing the positive aspects of performing/having completed the target activities (reward imagery) or another version focussing on procedural details of performing the target activities (neutral imagery). Primary outcome measures are: self-reported anticipated pleasure, motivation and number of completed target activities.

### Results

Results of the study will be presented at the conference. In line with our hypothesis, we expect higher anticipated pleasure and motivation ratings (near transfer) and a higher number of completed activities (far transfer) for the reward imagery condition compared to the neutral imagery condition (reward anticipation effect). Replicating previous findings, we also expect higher levels on all primary outcome measures in the imagery conditions compared to the non-imagery control condition (motivational imagery effect).

### Discussion

We will discuss how the key results could inform the development of mental imagery-based treatment interventions. Specifically we will discuss how motivational mental imagery could be used to enhance established treatments for depression such as behavioural activation by addressing abnormalities in reward processing – a 'transdiagnostic' feature of psychopathology (Zald & Treadway, 2017). Considering the

non-clinical sample used in the present study, we will also outline ways in which mental imagery techniques can be used in other, non-clinical domains of behaviour change (e.g. public health).

### **Signals from the Body: Validation of the German Version of the Interoceptive Awareness Questionnaire (IAQ-19)**

**Severin Hennemann, University of Mainz, Germany**

**Katleen Bogaerts, Marta Walentynowicz & Omer Van den Bergh, University of Leuven, Belgium**

**Anna Pohl, University of Cologne, Germany**

**Michael Witthöft, University of Mainz, Germany**

#### **Introduction**

Interoception seems to play an important role in the development and maintenance of various mental disorders. While interoceptive accuracy has been studied frequently with established experimental paradigms (e.g. heartbeat detection tasks), currently no consensus exists how to best assess interoceptive sensibility, i.e. the dispositional tendency to be internally self-focused and aware of bodily signals. The aim of this cross-sectional study was to validate a translated version of the previously developed multi-dimensional Interoceptive Awareness-Questionnaire (IAQ-19; Van den Bergh et al., 2012) and explore its relationship with associated constructs.

#### **Method**

A non-clinical convenience sample of German participants completed a self-administered online-survey including the IAQ-19 and various established instruments: Body Awareness Questionnaire (BAQ); Somatosensory Amplification Scale (SSAS); Patient Health Questionnaire (PHQ-15); Generalized Anxiety Disorder (GAD-7); Short Health Anxiety Inventory (SHAI); Pain Catastrophizing Scale (PCS); Mindful Attention Awareness Scale (MAAS); Intuitive Eating Scale (IES-2) and the Perth Emotional Reactivity Scale (PERS). Convergent and discriminant validity of the IAQ-19 were tested using bivariate correlations. The original study proposed a 2-dimensional structure of IAQ-19 (“awareness of bodily sensations”; “attention to unpleasant bodily sensations”). The factor structure of the translated version was explored using principal component analysis (PCA) with oblique rotation and subsequent confirmatory factor analysis (CFA).

#### **Results**

A total of 375 participants (mean age = 32.31yrs, SD= 13.38; 74.1% female; 44.8% students) completed the survey. Reliability of the IAQ-19 total score was acceptable ( $\alpha = .76$ ). PCA suggested a 3-factor solution: factor 1 ( $\alpha = .71$ ) with loadings of items on the neutral perception of bodily sensations; factor 2 ( $\alpha = .75$ ) with items on attention to (unpleasant) symptoms and factor 3 ( $\alpha = .51$ ) with items on the inhibition of symptoms. Model fit was satisfactory ( $\chi^2(149) = 394.33, p < .001$ ; RMSEA = .07 [.06-.07]; CFI = .87; TLI = 85). Convergent validity was indicated by correlations of IAQ-19 subscales with body awareness (F1:  $r = .67$ ) and somatosensory amplification (F2:  $r = .44$ ). Health anxiety, somatization and pain catastrophizing were correlated most strongly with F2 and negative emotional reactivity with F3. In terms of discriminant validity, subscales were unrelated to self-reported mindfulness and weakly correlated with generalized anxiety (F2, F3) and intuitive eating (F1).

#### **Discussion**

The German version of the IAQ-19 represents a valid, concise and reliable instrument to measure various aspects of interoceptive sensibility. The underlying factor structure resembles the original study, however further differentiates maladaptive interoceptive awareness into increased attention and inhibition/difficulty of disengaging from unpleasant bodily sensations. This finding is in line with a multidimensional operationalization of interoceptive sensibility (e.g. Mehling et al., 2012).

### **The Effect of Varying Danger Controllability on Attention to Threat Messages**

**Matthew Herbert & Lies Notebaert, The University of Western Australia, Australia**

**Sam Parsons & Elaine Fox, The University of Oxford, United Kingdom**

**Colin MacLeod, The University of Western Australia, Australia**

#### **Introduction**

Fear appeals are widely used in the media to reduce problematic behaviours, however there is no consensus regarding the effectiveness of fear appeals in driving adaptive behaviour. It may be the case that exposure to threatening messages fails to capture attention if the associated danger is not explicitly controllable.

#### **Method**

One hundred and sixty undergraduate university students completed a novel computer task that involved exposure to threat cues signaling a danger (money loss and noise burst). In high control blocks, attending to threat cues provided a high chance of avoiding the danger, while in low control blocks, attending to threat cues provided little chance of avoiding the danger. Attentional capture by threat was measured.

#### **Results**

A mixed-design ANOVA showed there was greater attentional capture by threat cues in high control blocks compared to low control blocks. This effect was observed with a short stimulus exposure duration, and was magnified with a long exposure duration.

#### **Discussion**

Fear appeals could capture attention to a greater degree if the danger related to the threat message was communicated as being controllable. This has significant practical implications for the implementation of fear appeals.

### **The Impact of tDCS on Rumination: A Systematic Review of the Sham-Controlled Studies Among Healthy and Clinical Samples**

**Yorgo Hoebeke, Betül Özçimen & Alexandre Heeren, Psychological Sciences Research Institute (IPSY), Belgium**

#### **Introduction**

Rumination describes perseverative, passive, self-focused thinking about the content, causes, and consequences of one's affective state, without taking any problem-solving action. Broadly considered as a transdiagnostic feature of psychological disorders, rumination is associated with slower treatment response, lower rates of recovery, and higher rates of relapse. Accordingly, research has focused on the development of rumination-focused treatment. Recently, transcranial Direct Current Stimulation (tDCS) has emerged as a potential promising new tool for targeting rumination. tDCS is a non-invasive neuromodulation technique, which can be used to selectively disrupt patterns of neural activity that are associated with psychological processes. Yet, study-to-study variations in stimulation and research protocols preclude a comprehensive understanding of the impact of tDCS on rumination.

## Method

Only sham-controlled studies reporting the effects of tDCS on at least one measure of rumination in healthy participants or patients with psychiatric disorders (regardless of the disorder) will be included. Titles and abstracts of studies retrieved using search engines and those from additional sources will be screened independently by two review authors to identify studies that potentially meet the inclusion criteria outlined above. The full text of these potentially eligible studies will be retrieved and independently assessed for eligibility by two review team members. Any disagreement between them over the eligibility of particular studies will be resolved through discussion with a third reviewer. A standardized, pre-piloted form will be used to extract data from the included studies and to assess study quality. Extracted information will include: study identification data (author, year of publication); study design (parallel group versus cross-over); blinding (absent, simple-blind)

## Results

The results will be available by the end of June.

## Discussion

The main goal of this systematic review is to assess the sham-controlled studies, conducted among both healthy and clinical samples, investigating the effectiveness of tDCS in reducing rumination, and identifying the most desirable combination of stimulation parameters and research protocols to do so.

## Ecological Momentary Assessment in the Context of Inter-Session Processes: An Unrevealed Measurement Method or Rather a Covert Intervention?

Catherine Irniger & Birgit Watzke, University of Zurich, Switzerland

### Introduction

The successful transfer of change into everyday life is an important issue of psychotherapeutic treatment. Thus the use of homework assignments, i.e. one of the common means to foster this transfer, especially in CBT, is a constantly growing field in psychotherapy research. However, there are still many unanswered questions and little is known about other, more diffuse inter-session processes. Additionally most previous research focuses on retrospective and cross-sectional assessments of inter-session processes. To better understand the underlying mechanisms of inter-session processes and their complex embedding into the life of clients, it seems to be essential to capture them in their natural environment where they mainly occur. Ecological Momentary Assessment (EMA) is a functional method to measure current momentary states in daily life via mobile devices. However, it is unclear whether EMA is solely an innovative measurement method or can be considered already a minimal intervention, especially when it comes to measuring complex and dynamic phenomena like change processes (e.g. Kramer et al., 2014; McCarthy, Minami, Yeh & Bold, 2015). Therefore it must be asked if EMA possibly promotes inter-session processes and affects the performance of homework assignments in psychotherapy?

### Method

To answer this question an online longitudinal randomized-controlled trial will be conducted in spring 2019. The intended sample consists of 400 adults of the general Swiss population. During baseline assessment participants are randomized to four conditions. In the upcoming week they either perform a writing exercise, answer questions per EMA, do both or none of it. Based on the writing paradigm of James Pennebaker the participants are instructed in the writing exercise to write on four of the seven subsequent days for 10 minutes about the most important topic of the day. Participants with EMA instead or additionally answer questions per smartphone over the course of the day on their well-being and dealing with demanding situations. After one week the participants complete the follow-up questionnaire. The quantity and quality of the writing task stands for a specifically intended inter-session process and is comparable to homework assignments. Diffuse inter-session processes on the contrary are operationalized as the extent to which participants think or talk about demanding situations and the writing exercise. This is measured by modified subscales of the German Intersession Experience Questionnaire (IEQ; Hartmann, Orlinsky, Geller & Zeeck, 2003). Additionally participants are asked if they have experienced any helpful events to cope with demanding situations in the last week. It will be examined if participants differ in their level of diffuse inter-session process as well as the quantity and quality of the writing task depending on whether they had an EMA or not.

### Results

The results of the study will be presented.

### Discussion

This analogue study focuses on the intersection of practice-oriented research and promising methodological approaches such as EMA. EMA could shed a new light on inter-session processes and bring more detailed knowledge about their structure and underlying mechanisms. This could help to promote the transfer of psychotherapeutic change into daily life in general and by homework assignments.

## Smartphone Usage Patterns in Individuals with Bedtime Procrastination

Sonhye Jeoung, Hyeoung An & Sooyeon Suh†, Sungshin University, South Korea

### Introduction

Bedtime procrastination is defined as failing to go to bed at the intended time, while no external circumstances prevents a person from doing so. According to previous studies, bedtime procrastination is strongly associated to usage of smart devices before bedtime. However, there is a lack of in-depth research about the function of smartphone usage before bedtime, and which applications are used frequently in association with bedtime procrastination. Therefore, the current study investigates the usage patterns of smartphone applications of individuals with high levels of bedtime procrastination.

### Method

Participants consisted of 20 adults (female = 80%, age = 20.9(±2.05)) who scored higher than 33 on the Bedtime Procrastination Scale (BPS). All participants completed a 7-day sleep diary, Insomnia Severity Index (ISI) and the Center for Epidemiological Studies Depression Scale (CES-D). On the sleep diary, participants were asked to track the specific type of smartphone application they used and time they engaged in the specific application prior to bedtime. All responses were classified based on the 2016 smartphone overdependence survey classification of Statistics Korea. Descriptive statistics, correlation analysis, and paired t-test were conducted for data analysis.

### Results

Among the different main categories, bedtime procrastinators spent significantly more time on Communication (M = 38.80; SD = 31.04 min per day) and Leisure (M = 34.81; SD = 29.80 min per day) prior to bedtime. Further analysis of sub-categories revealed that these individuals spent more time watching movie/TV/video, engaging in SNS, and communicating through cellphone messenger service. The top three applications that participants spent the most time in were Youtube (M = 21.55; SD = 33.32 min per day), Kakaotalk (South Korean

messenger service;  $M = 18.25$ ;  $SD = 23.53$  min per day), and talking on the telephone ( $M = 6.42$ ;  $SD = 12.65$  min per day), in respective order. In addition, the correlation between depression and amount of time spent watching movie/TV/video, and insomnia severity and time spent communicating through cellphone messenger service were significant ( $r = .482$ ,  $p < 0.05$  and  $r = .570$ ,  $p < 0.01$ , respectively).

#### **Discussion**

The results of this study provide insight into which smartphone applications bedtime procrastinators spend the most time prior to bedtime. The results suggest that the main functions of using their cell phone prior to bedtime are for entertainment and social interaction.

### **Psychological Flexibility and Performance in Competitive Athletes**

**Lis Johles, Karlstad University, Sweden**

**Christer Classon & Jon Hasselqvist, Stockholm University, Sweden**

**Tobias Lundgren, Karolinska Institute, Sweden**

**Henrik Gustafsson, Karlstad University, Sweden**

**Marcus Fröjmark-Jansson, Karolinska Institute, Sweden**

#### **Introduction**

There is an increasing research interest in the concept of psychological flexibility. Despite the promising results, a sport specific measure is lacking. The aim of this study is to describe the development of a scale (Acceptance and Action Questionnaire-II) that measures psychological flexibility and the association with sport performance and quality of life.

#### **Method**

A validation of an adapted version of the Acceptance and Action Questionnaire-II in athletes was conducted. Furthermore an investigation of the associations with quality of life and performance. The participants were 152 competitive athletes.

#### **Results**

Results demonstrated significant correlation between psychological flexibility in three out of four performance measurements. Furthermore, regression analyses showed that psychological flexibility was the main predicting factor in two of four cases. A moderation analysis showed that the correlation between psychological flexibility and two of the performance measurements were determined by age and the number of years on elite level.

#### **Discussion**

This study suggests future applications including the development of a revised sports-scale from this study. Researchers and coaches could expand their knowledge further in the future by conducting more detailed research related to how psychological flexibility could affect both performance and quality of life among athletes.

### **NoIlikesU – An Internally and Ecologically Valid Paradigm to Investigate Social Rejection Expectations and Their Adjustment in Human Samples**

**Lisa D'Astolfo, Lukas Kirchner\* & Winfried Rief, Philipps-University of Marburg, Germany**

#### **Introduction**

Dysfunctional expectations (future-directed, if-X-then-Y-predictions) have been shown to cause (and maintain) serious psychological problems in mental disorders and tend to persist despite disconfirming evidence. This seems to be especially relevant in case of social rejection expectations as they impede mental health and play an important role in various mental disorders (e. g. borderline, social anxiety, depression). However, experimental research on how these expectations develop, maintain and adjust in healthy vs. clinical samples is currently lacking. We introduce a new experimental paradigm offering broad applications to investigate these issues within an internally and ecologically valid procedure.

#### **Method**

In this paradigm, participants pass multiple short 'webcam-conferences' on a computer (actually realistic looking video stimuli) in which they answer personal and self-related questions to different 'listeners' (actually pre-recorded and instructed confederates). Afterwards they get written social feedback on their appearance (actually preset bogus feedback inducing social rejection vs. acceptance). Before each trial, participants indicate to what extent they expect their upcoming listener to be interested in future contact after running the conference. In order to model the development, maintenance and adjustment of social rejection expectations, we divided our paradigm in distinct sequences: Participants drawn from a healthy sample first experienced a sequence of social rejection (predominantly trials indicating no actual interest in future contact) followed by a sequence of social acceptance (predominantly trials indicating actual interest in future contact).

#### **Results**

Pilot data indicate that participants adjust their social rejection expectations as a function of social feedback. Without feedback, formed social rejection expectations remain stable.

#### **Discussion**

As preliminary results suggest, our paradigm can be used to investigate the development, maintenance and adjustment of social rejection expectations within an internally and ecologically valid experimental procedure. Future research should use NoIlikesU to identify differences between healthy and clinical samples in the adjustment of social rejection expectations. In order to develop proper interventions, researchers should use NoIlikesU to investigate whether the adjustment of social rejection expectations can be improved by interventions on informational processing.

### **Do Rumination and Depressive Symptoms Predict Eye-Tracking Based Attention Biases?**

**Nessa Ikani, Gina Ferrari, Joppe Klein Breteler\*, Martin Möbius & Mike Rinck, Radboud University Nijmegen, the Netherlands**

#### **Introduction**

Rumination is a habitual process including repetitive and passive thoughts about negative self-relevant emotions, their causes and implications. It is involved in the development and maintenance of depressive symptoms. Attentional bias (AB) for negative information is a possible cognitive mechanism contributing to rumination. However, inconsistencies in the literature on AB in depression might be attributed to the low reliability of the dot-probe task, often used to investigate AB.

## Method

Using a recently developed eye-tracking based AB paradigm and linear mixed effects models, the current study investigated the association between state rumination, trait rumination, depressive symptoms, and AB in a healthy sample. Due to the verbal nature of rumination, we also examined the effects of verbal versus pictorial stimuli.

## Results

Results demonstrated that trait rumination and depressive symptoms were not predictive for AB, irrespective of stimuli type. However, state rumination predicted slower disengagement from negative pictures, compared to faster disengagement from positively valenced pictures. In addition, state rumination was associated with eye-gaze patterns; individuals with high state rumination were more likely to shift their attention to another negative picture after initial fixation on a negative picture. However, high state ruminators did not show this pattern after fixating on positive pictures.

## Discussion

Implications and future directions will be discussed.

## Differences in Clinical Indices Based on Patterns of Sleep Misperception in Insomnia Patients

Nari Koo, Jiyun Lee, Kyunga Park, Jia Kim, Dasom Park & Sooyeon Suh<sup>†</sup>, Sungshin University, South Korea

### Introduction

Sleep misperception occurs when one estimates their subjective sleep time as less or more than their objective sleep time. Negative sleep state misperception (NSSM), which estimates subjective sleep time as less than objective sleep time, has been suggested to be a core symptom of insomnia. Additionally, insomnia patients with NSSM exhibit higher levels of depression and anxiety compared to those who overestimate subjective sleep time compared to their objective sleep time (positive sleep state misperception; PSSM). However, there is a lack of research that compares differences between the two groups, depending on NSSM and PSSM among insomnia patients. Therefore, this study aimed to examine the differences between individuals who had NSSM and PSSM, particularly for negative emotions and dysfunctional beliefs and attitude about sleep.

### Method

Participants consisted of 74 adults (male = 55.4%, age = 32.22(±7.24)) who met DSM-5 diagnostic criteria for insomnia disorder. All participants completed the Korean version of Insomnia Severity Index (K-ISI), Korean version of Center for Epidemiologic Studies Depression Scale-Revised (K-CESD-R), Korean version of Trait version of State-Trait Anxiety Inventory(K-STAI-T), Korean version of Dysfunctional Beliefs and Attitudes about Sleep (K-DBAS-16), and Korean version of Fatigue Severity Scale (K-FSS). Objective sleep was measured using actigraphy and subjective sleep was measured self-reported sleep diaries for 7-days each. A 'misperception index (MI)' was calculated by subtracting subjective total sleep time from objective total sleep time and dividing it by objective total sleep time. Descriptive statistics, correlation analysis, and two independent samples t-test, and the Mann-Whitney u test were conducted for data analysis.

### Results

Participants who had negative MI values were categorized as PSSM (n = 28) those who had positive MI values were categorized into NSSM (n = 46). Results indicated a significant association between underestimating subjective sleep time and severity of insomnia, depression, and dysfunctional beliefs and attitudes about sleep. Additionally, the NSSM group had significantly higher levels of insomnia severity (t=-2.143, p=.035), depression (Mann-Whitney U=299.5, p<.001), anxiety (t=-2.117, p=.038), dysfunctional beliefs and attitudes about sleep (t=-2.300, p=.024) than the PSSM group. However, fatigue severity (p=.123) was not significant different between two group.

### Discussion

Although there was no significant difference in fatigue, insomnia patients with NSSM report higher levels of insomnia severity, depression, anxiety and dysfunctional beliefs and attitudes about sleep compared to insomnia patients with PSSM. Future studies investigating sleep misperception should differentiate between NSSM and PSSM in insomnia patients, and consider specific interventions for negative emotions and thoughts for cognitive-behavioral therapy for insomnia.

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## Intra- and Interindividual Comparison and the Evaluation of Mental Well-Being

Marthe Sickinghe, Thomas Meyer & Nexhmedin Morina, University of Münster, Germany

### Introduction

Literature indicates that judgment is based on comparisons. Comparisons can be made with social, temporal, dimensional, counterfactual and criterion-based standards. The direction of the comparison can be upward, lateral, or downward, with superior, equivalent, and inferior standards, respectively. The outcome of the comparison process depends on which and how accessible information is used in constructing the comparison to the standard. The aim of this study was to chart the comparison standards used by individuals with mental disorders when evaluating their mental well-being.

### Method

The sample consisted of 30 individuals with a mental disorder seeking treatment for their complaints at an outpatient psychotherapy clinic and 30 healthy control subjects (however, the assessment of the latter sample will be completed by the end of January only). The use of comparison standards was assessed with a self-developed semi-structured face-to-face interview. First, participants were asked to evaluate their general well-being on a scale from 0 (very bad) to 10 (very good) and give explanatory statements about their evaluation. Subsequently, six questions were asked about specific comparison standards in relation to well-being that could be evaluated on a scale from -5 (much worse) to +5 (much better). One example would be the item on social comparison: "Compared to other men/ women your age, how would you rate your well-being?"). Following the interview, participants were instructed to keep a diary about daily comparisons for seven days.

### Results

Participants in the clinical group rated their well-being on average as neither bad nor good (M = 5.27, SD = 1.87). Referring to the specific comparison standards when evaluating their well-being, participants used more upward comparisons with criterion-based (M = -1.78, SD = 1.36; feeling worse compared to an objective criterion) and temporal-future standards (M = -2.71, SD = 2.07; feeling worse compared to an expected version of the self in the future) and more downward comparisons with counterfactual standards (M = 1.25, SD = 2.07; feeling better compared to possible alternative versions of the self). Participants spent most time reporting on their well-being when asked about social and temporal-past comparison relative to dimensional, counterfactual and criterion-based comparisons.

## **Discussion**

Our current results identify certain comparison processes that may play a role in the evaluation of well-being in individuals with mental health complaints. Our presentation will focus on statistical differences between clinical and healthy participants and the extent to which participants changed their evaluation of their well-being after considering certain comparison standards. The implications of our findings for future research and clinical practice will be discussed.

## **Exploring a Cognitive Intervention Using Smartphones in the Lab: Experimental Psychopathology and Trauma**

**Laura Kress, Uppsala University and Karolinska Institute, Sweden**

**Felicia Sundström & Thomas Agren, Uppsala University, Sweden**

**Renee Visser, University of Amsterdam, the Netherlands**

**Emily Holmes, Uppsala University, Sweden**

### **Introduction**

Experimental psychopathology gives us a way to study emotions and emotional memories. Intrusive memories of traumatic events are the hallmark feature of post-traumatic stress disorder. Effective and widely available interventions to prevent the development of intrusive memories after trauma are currently lacking. Recent research has shown that performing a brief cognitive intervention including the computer game ‘Tetris’ soon after trauma may reduce intrusive memories compared to performing other computer games or no task. This has been demonstrated both in the laboratory (James et al., 2015) and in the clinic (Iyadurai et al., 2018). However, so far the intervention has only been administered on computers or gaming devices. Could this intervention be delivered using people’s own smartphone?

### **Method**

We discuss an experimental study to explore the delivery of a brief cognitive intervention including a game (‘Tetris’) on people’s own smartphone soon after experimental trauma. Using a randomized controlled between-subject design, we compare the smartphone-based intervention to an active placebo group (listening to a podcast) which controls for general smartphone use, and to a passive control group (no task).

### **Results**

The primary outcome measure is intrusive memories of the experimental trauma reported during the following week. We hypothesize that performing a simple cognitive intervention including ‘Tetris’ game play on one’s own smartphone can reduce intrusive memories during the following week compared to no task and an active control task.

### **Discussion**

Even though the current study is only a first step toward further developing effective clinical interventions after trauma, it can reveal crucial information on how such interventions help to reduce the impact of intrusive memories (Iyadurai et al., in press) and how they can possibly be made available on a large scale in clinical settings in the future.

## **Mechanics of Contingency-Based Cognitive Bias Modification: Pre-Existing Bias Affects Potency of Active Training but Not Placebo Conditions**

**Anne-Wil Kruijt & Per Carlbring, Stockholm University, Sweden**

### **Introduction**

Cognitive Bias Modification (CBM) refers various computerized training protocols aimed at modifying individuals’ automatic information processing patterns (cognitive biases). CBM protocols are commonly regarded as potential new treatments, targeting cognitive biases believed to be involved in anxiety, depression, substance abuse, disordered eating, pain perception, insomnia, etc. Designed to reward response tendencies associated with more desired information processing patterns through repeated practice, CBM tasks tend to rely on a (hidden) contingency between stimulus valence and response rewards. In CBM studies, active training conditions are typically contrasted with control conditions lacking the contingency, often called 50/50 placebo. This report focusses on the wide-spread, and intuitive, notion that pre-existing bias may affect the contingency experienced by an individual engaging in a 50/50 placebo control condition thereby inadvertently rendering the intended placebo condition more potent.

### **Method**

We employed probabilistic reasoning, presenting formulae to compute the probability for each type of trial to modify or consolidate an individual’s initial response tendency. In addition, an interactive online visualization app has been made available.

### **Results**

Contrary to the often-forwarded notion, pre-existing bias cannot increase the potency of a 50/50 placebo condition. In contrast, we arrived at the unforeseen conclusion that lack of pre-existing bias may render an active training condition functionally similar to a placebo condition.

### **Discussion**

Our probabilistic arguments invite discussion of CBM’s implicitness assumption, as well as the ever more clearly emerging problem of information processing biases not being reliably observed in clinical populations whereas our arguments suggest that pre-existing bias is necessary for CBM to function in the manner that it is devised to function.

## **Decision Making in Chronic Pain: The Role of Punishments and Rewards**

**Angelos-Miltiadis Kryptos, KU Leuven, Belgium, and Utrecht University, the Netherlands**

**Geert Crombez, Ghent University, Belgium**

**Nathalie Claes & Johannes Vlaeyen, KU Leuven, Belgium**

### **Introduction**

Chronic pain (i.e., subjective feeling of pain in absence of bodily problems) is associated with major distress for individuals and high economic costs for the society. Understanding the nature of chronic pain could help in building better treatments, and as such reduce the individual distress and the societal costs. Here, we aim to gain more insight on chronic pain by investigating potential biases in decision making. Specifically, daily individuals either stick to decisions they have made before (e.g., choosing a restaurant where they have eaten before), or choose something different (e.g., go to a new restaurant). This so-called explore/exploit dilemma has been widely tested in the context of rewards (e.g., addiction literature). Alas, there is scarce research of explore/exploit dilemmas in the context of chronic pain.

Importantly, biases in explore/exploit decisions are to be expected given that often individuals with chronic pain symptomatology will stick to a dysfunctional behavior (e.g., kneeling rather than bending for avoiding 'breaking' their back) rather than explore alternative behaviors.

#### **Method**

Here, we present the results of three experiments in which we tested a novel experimental paradigm for testing explore/exploit dilemmas in pain. Participants had to freely move a joystick towards 4 different places on the screen (top, down, right, left). Importantly, each movement was associated with different probabilities of receiving a painful shock (Experiment 1), or a painful shock together with rewarding points (Experiment 2). We also tested whether individuals will update their preferences towards each movement after changing the associations between each movement and the probability of receiving a painful stimulus together with rewarding points (Experiment 3).

#### **Results**

For each experiment we fitted different computational models for describing participants' behaviour, as well as correlated the model parameters with a series of individual difference questionnaires (e.g., intolerance of uncertainty, fear of pain). We performed all our analysis using the programming language R and Stan. In the poster we present the model that described each experiment best, as well as the correlation between the parameters of the best-fitting model and the collected individual differences characteristics.

#### **Discussion**

Our results could help in better understanding decision-making in pain contexts, and also test how such decision-making biases may be different compared to other situations (e.g., in case of appetitive stimuli only). Such knowledge is particularly important towards the better development of treatment protocols for chronic pain.

### **Improving Imagery Rescripting Treatments: Comparing an Active vs. Passive Approach**

**Anna Kunze, Marena Siegesleitner, Miriam Strohm, Charlotte Wittekind & Thomas Ehring, LMU Munich, Germany**

#### **Introduction**

Imagery Rescripting (ImRs) appears to be a promising treatment technique for PTSD. Emotion-inducing mental images that contribute to the onset and maintenance of PTSD are actively modified during ImRs to reduce associated negative emotions and other psychological symptoms. However, uniform guidelines on how to optimally implement ImRs currently do not exist. For example, there is an ongoing discussion whether therapists should stimulate patients to fulfill their needs within the new image themselves, or whether helpers may aid the patients in fulfilling their needs. The aim of this study was to compare these ImRs approaches within an analogue experimental setting (i.e., trauma film).

#### **Method**

After having watched an aversive film clip, one-hundred healthy participants were randomly assigned to either active ImRs (ImRs-A), passive ImRs (ImRs-P), imagery rehearsal (IRE), or no-intervention control (NIC). In ImRs-A, participants were instructed to rescript the film clip by imagining themselves to master the situation in the new script whereas participants in ImRs-P were encouraged to imagine helpers entering and mastering the situation.

#### **Results**

ImRs-P was experienced as less distressing, but ImRs-A led to a significantly stronger increase in positive affect than IRE. Though statistically not significant, inspection of the data insinuated that ImRs-A reduced intrusive memory development when compared to the other groups.

#### **Discussion**

Differences between the conditions on treatment outcome could not be observed, but the ImRs approaches differed on process variables. This emphasizes the need for more systematic research into variations of ImRs. Additional implications of the present findings will be discussed.

### **The Effect of Induced Emotional States on Event-Based Prospective Memory Performance**

**Angelina Leonello & Mairwen K Jones, The University of Sydney, Australia**

**Lynne M Harris, Asia Pacific International College, Australia**

#### **Introduction**

Prospective memory (PM) refers to the complex process in which cognitive resources such as memory and attention are mobilised to execute intended actions after a delay (Ellis & Kvavilashvili, 2000). Successful prospective remembering is an important functional skill that has been associated with health outcomes such as treatment adherence (Zogg, Woods, Saucedo, Wiebe, & Simoni, 2012), since attending appointments on time and adhering to medication schedules are examples of tasks that require intact PM. One of the main subtypes of PM tasks is event-based PM tasks, which are PM tasks that are executed following the recognition of an external event-based cue (Kvavilashvili & Ellis, 1996). An example of a common event-based PM task is passing on a phone message when seeing a colleague. There is evidence that the ability to perform event-based PM tasks is influenced by the experience of negative mood; however, there are mixed findings as to whether negative mood impairs (Knight, Brewer, Ball, DeWitt, & Marsh, 2015) or enhances (Rummel, Hepp, Klein, & Silberleitner, 2012) event-based PM performance. However, the effect of negative mood on information processing was implicated in both instances (Knight et al., 2015; Rummel et al., 2012). Consequently, a possible explanation for these conflicting findings might be differences in the processing requirements of the event-based PM task, since this factor has been theorised to influence the extent to which effortful monitoring is required for successful event-based PM performance (Scullin, McDaniel, & Shelton, 2013). Furthermore, although there is evidence that event-based PM performance is impaired among individuals who report high scores on measures of state anxiety (Harris & Cumming, 2003), there have been no studies published that explore the effect of acute state anxiety on event-based PM performance. This study aims to clarify the effect of negative mood on event-based PM as well as address the lack of studies exploring the effect of state anxiety on event-based PM. The research investigates the effect of induced anxiety, negative mood, positive mood, and neutral mood on an event-based PM task.

#### **Method**

Participants were randomly allocated to the anxiety, negative mood, positive mood, or neutral mood groups. Participants watched videos at two time-points to induce and maintain the corresponding emotional state. Instructions for the event-based PM task were provided and participants experienced a brief delay before this task could be executed in the course of an ongoing working memory task. Load on working memory during the ongoing task was manipulated experimentally to explore the interaction between emotional state and working memory load on event-based PM performance.

## **Results**

The findings will be discussed in the context of existing theories and evidence pertaining to the effect of emotional states on PM performance.

## **Discussion**

These findings will contribute to theoretical perspectives on the interaction between emotions and cognition, specifically in the area of PM.

## **Comparison Between Computer and Paper-and-Pencil Surveys in a Laboratory Environment**

**Mingming Lin & Yoshiharu Kim, National Center of Neurology and Psychiatry, Japan**

### **Introduction**

There has been a recent increase in the number of studies investigating the effectiveness of computer-based cognitive behavioural therapy (CCBT) or Internet-delivered CBT (iCBT). The effectiveness is able to be compared to that reported in previous studies which use usual CBT, when the outcome is measured using traditional methods (structured interviews, paper-and-pencil self-rating scale, etc.). However, when the outcome itself is measured by computer or via the Internet, there is the concern whether there are differences in participants' self-report between computer/Internet measurement and traditional method. In this study, we compare the results of traditional paper-and-pencil self-rating questionnaires and those completed on the Internet using a computer in a laboratory setting. By conducting the study in the laboratory setting, we controlled for the environment at the time of answering and the interval between two surveys.

### **Method**

A total of 30 undergraduate students (19 men and 11 women, mean age 19.7 years, SD = 1.18) were divided into two groups and the sequential order of the two survey types (paper-and-pencil questionnaire or Internet questionnaire using a personal computer) was counter-balanced. There were no differences in age and sex ratio between the two groups. The interval between the first and second visit was one week. The measures were mood, psychological distress, anxiety, depression, and other scales (e.g., self-efficacy, problematic Internet use etc.).

### **Results**

The results indicated equivalence between the survey types in most of the measures, including mood, psychological distress, anxiety, and depression. Higher scores of self-efficacy and problematic Internet use were observed in computer answering style. We also analysed the relationship between mood and mental symptoms at the time of response and other scales, revealing that there were differences between the two types of survey.

### **Discussion**

Although no differences were observed in mood and mental symptoms measures between two survey styles, the interaction effect between other measures, such as personality and mental symptoms, might have been mediated by survey style. Further investigation on the method of survey style is required, especially when self-rating scale is used in Internet or computer answering style.

## **The Effect of a Retrieval Cue on the Renewal of Conditioned Craving Responses: Implications for the Treatment of Impulsive Eating**

**Frank Lörsch, Ines Kollei & Sabine Steins-Loeber, Otto-Friedrich-Universität Bamberg, Germany**

### **Introduction**

Learning theory states, that food cue reactivity is a conditioned response experienced as strong craving, which can trigger impulsive eating and weight gain (Jansen et al, 2011). Conditioned craving is considered as an important maintenance factor in bulimia nervosa and binge eating disorder. A promising approach to reduce craving is cue exposure therapy (the clinical equivalent of extinction), which could be optimized through principles of inhibitory learning (Craske et al., 2014). One such principle is the implementation of retrieval cues, with the aim of preventing relapse through bridging the gap between therapeutic context and natural environment of the patient.

### **Method**

Two experiments were conducted to investigate the effects of a retrieval cue on the renewal effect of conditioned chocolate craving. A differential appetitive conditioning paradigm originally developed by Van Gucht et al. (2008) was used, in which a specific tray is set up as a conditioned stimulus (CS) for eating chocolate (unconditioned stimulus, US) in an ABA-renewal design. Half of the participants were presented with the retrieval cue in the acquisition phase (Group AC) and the other half in the extinction phase (Group EC). Both experiments differed with regard to the relative frequency of the retrieval cue presentation. In Experiment 1, the frequency of the presentation of the retrieval cue represented 50 % of the total amount of trials in each learning phase, which resulted in twice as much presentations of the cue for the EC-group. In Experiment 2, the frequency of the presentation of the cue was equal for both groups.

### **Results**

In Experiment 1 participants (n = 32 with mean age±SD of 20.9 ± 2.3) successfully acquired differential craving responses. However, unlike US-expectancy, craving did not extinguish. Hence, no renewal effect for craving could be assessed. There was a clear renewal effect for US-expectancy in the AC group, which was absent in the EC-group, depicted by a significant difference between groups. Hence, presentation of the retrieval cue during extinction only abolished the renewal effect relative to presentation of the cue during acquisition only. In Experiment 2 participants (n = 32 with mean age±SD of 20.7 ± 2.6) also successfully acquired differential craving responses and craving did not extinguish. However, US-expectancy did return after successful extinction and this in both groups, with no significant difference between groups. Here, the presentation of the retrieval cue during extinction had no effect on renewal of US-expectancy.

### **Discussion**

Our results point to a potential benefit of a retrieval cue to attenuate the renewal effect of conditioned US-expectancy, i.e. the return of expectancy of a biologically significant stimulus after successful extinction in a different context. However, the results of experiment 1 and experiment 2 differ with regard to the magnitude of the renewal effect, so the beneficial effect of the retrieval cue seems to be mediated by the amount of cue presentations during extinction. Future studies should aim to find the perfect amount of necessary presentations and interactions with other relevant features of the cue such as salience.

## **Reliability of Reaction Time Based Experimental Tasks Assessing Information-Processing Biases in a Sample of Unselected Young Adults**

**Alla Machulska & Tim Klucken, University of Siegen, Germany**

### **Introduction**

Prominent cognitive models propose that information-processing biases, including biased automatic approach-avoidance behavior, selective attention and implicit associations, are the key determinants of psychological disorders. Moreover, those biases were linked to the etiology, maintenance of, and recovery from mental disorders. Hence, in the last few decades various experimental tasks have been developed aiming at measuring information-processing biases and evaluating treatment outcome. More recently, such paradigms have been adapted to modify information-processing biases and thereby enhance clinical outcomes, becoming treatment interventions itself. Although widely used, little is known about the psychometric properties associated with these tasks.

### **Method**

The present study examines the psychometric properties (internal consistency, split-half reliability, test-retest reliability) of commonly used tasks to measure approach-avoidance, attentional and association biases in an unselected sample of young adults. Positive and negative stimulus material was used, so that bias scores reflect a tendency to attend to positive versus negative or potentially threatening information. To examine whether the method of task deployment has an effect on estimates of reliability, the tasks were presented both via a personal computer and via a touchscreen tablet computer. To explore the temporal stability of bias scores derived from these tasks, participants adhered to five laboratory sessions, with the first four sessions being one week apart and the last session taking place one month after the fourth session.

### **Results**

Psychometric properties of information-processing biases and interrelations between bias measures derived from different experimental tasks are reported. In addition, we present correlations between task performance and self-report measures of psychological well-being, depression, anxiety and disgust sensitivity.

### **Discussion**

Adopting a standard to examine and report psychometric properties of behavioral measures is crucial in understanding whether the obtained findings are robust and stable over time rather than the result of random fluctuations or measurement error. Only then, it can be ensured that individual differences are linked to different cognitive styles or perception. Thus, we encourage future studies to rigorously report measurement psychometrics to aid interpretation of results and inform further development and improvement of cognitive behavioral assessments.

## **Investigating Pre-Sleep Processes and How They Influence Sleep**

**Thomas Mäder, Johanna Whitford & Prisca Feinaigle, University of Zurich, Switzerland**

**Walter Karlen, Swiss Federal Institute of Technology Zurich, Switzerland**

**Birgit Kleim, University of Zurich, Switzerland**

### **Introduction**

The current study examined the relationship between pre-sleep processes and sleep in the context of real-world stress exposure in medical students during an internship. Medical students are often exposed to a variety of stressors and potentially traumatic events and have been shown to be at risk to develop psychopathology, such as anxiety and depression. Previous research has shown an association between stress, psychological distress, and sleep disturbances. In this context, studies have investigated possible predictors for sleep disturbances. Recently, the period just prior to sleep onset has received increased interest. At the moment, little is known, however, about the influence of such pre-sleep processes. In this study, we investigated the influence of pre-sleep rumination and mindfulness on sleep disturbances (e.g. longer sleep onset latency or reduced sleep quality).

### **Method**

In a prospective study, we examined a sample of 50 medical students from the University of Zurich. All participants completed their first medical internship over 9 months as part of medical school. Predictors were assessed prior to starting the internship and pre-sleep processes and sleep were indexed mid-internship using sleep diaries over seven consecutive days. Additionally, a Fitbit tracking device was used to measure objective sleep quality. Correlational analyses and multilevel linear models were conducted.

### **Results**

Results show associations between pre-sleep processes and sleep disturbances in this stress-exposed at-risk population. For example, multilevel linear models showed that over the period of 7 consecutive nights, pre-sleep rumination was a significant predictor of lower subjective sleep quality ( $B = -.075$ ,  $SE = .023$ ,  $p = .001$ ), higher subjective wake-up frequency ( $B = .166$ ,  $SE = .061$ ,  $p = .007$ ), and lower subjective total sleep time ( $B = .084$ ,  $SE = .036$ ,  $p = .021$ ).

### **Discussion**

Together, our data suggest pre-sleep processes and sleep quality as potential targets for stress-prevention programs that could help reduce the negative influence of stress in at-risk populations.

## **Working Memory and Anxiety Perseveration: Is Anxiety-Linked Working Memory Decline Linked to Slow Recovery from Stress?**

**Georgina Mann, Lies Notebaert & Colin MacLeod, University of Western Australia, Australia**

### **Introduction**

Trait anxiety (TA) is a stable disposition, reflecting an individual's tendency to experience anxious symptoms. Anxiety perseveration (AP) is a component of this, reflecting the tendency to experience ongoing anxiety following an anxious event. Experimental evidence has shown that AP makes a unique contribution to TA, independent of anxiety elevation to stressful events (anxiety reactivity(AR); Rudaizky & Macleod, 2013).

Cognitive theories propose that elevated TA is associated with decline in working memory performance (WMP; Eysenck, Derakshan, Santos & Calvo, 2007), but experimental findings are mixed (Harris & Cumming, 2003). While TA is known to reflect a combination of individual differences, the relationship between AR, AP and WMP has not been examined. This investigation will contribute to the theoretical and experimental paradigms which form the basis of therapeutic interventions targeting anxiety-linked differences in cognitive function to reduce anxiety vulnerability.

## **Method**

97 participants completed a counterbalanced two-session experiment, with each session designed to measure either working memory performance or anxiety reactivity and perseveration. Working memory was measured using a spatial working memory task, requiring participants to recall the spatial location of a series of coloured circles. To measure anxiety reactivity and perseveration, participants were required to prepare and deliver a short speech that they believed would be judged by their peers if they performed poorly. A measure of individual differences in anxiety reactivity was derived by assessing elevation in state anxiety during the speech preparation period. To derive a measure of individual differences in anxiety perseveration, the persistence of state anxiety was assessed at regular intervals subsequent to the delivery of the speech.

## **Results**

Participants demonstrated variability in working memory performance as well as in anxiety reactivity and perseveration. As intended, delivery of the speech resulted in elevated state anxiety across participants. Crucially, individual differences in working memory performance significantly predicted individual differences in anxiety perseveration, but not anxiety reactivity. This revealed that poor working memory performance was uniquely associated with a greater tendency to experience elevated anxiety perseveration following a stressful event.

## **Discussion**

Importantly, the present results suggest that poor working memory performance is uniquely associated with specific underlying facet of anxiety vulnerability, anxiety perseveration, and are not associated with anxiety reactivity. The present findings contribute to present theories concerning the relationship between working memory performance and anxiety vulnerability, and highlight the importance for future research to consider unique facets of anxiety symptomatology when investigating the association between cognitive processing and anxiety vulnerability.

## **Attachment, Emotional Processing, and Appraisal of Adolescent Life Events**

**Luca Marchegiani, University of Rome, Italy**

**Renato Forschi & Marco Lauriola, Sapienza University of Rome, Italy**

### **Introduction**

In the Emotional Processing Model, not only the appraisal of meaning of event is upstream of emotional experience and expression, but also emotion schemas are thought to influence the way in which events are appraised. Internal-working-models of attachment are the most prominent emotion schemas, generating expectations of how others will respond to one's behavior. Secure individuals hold a positive model of self and others, feeling comfortable in close relationships and self-reliant. Other types can be fearful, preoccupied, or dismissing. We aim to explore how internal-working-models and emotional processing are related, and how both influence the appraisal of life events.

### **Method**

Two-hundred-seventy-seven teenagers (74% females, age range 16-19) completed the Emotional Processing Scale (Suppression of emotions, Signs of Unprocessed emotions, Unregulated emotions, Avoidance of emotional triggers, and Impoverished Emotional Experience) and the State-Adult Attachment measure (Secure, Anxious and Avoidant attachment). Participants reported about life events occurred during the past three months, judging whether they were positive or negative. Correlations analyses assessed the bivariate associations between study's variables. Hierarchical regression analyses of attachment and emotional processing scores (entered at step 1 and 2, respectively) on the number of positive and negative life events assessed the unique contribution each class of variables.

### **Results**

All emotional processing and attachment scales were associated with the number of negative events. Among emotional processing, unprocessed and unregulated emotions were the largest correlations ( $r=.39$  and  $r=.35$ , respectively). Secure attachment was inversely related to the number of negative events ( $r=-.25$ ); avoidant attachment was related to them, positively ( $r=-.25$ ). No meaningful relationships were found with positive events. The regression model accounted for 11% and 19% of the variance in negative events after step 1 and 2, respectively. Secure, anxious, and avoidant attachment scores were associated with the dependent variable. Only unregulated emotions were associated with negative events controlling for attachment.

### **Discussion**

Internal-working-models and emotional processing were intertwined and accounted for the appraisal of events. Teenagers reporting more negative events reported intrusive and persistent emotional experiences and failure to control their emotions. Past memories regarding uncertainty about the availability of others and the fear being dependent upon others lead to negative appraisals; teenagers holding positive views of self and others reported fewer negative events. Controlling for attachment, the associations of suppression, unprocessed emotions, avoidance, and impoverished emotional experience with the number of negative life events were no longer significant. This finding supports the view that emotion schemas influence the appraisal of events.

## **Testing the Internal Pathway of Cognitive Control in Depression with Adopting Dual Mechanism of Control Framework**

**Akihiro Masuyama, Iwaki Meisei University, Japan**

**Satoshi Mochizuki, Hosei University, Japan**

### **Introduction**

For psychopathology of depression, numerous studies suggest that impairment of cognitive control plays a crucial role in the onset, relapse, recurrence of depression (for review, see Hammar & Ardal, 2009). Recently, the Dual Mechanism of Control (DMC; Braver, 2012) framework, which assumed that reactive and proactive control processes drive various functions of cognitive control, has been theorized and contributed to revealing the mechanism of cognitive control in depression (Masuyama et al., 2018). However, the above assumption that two distinct control processes drive cognitive controls, has never been empirically demonstrated. In this study, whether reactive and proactive control were effected to depressive symptoms mediated with other cognitive controls were investigated.

### **Method**

Method: Forty-seven undergraduates completed the Emotional AX version Continuous Performance Task that measuring reactive and proactive control, and the Emotion-Place Switching task that measuring conflict adaptation and task switching after they answered Beck Depression Inventory Japanese version (Kojima et al., 2002) that measuring depressive symptoms.

## Results

Bootstrapped moderated mediation analysis revealed a significant direct effect of the impaired reactive control on depressive symptoms ( $c'=.31$ ,  $SE = 0.15$ ,  $t = 2.09$ ,  $p < .05$ ) and conflict adaptation ( $c'=.46$ ,  $SE = 0.14$ ,  $t = 3.31$ ,  $p < .05$ ); a non-significant direct effect of conflict adaptation on depression ( $c'=.26$ ,  $SE = 0.16$ ,  $t = 1.57$ ,  $p = .12$ ); and a significant indirect effect of impaired reactive control on depressive symptoms moderated with conflict adaptation ( $c = .19$ ,  $SE = 0.16$ ,  $t = 1.17$ ,  $p = .25$ , 90%-CI: [.01, .30]). However, bootstrapped moderated mediation analysis about impaired proactive control, task switching, and depressive symptoms revealed non-significant direct effects and indirect effect ( $ps > .20$ ).

## Discussion

On one side of the basic control process: reactive control, significant indirect effect on depressive symptoms was found. This showed that reactive control arouses the other cognitive control process: conflict adaptation, and then led depressive symptoms, suggesting the hierarchical construction of cognitive control in cognitive psychopathology of depression. That is, the pathway that impaired reactive control (lower-level cognitive control) caused dysfunction in conflict adaptation (higher-level cognitive control) and led depression was suggested. However, on the other side of the basic control process: proactive control, any significant effect on depressive symptoms was not found. Taken together, our results indicated that only bottom-up-related hierarchical cognitive control process was found to be related to depression, but not about top-down-related cognitive control process.

## Attentional Bias, Attentional Control and pre-Event Worry in Social Anxiety: Discriminating the Validity of Alternative Hypotheses Concerning Their Functional Relationship

Mahdi Mazidi, Colin MacLeod & Ben Grafton, The University of Western Australia, Australia

### Introduction

Pre-event worry (PEW) is a key maintaining factor in the cycle of social anxiety (SA). However, the cognitive mechanisms that are underpinning PEW in SA have received little empirical attention to date (Spence & Rapee, 2016). A proposed important contributing candidate is differences in two attentional anomalies, i.e. attentional bias (AB) to social threat and impaired attentional control (IAC) (Wong & Rapee, 2016). The current study will investigate the veracity of two alternative hypotheses regarding the functional contribution of AB and IAC in PEW of elevated SA. One explanation proposes AB as the direct causal factor of PEW (the AB hypothesis) while the other considers IAC as the direct cause of PEW (the IAC hypothesis). Each of these hypotheses generates a unique set of predictions that will be examined in the present study.

### Method

100 students will be recruited from the psychology student pool of the University of Western Australia based on their scores on Social Anxiety Interaction Scale and will be allocated to two groups of high and low social anxiety. In the experiment, participants will be informed that they will be required to complete a speech. This speech task has been shown capable of producing pre-event worry (e.g., Vassilopoulos, 2005). The participants' AB, AC, and PEW will be assessed in the lead up to the speech task. The AB and AC will be assessed in a compatible and comparable way using eye-tracking in a way that combines the key features of tasks used for assessing AB, with key features of tasks for the assessment of AC. Disgust and neutral facial expressions will be used as stimuli.

### Results

Structural Equation Modeling will be used to examine the veracity of the alternative hypotheses. If the AB hypothesis be true, two potential predictions could be expected that both of them are consistent with the AB hypothesis. First is that only AB associates with PEW. Second is that IAC also associates with PEW but AB mediates this relationship. However, if the AC hypothesis be true, we will find either that IAC exclusively and directly is associated with PEW, or it mediates the relationship between AB and PEW. Having both AB and AC in the same study will inform us about the relative importance of each of these attentional anomalies in PEW and examining the veracity of different hypotheses.

### Discussion

The findings of this research programme will have both theoretical and practical implications for how attentional processes contribute to the pre-event worry in SA and the suitable targets for the interventions that aim to break the vicious cycle of SA.

## How We Compare: Appearance-Related Comparison Standards Associated with Depression and Anxiety

Peter McCarthy, University of Münster, Germany

Thomas Meyer, University College London, United Kingdom

Mitja Back & Nexhmedin Morina, University of Münster, Germany

### Introduction

Comparisons are a form of cognitions frequently engaged when making self-evaluations, whether it is comparing with others (social), with oneself (temporal and dimensional), with ideals (criteria), or with other possible outcomes (counterfactual). Appearance is a common focus of self-evaluation involving various standards of comparison, such as comparing one's physique or body image with other people, with societal standards or with one's own previous appearance. Comparisons may influence self-evaluation and have an effect on wellbeing. For example, social comparisons have been found to influence psychological and physiological wellbeing in chronic health, while counterfactual comparisons were found to be associated with depressive symptoms. However, research considering a spectrum of comparison standards and their influence on well-being is lacking. The aim of this study was to explore a novel measure of comparison standards (the Comparison Standards Scale) to investigate comparison processes in relation to one's appearance and their association with depression and anxiety as well as personality factors.

### Method

In an online study, predominantly consisting of students, 300 German participants reported comparisons made over the previous 3 weeks, via a self-report questionnaire of the comparison standards questionnaire we developed to assess social, temporal, counterfactual, dimension-based and criteria-based comparisons. We asked participants how often they engaged in specific upward and downward comparisons, and what degree of affective impact these had. Participants also completed a battery of questionnaires related to appearance, well-being and personality, namely: the Appearance Schemas Inventory-Revised (ASI-R, Cash Melnyk, & Hrabosky, 2004), the physical appearance subscale of the Multidimensional Self-Concept Scale (MSCS, Fleming & Courtney, 1984), the Depression, Anxiety & Stress Scale short form (DASS-21, Antony et al.), the Rosenberg Self-Esteem Scale (RSES, Rosenberg (1965) and the Social Comparison Scale (SCS, Allan & Gilbert, 1995).

## **Results**

The majority of participants engaged in upward and downward social comparisons, temporal comparisons and criteria-based comparisons, as well as upward dimensional comparisons and counterfactual comparisons. Altogether, upward comparisons were more common than downward comparison. We further found significant correlations between comparison standards and the MSCS and ASI-R, suggesting the Comparison Standard Scale reliably targets appearance-related comparisons. Data also show that depression and anxiety are associated with more engagement in comparisons, as well as negative affective impact, depending on comparison standard type. This is supported by the association of low self-esteem with increased reported comparisons, as well as increased negative impact. The SCS showed only a weak relationship with upward social comparisons, however this is expected as the SCS focuses on self-evaluation ratings across a number of comparison dimensions.

## **Discussion**

Our findings suggest that the Comparison Standard Questionnaire can be used to observe a spectrum of comparison engagements and explain the impact of comparisons on self-evaluation and well-being. Information regarding comparison habits could provide useful insights into cognitions, emotions and behaviours associated with well-being.

## **The Relationship Between Death Anxiety and Severity of Mental Illnesses**

**Rachel Menzies, Louise Sharpe & Ilan Dar-Nimrod, The University of Sydney, Australia**

### **Introduction**

Death anxiety has been proposed to be a transdiagnostic construct, but has largely been investigated in relation to specific anxiety disorders, such as obsessive compulsive disorder and panic disorder. Few studies have assessed the relationship between death anxiety and psychopathology using treatment-seeking clinical samples.

### **Method**

In the present study, the relationships between death anxiety and broad markers of psychopathology were explored in 200 treatment-seeking participants with various diagnosed mental disorders.

### **Results**

Across the heterogeneous sample, death anxiety was a strong predictor of the number of lifetime diagnoses, medications, hospitalisations, distress/impairment, depression, anxiety, and stress. For 12 disorders, large to very large correlations were also found consistently between a measure of death anxiety and either self-reported or clinician's estimates of disorder severity. Neither meaning in life nor attachment style moderated the associations between death fears and psychopathology.

### **Discussion**

The findings reveal a strong relationship between death anxiety and psychopathology across numerous disorders, further supporting the transdiagnostic role of fears of death. As such, clinical implications revolve around the potential need for innovative treatments which address death fears directly, in order to produce long-term improvements in mental health.

## **The Effect of Mortality Salience on Body Checking in Anxiety Disorders**

**Rachel Menzies, Louise Sharpe & Ilan Dar-Nimrod, The University of Sydney, Australia**

### **Introduction**

Over the last three decades, a body of research emerging from Terror Management Theory has demonstrated the impact of death cognitions on a variety of behaviours. More recently, fears of death have been argued to underpin numerous mental disorders. Supporting this idea, the mortality salience (MS) paradigm has demonstrated that reminders of death exacerbate symptoms of some mental health conditions, such as social anxiety and obsessive-compulsive disorder.

### **Method**

The present study used the mortality salience (MS) paradigm to investigate whether reminders of death exacerbate the bodily checking behaviours that characterise many anxiety disorders. Treatment-seeking participants with either a health-focused anxiety disorder (i.e., panic disorder, illness anxiety disorder and somatic symptom disorder), or a depressive disorder (i.e., health-irrelevant), were randomly allocated to either a MS or control priming condition. Following the prime, participants completed an online task requiring them to check their own body and select an image which most closely matched their own body feature.

### **Results**

It was hypothesized that those in the MS condition would spend more time checking their body, than those in the control condition, suggesting that thoughts of death worsen symptoms of these disorders. Consistent with predictions, preliminary analyses reveal a significant main effect, such that reminders of death significantly increase time spent checking the body, in addition to a significant interaction, such that this effect is more pronounced for participants with a health-focused anxiety disorder. In addition, preliminary analyses reveal that thoughts of death significantly increase intention to visit a medical specialist in the near future.

### **Discussion**

The preliminary results suggest that thoughts of death drive body scanning and checking behaviours that characterise anxiety disorders. The clinical implications of the study revolve around potentially targeting fears of death in clinical treatment. Novel treatments focusing on fears of death may be needed in order to ensure long-term improvements in mental health.

## **The Role of Participants' Expectancies in a Laboratory Analogue of EMDR Therapy**

**Gaetan Mertens, Sophie Lammertink, Anna Mulder & Kevin van Schie, Utrecht University, the Netherlands**

**Marianne Littel, Erasmus University Rotterdam, the Netherlands**

**Iris Engelhard, Utrecht University, the Netherlands**

### **Introduction**

There is debate in the field of psychology about the role of non-specific factors in psychotherapy. That is, patients may profit from psychotherapy not because of the proposed causal mechanisms of the specific therapy, but because of general factors common to most therapies such as social support, a therapeutic relationship and expectations of improvement. Also for Eye Movement Desensitization and Reprocessing (EMDR) therapy for posttraumatic stress disorder there is debate about the role of such non-specific factors. We present a study in which we investigated the role of treatment effectivity expectations in a laboratory-analogue of EMDR therapy.

## **Method**

Participants (n = 96) randomly received either positive information, neutral information, or negative information about EMDR therapy. They then completed a laboratory analogue of EMDR therapy (i.e., recall of a distressing autobiographical memory while either executing eye movements or merely recalling the memory; within-subjects).

## **Results**

We found that the eye-movement condition was superior to the recall only condition to reduce reported vividness and emotionality of the memories, replicating earlier research. However, manipulation-check analyses indicated that our information manipulation was not successful. Because of this manipulation failure, we switched to a correlational approach in which pre-experimental EMDR effectiveness expectancy ratings were correlated to the reductions in memory vividness and emotionality in the eye-movement condition. Analyses were focused on participants who were familiar with EMDR therapy (n = 54). No significant correlation was found for vividness,  $r(52) = -.203$ ,  $p = .142$ , or emotionality,  $r(52) = -.198$ ,  $p = .151$ .

## **Discussion**

Our results indicate that reductions in emotional memory vividness and emotionality in a laboratory analogue of EMDR therapy were not related to participants' expectations about the effectiveness of EMDR therapy. One potential reason for the absence of significant correlations is range-restriction (i.e., participants were generally very positive about EMDR therapy; Mean effectivity rating = 7.94, SD = 1.02; Range = 5-10). Alternatively, our results combined with the results of previous studies may indicate that EMDR therapy is relatively immune to the effects of patients' expectancies about therapy effectiveness.

## **Are Traumatic Memories Viewpoint-Dependent? A Trauma-Analogue Study in Virtual Reality**

**Thomas Meyer & John King, University College London, United Kingdom**

**Pauline Dibbets, Richard Benning & Jacco Ronner, Maastricht University, the Netherlands**

**Chris Brewin, University College London, United Kingdom**

### **Introduction**

Many victims of psychological trauma suffer from intrusive memories that are highly vivid and distressing. Dual-Representation Theory suggests that intrusive memories emerge when the brain fails to translate the egocentric perceptual impressions of emotional events into viewpoint-independent – or allocentric – memory representations (i.e., coding visual features relative to each other rather than to the viewer). Thus, the formation of allocentric spatial representations of a traumatic situation might protect against the development of intrusive memories.

### **Method**

To test this idea, we subjected 92 healthy participants to an aversive scenario in real-time 3D Virtual Reality (VR), which contained various objects that were emotionally aversive (e.g., body parts) or neutral (e.g., tools). We then assessed PTSD-analogue intrusive memories emerging in the same laboratory session. Afterwards, we tested spatial memory for scenario elements from the original viewpoint (i.e., from where participants had previously witnessed the scene), as well as from a shifted viewpoint. Compared to original viewpoint performance, shifted-view performance was assumed require relatively more allocentric memory.

### **Results**

Preliminary analyses revealed that spatial memory was generally enhanced (i.e., smaller distance errors) for highly emotional scene elements compared to emotionally neutral scene elements. In addition, spatial memory for emotional elements was better from the original compared to a shifted viewpoint.

### **Discussion**

Our preliminary analyses demonstrate that our novel VR paradigm can be used to assess viewpoint dependence, as well as affective modulation of spatial memory. Our poster will compare the viewpoint dependence of emotional and neutral scene elements in more detail and address associations with analogue intrusive memories.

## **GIVE Me Your Attention: A Novel Task to Measure Component Processes of Inhibitory Attentional Control**

**Owen Myles & Ben Grafton, The University of Western Australia, Australia**

**Partick Clarke, Curtin University, Australia**

**Colin MacLeod, The University of Western Australia, Australia**

### **Introduction**

Effective attentional control depends upon two component cognitive process, the first involving correct identification of where attention should be located (i.e. attentional goal identification), and the second involving execution of this attentional objective (i.e. attentional goal execution). The anti-saccade task is a commonly used method of assessing inhibitory attentional control. Using this task, it has been shown that a number of clinical disorders are characterised by impaired inhibitory attentional control. However, it remains unknown whether this reflects impaired attentional goal identification or impaired attentional goal execution, because to date no procedure has been developed to independently assess these two components of inhibitory attentional control. The aim of the research project was to develop such an assessment task, which we term the Goal Identification Vs. Execution (GIVE) task.

### **Method**

Across two studies, 153 participants completed a conventional anti-saccade task and our novel GIVE task. The GIVE task comprises two subtasks, one designed to assess individual differences in attentional goal identification, and another designed to assess individual differences in attentional goal execution.

### **Results**

Both within, and across the two studies, findings revealed that, using the GIVE task, individual differences in attentional goal identification, and in attentional goal execution, were uncorrelated ( $p = .65$ ). Further, each measure accounted for independent variance in the conventional measure of inhibitory attentional control, provided by a conventional anti-saccade task ( $p$ 's < .05).

### **Discussion**

The observed pattern of findings confirm that the GIVE task is capable of independently assessing variation in the attentional goal identification and attentional goal execution components of inhibitory attentional control. This will provide future investigators with a valuable new tool capable of distinguishing the involvement of each component mechanism in alternative manifestations of compromised attentional control. Hence we hope that the GIVE task will now enable researchers to refine our knowledge of the mechanisms that underpin

the impairments of inhibitory attentional control evident across a number of important psychological and neurological disorders, in ways that will advance understanding and inform intervention approaches.

### **Neuronal Correlates of Fear Conditioning and Its Association to Pattern Separation**

**Marie Kristin Neudert, Raphaela Isabella Zehntner, Susanne Fricke, Rosa Bohlender, Stefanie Jaenicke-Reissig, Rudolf Stark & Andrea Hermann, Justus-Liebig-University of Giessen, Germany**

#### **Introduction**

It is known from fear conditioning studies that individuals with an anxiety disorder show a stronger fear to safety stimuli that are similar to a dangerous stimuli than healthy controls. This increased fear response for safety stimuli could be related to difficulties in pattern separation, the ability to discriminate similar stimuli from each other.

#### **Method**

In this functional magnetic resonance imaging study, a 2-day context-dependent differential fear conditioning paradigm consisting of fear acquisition in context A and extinction learning in context B (day 1) and extinction recall in context B and fear renewal in new context C one day later (day 2) and a paradigm for behavioral pattern separation were conducted in a healthy female student sample.

#### **Results**

First results show that fear conditioning was associated with activation in fear and extinction-related networks. Further results regarding the relationship between fear conditioning and pattern separation are presented.

#### **Discussion**

The relevance of pattern separation for context dependent fear conditioning processes is discussed.

### **Differential Effects of Working Memory Updating and Attentional Control on Rumination**

**Haruki Nishimura, National Institute of Radiological Sciences, Japan**

**Akira Hasegawa, Tokai Gakuin University, Japan**

**Yuki Nishiguchi, Sophia University, Japan**

**Rie Tabuchi, Tokyo Gakugei University, Japan**

**Akihiro Masuyama, Iwaki Meisei University, Japan**

**Noboru Matsumoto, Nagoya University, Japan**

**Satoshi Mochizuki, Hosei University, Japan**

#### **Introduction**

Executive control is a high-level cognitive process that enables individuals to guide their thoughts and actions toward goals (Friedman & Miyake, 2017). In depressed people, a deficit of executive control has been shown to be related to increased rumination (e.g., Joormann & Gotlib, 2008). However, in a healthy student population, previous studies indicate that high ruminators show superior performance in tasks such as the Stroop task (e.g., Altamirano et al., 2010), while they perform poorly in tasks such as a working memory updating task (e.g., Chang et al. 2017). The purpose of this study was to examine the cognitive mechanism of unbalanced executive control ability in high ruminators by using a latent variable approach. Moreover, adaptive (i.e., reflection) and maladaptive (i.e., brooding) aspects of rumination may be related to an unbalanced executive control ability.

#### **Method**

Graduate and undergraduate students (N = 178) performed working memory updating tasks (memory updating, running memory, and spatial 2-back task) and attentional control tasks (Stroop, flanker, and antisaccade task) followed by filling up questionnaires (Japanese Ruminative Responses Scale and The Center for Epidemiologic Studies Depression Scale).

#### **Results**

While brooding indicated a marginally significant negative correlation with n-back performance ( $r = -.148, p = .050$ ), reflection revealed a significant positive correlation with antisaccade performance ( $r = .228, p = .003$ ). The effect of three latent factors (updating, attentional control, and depression) on brooding and reflection was examined by structural equation modeling. The fitness of this model was acceptable [CFI = 0.913, TLI = 0.875, SRMR = 0.061, RMSEA = 0.071 (90% CI: 0.048, 0.093)]. However, the updating factor and the attentional control factor did not significantly predict the brooding or reflection components of rumination.

#### **Discussion**

This study showed that task-specific performances (n-back and antisaccade) are differently associated with brooding and reflection. Unbalanced executive control abilities in high ruminators were influenced by the task-specific factor but not the task-common factor.

### **Context Matters: The Role of State Anxiety in the Effectiveness of Attentional Bias Modification**

**Mae Nuijs, Helle Larsen & Susan Bögels, University of Amsterdam, the Netherlands**

**Ben Grafton & Colin MacLeod, University of Western Australia, Australia**

**Reinout Wiers, University of Amsterdam, the Netherlands**

**Elske Salemink, Utrecht University, the Netherlands**

#### **Introduction**

Attentional Bias Modification (ABM) paradigms aim to reduce attentional biases for threatening stimuli and thereby reduce anxiety. Thus far, studies that investigated the effectiveness of ABM targeting anxiety have observed mixed results (for a review, see Mogg, Waters, & Bradley, 2017). While some meta-analyses are relatively positive about the clinical perspective of ABM and report small to medium effects on attentional bias and anxious symptomatology (e.g., Heeren et al., 2015), others are more skeptical about the clinical potential of ABM (e.g., Cristea et al., 2015). In order to explain the discrepancy in findings, an important future avenue for ABM research is to investigate under which conditions ABM is most effective in eliciting bias change. Based on cognitive theories of performance and learning, elevated levels of state anxiety during ABM might enhance its effectiveness by making training more engaging and activating relevant fear schemata.

#### **Method**

This study aimed to investigate whether elevated levels of state anxiety during ABM would increase its effectiveness in reducing an attentional bias for threat. We randomly assigned mid-socially anxious students to a single session of a dot-probe training in which

participants were trained towards either angry faces or happy faces while either a negative or positive mood was induced. Attentional bias was assessed post-training by means of a dot-probe assessment as well as a visual search task assessment.

#### **Results**

We hypothesize that participants who received the attend-happy training will have a lower attentional bias post-training compared to participants who received attend-angry training. More importantly, we hypothesize that the negative mood induction will enhance the effects of the attend-happy training. The data collection of this study is ongoing and the results will be presented at the WCBCT conference.

#### **Discussion**

This study design will enable us to determine whether the emotional state of participants during ABM training should be taken into account when evaluating the effects of ABM.

### **The Application of Memory Consolidation/Reconsolidation with CBT: A Systematic Review**

**Riku Ohshima, Jun Shigematsu & Akiko Ogata, Hiroshima University, Japan**

#### **Introduction**

“Memory consolidation/reconsolidation,” has been an identified mechanism in many recent basic psychological studies. “Memory consolidation” is the process wherein short-term memory becomes long-term memory. “Memory reconsolidation” is the process wherein consolidated memories become reactivated and return to a labile state, after which, they reconsolidate (Neder et al., 2000). On the other hand, cognitive behavior therapy’s (CBT) advancement is prominent, but few studies have adapted a basic psychological methodology, apart from attention training as a treatment for social anxiety disorder. But memory research has provided examples of the clinical application of basic research findings (e.g., overgeneral autobiographical memory). Thus, memory-related research represents a basic psychological research field where clinical applications can be expected.

#### **Method**

Additionally, memory consolidation/reconsolidation has also been advanced and has provided theories with high validity based on findings for the field of neuropsychology. However, the applicability and effectiveness of memory consolidation/reconsolidation to CBT have not been investigated. Therefore, this review examined the extent to which research on memory consolidation/reconsolidation in the basic cognitive psychology field can be applied to CBT. This study was conducted in February 2019. Words that were related to memory and CBT (“cognitive behavioral therapy OR cognitive therapy” AND “memory consolidation OR memory reconsolidation”) were used in a keyword search on PsycNET. Then, the reviewers evaluated the articles (full text or abstract) based on the inclusion and exclusion criteria. Articles that did not refer to CBT were excluded. Ultimately, four studies were extracted.

#### **Results**

Studies that examined the effect of sleep on memory consolidation and the application of memory reconsolidation theory to therapy for PTSD or other fear memories were extracted. Findings indicated that sleep promotes memory consolidation of the therapy information and contributed to an increase in treatment adherence. Additionally, the use of memory reconsolidation contributed to the improvement of the fear memory. Thus, the application of the theory of memory consolidation/reconsolidation was shown to enhance treatment effects. Few studies examined the relationship between memory consolidation/reconsolidation and CBT. Among them, most used memory consolidation/reconsolidation to enhance the therapeutic effects of CBT or to develop a new treatment method. However, no study explained the change (in particular, cognitive or behavioral change) that was observed in therapy from the viewpoint of memory consolidation/reconsolidation.

#### **Discussion**

Currently, researchers are required to posit theories about the change to make clear the mechanism of CBT (Kazantzis, Reinecke, & Freeman, 2010). There is a possibility that clarifying the theory of change for cognitive change, which is regarded as the core of the treatment in CBT, contributes to the efficiency of CBT. This is where memory consolidation/reconsolidation may be applied. For example, when the schema is regarded as an assembly of memory, the mechanism of cognitive change might be explained with memory reconsolidation. In conclusion, in process research, the theory to explain the treatment changes has not been reported to date. Therefore, it is necessary to propose a theory of change to make CBT more effective by using methodologies that include basic psychology, and it appears that memory consolidation/reconsolidation could be one of these methodologies.

### **Measuring Habits: Psychometric Properties of the Habit Index of Negative Thinking (HINT) and Creature of Habit Scale (COHS) in an Icelandic Sample**

**Ragnar Ólafsson, Bergún Jóhannesdóttir, Snæbjört Jóhannesdóttir & Kristján Hjartarson, University of Iceland, Iceland**

#### **Introduction**

Increased interest can be noted in the possible role of habits in various forms of psychopathology, including repetitive ruminative thoughts in depression (Watkins & Nolen-Hoeksema, 2014) and compulsive like behaviours in anxiety (see for example Ersche et al., 2017). The aim of the present study was to investigate the psychometric properties of two self-report questionnaires of habitual behaviours, the Habit Index of Negative Thinking (HINT; Verplanken et al., 2007) that contains 12 items and measures habitual characteristics (i.e. automaticity, lack of control, intent and awareness) of repetitive negative thoughts and the Creature of Habit Scale (COHS Ersche et al., 2017) that contains 27 items and measures peoples proneness to automatic (AUTO) and routine (ROUTINE) behaviours in daily life.

#### **Method**

We currently have data in an ongoing study, from 255 university students that filled in the HINT, COHS and measures of anxiety/depression (HADS), rumination (RRS) and pathological worry (PSWQ). Factor structure of the HINT and COHS was investigated using Confirmatory Factor Analyses (CFA) with the robust weighted least square estimation method when analysing the polychoric correlation and asymptotic covariance matrixes, and model fit was estimated with the Comparative Fit Index (CFI $\geq$ 0.95), the Non-Normed Fit Index (NNFI $\geq$ 0.95), and the Root Mean-Square Error of Approximation (RMSEA close to 0.06 or lower).

#### **Results**

CFA showed that the unidimensional structure of the HINT (RMSEA=0.068; CFI=0.99; NNFI=0.99) and the bi-factorial structure of the COHS (RMSEA=0.052; CFI=0.95; NNFI=0.94) fitted the data well, allowing error terms to correlate in four item pairs on each instrument. On the HINT, all factor loadings were significant and strong (0.64-0.93) and the scale had good internal consistency ( $\alpha$ =0.96). On the COHS, factor loadings on the AUTO (0.38-0.64) and ROUTINE (0.23-0.65) scales were lower but significant, they were moderately correlated (0.37) and possessed adequate internal consistency ( $\alpha$ =.78 and 0.79 respectively). HINT had weak correlations with the AUTO (0.30) and ROUTINE (0.26) scales, indicating that the two instruments tap different aspects of habitual behaviours. Both instruments showed stronger

relationships with measures of anxiety than depression, and with brooding rumination and worrying than reflective rumination (specially the HINT).

### **Discussion**

The psychometric properties of the Icelandic translations of the HINT and COHS are good. Both instruments show relationships with measures of psychopathology that are consistent with recent findings from studies on the role of mental habits and habit-related behaviour control in depression and anxiety.

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## **Emotion-Induced Blindness: A Novel, Reliable Mechanism of Attentional Bias (Implications for Measurement & Retraining)**

**Sandersan Onie & Steven B. Most, University of New South Wales Sydney, Australia**

### **Introduction**

A transdiagnostic feature common to several emotional disorders is exaggerated attention to negative or threatening information. This is known as a negative attentional bias. Most efforts to measure or retrain negative attentional biases rely on measures of spatial attention such as the Dot Probe (DP). However, spatial attention (i.e., movement of attention between locations) is only one aspect of attention. Measures of emotion-induced blindness (EIB) – where briefly presented emotional stimuli impair perception of subsequent targets that people look right at – index a different aspect of attention, namely the resolving of competitive interference between visual stimuli that coincide in time and space (i.e., spatiotemporal competition; Most et al., 2005; Most & Wang, 2011). Studies have shown that EIB is sensitive to emotional state (Most et al., 2010), highlighting its potential for assessing and retraining aspects of attentional bias beyond spatial attention.

### **Method**

Following typical EIB procedure, on each trial participants reported the orientation of a target image embedded within a rapid, stationary sequence of images (100-ms/item). The target could be preceded by an emotional or neutral distractor image or no distractor. Percentage correct is typically high when distractors are absent, lower following neutral distractors, and dramatically lower following emotional distractors. Across several studies, we examined dissociations between the EIB and DP, and the degree to which they predicted individual differences (N = 92); test-retest reliability of EIB (N = 84); the relative sensitivity of EIB (N = 99) and the DP (N = 41) to valence and arousal ratings of the distractors made by a separate sample (N = 190); and twice attempted to retrain EIB by having people practice ignoring uniformly negative distractors (relative to neutral or no distractors; Ns = 264 & 113).

### **Results**

Study 1: EIB and DP differentially predicted trait negative affect and persistent negative thought, with EIB uniquely predicting both outcome variables over and above the DP. Study 2: ICC coefficients reflecting the test-retest reliability of EIB ranged as high as .894, which compares favorably to reliability metrics typically associated with attentional bias tasks. Study 3: ratings of distractor valence and arousal drove EIB but not the DP. Study 4: strong evidence suggested that we were unable to retrain EIB with this training method.

### **Discussion**

In sum, EIB reflects a reliable, mechanistically unique form of emotion-driven attentional bias, which appears to link to clinically relevant individual differences via a different path than spatial attention. It appears sensitive to emotional dimensions that characterize stimuli (as well as to individual differences and emotional states) but may be resistant to retraining. Although data are not yet conclusive, EIB may serve as an effective barometer of individual- and state- level differences, while having more questionable utility as a method of attentional bias modification. Importantly, dissociations between EIB and spatial attention measures such as the DP highlight the importance and fruitfulness of regarding attention not a monolithic construct, but as a family of mechanisms having different links and implications for mental health.

## **Yes and No: Understanding the Impact of Repeated Negation and Repeated Reappraisal on Automatic Associations, Spider Fear, and Spider Approach Behaviour**

**Allison Ouimet, Titania Dixon-Luinenburg & Jessica Tutino, University of Ottawa, Canada**

### **Introduction**

According to dual-systems models of spider fear (Ouimet et al., 2009), people who hold strong automatic associations between “spider” and “fear”, and who evaluate the validity of these associations in a maladaptive way, may also exhibit greater fear and avoidance of spiders. Previous findings regarding race/gender-stereotypes suggest that negation (“the spider is NOT dangerous”)—a process often invoked during CBT—may actually strengthen automatic associations and increase fear. Here, we hypothesized that people who reappraised spider-fear associations (via experimental manipulation, compared to those who negated associations) would show reduced spider-fear associative strength, self-reported spider fear, and behavioural avoidance (pre-registration: <https://osf.io/am7cz/>).

### **Method**

Ninety spider-fearful participants (current N = 30, data collection ongoing) complete two testing sessions, 1 week apart. In the first session, they complete baseline measures of their spider-fear associations (Go/No-go Association Task; GNAT; Nosek & Banaji, 2001) and self-reported baseline spider fear, avoidance, and related beliefs. In the second session, they are randomly assigned to either reappraise (say “yes” repeatedly to spider-calm stimulus pairs) or negate (say “no” repeatedly to spider-fear stimulus pairs) spider associations on the Non-Stereotypic Association Task (Gawronski et al., 2008). They then complete the baseline measures a second time, along with a spider behavioural approach task.

### **Results**

Preliminary repeated-measures ANOVAs suggested that condition had no effect on spider-fear associations (interaction  $F(1,28)=.07$ ,  $p=.80$ ,  $\eta^2=.01$ ). Contrary to hypotheses, participants in the negate condition reported lower fear on the Fear of Spiders Questionnaire than did participants in the reappraise condition after the manipulation, but not at baseline ( $F(1,28)=4.29$ ,  $p=.048$ ,  $\eta^2=.13$ ). Preliminary independent t-tests suggested that people who negated spider-fear associations completed more steps (mean=4.61, SD=2.53) on an 8-step spider approach test than those who reappraised spiders as safe (mean=2.76, SD=2.05;  $t(28)=2.21$ ,  $p=.04$ ,  $d=.80$ ), though both groups reported similar levels of anxiety on their final step ( $t(25)=.94$ ,  $p=.35$ ,  $d=.34$ ).

## **Discussion**

Given the preliminary nature of our analyses, we must be cautious with our interpretations until data collection is complete. Our preliminary findings suggest that negation and reappraisal may exert differential effects on various aspects of spider fear. For example, although there was no difference between conditions on anxiety during the approach task, the effect size suggests some potential impact. Moreover, it is surprising that we observed changes in self-reported spider fear following the manipulation, but not in automatic associations (the target of our manipulation). Better understanding the mechanism(s) underlying this change will be important to guide future research.

## **"We Are What We Remember" - Effects of Recalling Personal Self-Efficacy Memories on Adaptive Responses to Negative Emotional Memories**

**Christina Paersch, University of Zurich, Switzerland**

**Ava Schulz, University of Zurich, Psychiatry University Hospital Zurich, Switzerland**

**Adam Brown, Sarah Lawrence College and NYU School of Medicine, USA**

**Birgit Kleim, University of Zurich, Psychiatry University Hospital Zurich, Switzerland**

### **Introduction**

Self-efficacy is a key construct in emotional well-being. Research has shown a link between perceived self-efficacy in autobiographical memories and psychotherapy-related processes, such as social problem solving and emotion regulation. This experiment investigates if the recall of specific autobiographical self-efficacy memories relates to changed outcomes in reappraisal of personal negative emotional memories.

### **Method**

75 healthy participants were randomized to one of three experimental conditions: participants were asked to recall 3 specific autobiographical memories – either self-efficacy memories (experimental condition), positive memories (control condition 1) or neutral memories (control condition 2). Next, participants were asked to recall a personal negative memory which was then reappraised with standardized questions. Outcomes were indices of (i) emotions related to memory recall, (ii) idiographic negative cognitions related to the memory, (iii) autonomic regulation, i.e., heart rate variability.

### **Results**

Compared to the other trainings, self-efficacy training lead to significant reductions in the most prevalent emotions anger, sadness, loneliness, anxiety and helplessness. There was no specific training effect for negative cognitions. Results in autonomic regulation are currently being analyzed.

### **Discussion**

Results show an effect of a specific self-efficacy memory-training on the reappraisal of a personal negative emotional memory. In the context of psychotherapy, treatment of problematic patterns of emotion regulation could be augmented by a personalized autobiographical memory-training.

## **Can Experiential Avoidance Be Assessed by Measuring Emotional Reactions?**

**Georgia Panayiotou & Chrysanthi Leonidou, University of Cyprus, Cyprus**

### **Introduction**

Experiential avoidance, an index of psychological inflexibility and avoidance oriented coping, typically assessed via self-report, using the Acceptance and Action Questionnaire. Experiential avoidance is considered as predominant maintenance mechanism of many psychological disorders and mediates the association between pathological traits and symptoms. Because of its significance, more objective ways to assess it need to be identified.

### **Method**

This article presents two experimental studies that examine affective and physiological responses to emotion-eliciting conditions and the discordance between them, in relation to different levels of experiential avoidance in an attempt to identify physiological markers for this construct. Both studies utilized mental imagery to elicit fearful, sadness, joyful, pleasant relaxation and neutral emotions in samples of young adults (Study 1, N=35; Study 2, N=101), while subjective ratings of emotional arousal and valence and physiological reactivity (heart rate and skin conductance level) were measured. A discordance index was used to calculate the discrepancy between subjective and physiological aspects of emotional response.

### **Results**

Results of the two studies showed that higher levels of experiential avoidance were predicted by higher physiological reactivity and were associated with lower subjective arousal in negatively valenced conditions, i.e. fearful and sad imagery, especially when participants had to focus their attention externally, i.e. on environmental, vs somatic stimuli.

### **Discussion**

These findings contradict existing evidence, which supports that experiential avoidance is linked to differences in the subjective and not in the physiological aspects of emotional response. However, more physiological and less subjective arousal, observed in this study, may suggest that a repressive style of coping may be associated with experiential avoidance, which could be indexed by examining the relation between subjective and physiological emotional responses.

## **Does Interoceptive Sensitivity Relate to Affective Misattribution in Fibromyalgia Syndrome?**

**Anna Pohl, Natalie Schmitz, Jessica Napieralski, Dorothee Spohn, Johannes Löser & Alexander L. Gerlach, Cologne University, Germany**

### **Introduction**

Interoceptive sensitivity is assumed to influence the perception of physical symptoms as well as emotions. Next to the characteristic chronic widespread pain, many patients with fibromyalgia syndrome also suffer from affective impairments. Patients report increased negative affect in day to day life and evaluate emotional stimuli more negative in laboratory settings. Only three studies examined cardiovascular sensitivity in fibromyalgia; whereas one reported diminished sensitivity in the patient group, two did not find differences between fibromyalgia patients and healthy controls. However, two of three studies reported a medium negative correlation between symptom burden and cardiovascular sensitivity. Muscular sensitivity, an interoceptive domain directly affected by the syndrome, was not yet studied. We aimed at examining

interoceptive sensitivity in different body domains and relate it to affective misattribution in order to better understand affective impairments in fibromyalgia.

#### **Method**

55 patients suffering from fibromyalgia syndrome and 55 healthy controls participated in our study. Participants underwent a cardiovascular (Schandry, 1981) and muscular (Scholz et al., 2001; corrugator, zygomaticus major) perception tasks. Furthermore, the affective misattribution task was implemented (Payne et al., 2005). In this task, participants were to rate the pleasantness of Chinese pictographs and ignore emotional primes (happy, neutral, angry facial expressions). Self-reports assessing alexithymia, interoceptive sensibility and symptom burden were also completed (Toronto Alexithymia Scale; Multidimensional Assessment of Interoceptive Awareness; State-Trait Anxiety Inventory, Center for Epidemiological Studies Depression Scale, Fibromyalgia Impact Scale).

#### **Results**

In comparison to healthy controls, patients with fibromyalgia syndrome reported increased levels of anxiety, depression and alexithymia. Furthermore, patients reported increased sensibility for body sensations and a higher tendency to ignore or distract from sensations of discomfort. Analyses of the interoceptive and affective tasks revealed a trend for a small negative relation between cardiovascular sensitivity and symptom burden in fibromyalgia patients ( $r = -.24$ ,  $p = 0.08$ ). There was a trend for a diminished perception of muscular tension in fibromyalgia patients compared to healthy controls for the zygomaticus major ( $g = 0.56$ ,  $p = 0.07$ ). The worse the sensitivity concerning this muscle was, the less pleasant Chinese pictographs were rated after angry primes ( $r = -.3$ ,  $p = 0.05$ ).

#### **Discussion**

Interoceptive sensitivity varied momentarily in both domains in fibromyalgia patients, which might be explainable by the lack of precise classification of this syndrome (e.g. two different available criteria catalogues). Furthermore, not all patients were able to complete the muscle sensitivity task. Nevertheless, it seems worth investigating interoceptive sensitivity as a maintaining factor in fibromyalgia syndrome. Future studies will have to replicate findings concerning the muscular domain and investigate influence factors on sensitivity to explain the large amount of variance.

### **The Relationship of Memory Reconsolidation and Return of Fear: Clinical and Methodological Implications of a Novel MultiCS Conditioning Paradigm**

**Kati Roesmann, University of Münster, Germany**

**Charlene Lam, The University of Hong Kong, Hong Kong**

**Christian Steinberg & Angelina Höfig, University of Münster, Germany**

**Tom Barry & Tatia M. C. Lee, The University of Hong Kong, Hong Kong**

**Markus Junghöfer, University of Münster, Germany**

#### **Introduction**

Even after successful extinction-based interventions like exposure therapy, patients with anxiety disorders frequently experience the return of fear (ROF), a key component of relapse. Classical conditioning experiments targeting memory reconsolidation have revealed that reactivation of fear-memories before extinction may reduce ROF. Critically, these experiments have typically induced few and rather explicit associations between conditioned (CS+) and aversive unconditioned stimuli (US), while fear memories in anxiety-disordered patients are usually characterized by multiple CS+/US associations and limited contingency awareness (CA). Thus, the application of a novel MultiCS conditioning paradigm with multiple CS and limited CA might contribute significantly to our understanding of fear memory formation and improve the validity and translational implications of ROF research.

#### **Method**

Towards this aim, we employed a 3-day within-subject MultiCS conditioning paradigm applying a retrieval-extinction technique. On Day-1, two different aversive screams (USa and USb) were paired with different sets of 18 neutral faces (CS+a, CS+b), while another 18 neutral faces were never paired (CS-). To induce reconsolidation of the multiple CS+a/US but not the CS+b/US associations, only USa but not USb was presented as a reactivation-cue 10 minutes prior to standard extinction on Day-2. On Day-3 both US served as reinstatement cues to induce ROF. To validate this paradigm, we recorded magnetoencephalographic event-related magnetic fields in response to CS+a and CS+b compared to CS- faces, as well as corresponding pupillary responses and behavioral preferences.

#### **Results**

In a pilot sample of 11 healthy participants, stronger pupillary responses for CS+a and CS+b compared to CS-faces were found while CS+a and CS+b faces were less preferred, indicating a successful acquisition of CS+/US associations. These associations were effectively reduced during extinction on day 2. Importantly, following reinstatement on Day-3, stronger pupillary responses re-emerged only in response to non-reactivated CS+b stimuli, while responses to reactivated CS+a stimuli resembled the CS-. Preliminary analyses of magnetoencephalographic data revealed corresponding effects in prefrontal brain regions. While pupil and magnetoencephalographic data are consistent with reconsolidation effects reported in SingleCS studies, this effect was not yet evident in the behavioral data.

#### **Discussion**

Preliminary results support the potential effectiveness of this novel MultiCS paradigm to study neurocognitive mechanisms underpinning memory reconsolidation and ROF. Importantly, highly transient neural correlates of these mechanisms can be investigated by means of MultiCS paradigms, as they require fewer stimulus repetitions to achieve a sufficient signal-to-noise ratio than traditional SingleCS paradigms. We currently collect data from a larger sample to further explore if and how ROF can be modulated under conditions of multiple CS+/US associations and limited contingency awareness.

### **Cognitive Pathways to Depression: A Network Approach to Determine Unique Associations of Attentional Disengagement Impairments with Factors of Vulnerability to Depression**

**Alvaro Sanchez-Lopez & Ivan Blanco, Complutense University of Madrid, Spain**

**Rudi De Raedt & Marie-Anne Vanderhasselt, Ghent University**

#### **Introduction**

Cognitive models posit attention biases contribute to depression onset and maintenance, whereby the attention system of vulnerable individuals prioritizes negative-valence over positive and neutral information. It has been argued that these specific maladaptive attention disengagement processes would be on the basis of ongoing depressive symptoms through their role in generating more negative attitudes,

habitual use of repetitive thinking and impaired resilience in the face of stress. Nonetheless, research using simultaneous assessments of all these factors to determine unique pathways of contribution to depression is still missing.

#### **Method**

The present study used a novel eye-tracking procedure (the engagement-disengagement task) to estimate precise depression-related impairments in gaze disengagement from neutral, negative and positive information. One hundred undergraduates (mean age= 22 years, 77% female) with a large amount of variability in depression levels (BDI-II range = 0 to 32) completed the attention task, together with self-reported measures of current depressive symptoms and core vulnerability factors (i.e., dysfunctional attitudes, repetitive thinking, stress resilience). Multiple regression and network analyses were used to determine unique relations between each attention factor and each vulnerability factor and depression levels.

#### **Results**

Longer times to disengage gaze from positive information had unique associations with habitual use of repetitive negative thinking,  $B = -.55$ ,  $t = -2.76$ ,  $p = .01$ , whereas longer times to disengage gaze from negative information had unique associations with low resilience to stress,  $B = -.56$ ,  $t = -3.15$ ,  $p = .01$ . Network analysis also determined low resilience as a bridge node connecting attentional disengagement nodes to the rest of vulnerability factors and, ultimately, to currently experienced depression levels.

#### **Discussion**

Our results have important clinical implications for the identification of specific cognitive contributions and pathways to depression and highlight promising targets for future integrative cognitive interventions.

### **The Validation of the Emotional Processing Scale 25 Items (EPS-25) in Italy and Contribution for the English Version Mariaelis Santonastaso, Roger Baker & Peter Thomas, Bournemouth University, United Kingdom**

#### **Introduction**

Originally developed from Rachman's (1980) work, Baker's (2001) Model of Emotional Processing (EP) was the basic theory for this research. It concerns the control of Input, Experience, and Expression of emotions in a dynamic interaction. An aim of the study was to evaluate validity and reliability of the Italian and English versions of the 25-item Emotional Processing Scale (EPS-25).

#### **Method**

The EPS-25 (Baker et al. 2009) was the main instrument used to identify EP styles and deficits. It consists of 25 items distributed on 5-inter-correlated subscales: Suppression, Unprocessed, Unregulated, Avoidance and Impoverished. The instrument was administered to  $n = 698$  Italians ( $n = 540$  Healthy and  $n = 158$  chronic pain) and to  $n = 1182$  English ( $n = 1022$  healthy;  $n = 160$  chronic pain). In addition, standardized tests for depression, anxiety, alexithymia, anger were used in England and Italy. Validity and reliability of the EPS-25 were assessed in each country with exploratory (EFA) and confirmatory factor analysis (CFA), test-criteria correlations, Cronbach's alphas and ANOVA between groups. ANOVA were performed across nationalities with both unadjusted and adjusted analyses on gender, age and education.

#### **Results**

The Instrument revealed good Internal Reliability with high alpha-values (.92, .89, respectively for English and Italian samples) for the Total Scale. It showed Concurrent Validity with some other standardized tests (TAS-20) and evidenced correlations with other measures related in some way to EP. Mean scores on the EPS-25 were higher in Chronic-pain patients than Healthy participants (i.e. more EP deficits), suggesting that the Scale has the ability to discriminate between healthy and unhealthy individuals.

#### **Discussion**

Mean (SD) total EPS-25 was 3.9 (1.5), 3.4 (1.5) in England and Italy respectively. When results were adjusted for gender, age and education, England showed higher mean scores than Italy on Avoidance ( $b = .82$ ,  $p = .004$ ) and Unregulated ( $b = .67$ ,  $p = .03$ ) subscales. Differences between Italy and England comparing Chronic-pain versus Healthy samples were assessed analysing the interaction between Nationalities and Groups, and adjusting for gender, age and education. Differences were detected on the total Scale ( $p = .003$ ) and on almost all subscales ( $p < .01$ ) except Suppression. The EP has shown differences between English and Italian samples in Healthy individuals, and differences in Chronic-pain patients versus Healthy. The EPS-25 can be considered a reliable and valid instrument in both Countries. The EPS-25 ability to discriminate between healthy and psychosomatic patients on EP deficits demonstrates its usefulness in research, as well as in its relevance to clinical practice.

### **Predictive Factors of Mental Health Deterioration Among Japanese and International Students Studying in Japan: A One-Year Follow-up Study**

**Megumi Sasaki, Michie Nakamura & Etsuyo Kawato, Japan Advanced Institute of Science and Technology, Japan**

#### **Introduction**

The number of international students in Japanese higher education has been increasing year by year because of government policy. Although improvement in support systems for both Japanese and international students has occurred, it is still insufficient. Furthermore, basic data regarding students' mental health in a longitudinal perspective as well as about international students are also insufficient. Therefore, the present study aimed to identify the predictive factors of mental health deterioration in a one-year follow-up study.

#### **Method**

The data of the present study were collected as a part of a regular health checkup conducted in a Japanese university that offers only graduate school education. The participants were 188 full-time students (mean age $\pm$ SD=23.9 $\pm$ 2.6, including 30 women and 59 international students) who were enrolled in the university and underwent a health checkup in April 2017 (Time 1) and again one year later (April 2018, Time 2) and agreed to let their complete data be used for the present research. The students were divided into four groups according to change in Kessler 6 (K6; Furukawa et al., 2008, Kessler et al., 2002) scores from Time 1 to Time 2: remaining less than 9 ( $n = 138$ ), score increase (from less than 9 to 9 and more,  $n = 25$ ), remaining 9 or more ( $n = 13$ ), and score decrease (from 9 and more to less than 9,  $n = 12$ ). Data from the former two groups were subjected to subsequent statistical analyses. A logistic regression analysis was conducted to identify the predictors of mental health deterioration. The explanatory variables were gender, nationality, financial condition, frequency of stressful situations, and three aspects of resilience (novelty seeking, emotional regulation, and positive future orientation; Adolescent Resilience Scale; Oshio et al., 2002). Ethical approval for this study was granted by the Life Science Committee of the Japan Advanced Institute of Science and Technology (approval no. = 29-006).

## **Results**

The results of the logistic regression analysis indicated a significant relationship between nationality and K6 score increase (OR=2.83,  $p<0.05$ , 95% CI=1.05-7.61), that is, international students' OR was higher than that of Japanese students. Additionally, the high-score group with respect to positive future orientation was at low risk of mental health deterioration compared to the low-score group (OR=0.28,  $p<0.05$ , 95% CI=0.10-0.81).

## **Discussion**

It was suggested that international students studying in Japan tend to be at higher risk for psychological maladjustment in a longitudinal perspective, which shows the need to enhance support systems for students, including international students especially. Moreover, it was indicated that developing resilience, especially in terms of positive future orientation, can prevent psychological distress in students. In order to enhance students' positive future orientation, psychological interventions are needed so that students can have experiences with steady academic success. Because some clinical methods of cognitive behavior therapy (CBT) such as behavioral activation, cognitive reconstruction, and small-stepped problem solving may help students cope with academic problems, appropriate educational programs using CBT techniques tailored to higher education settings are required.

## **Mechanisms of Voice Processing in Autism Spectrum Disorder**

**Stefanie Schelinski & Katharina von Kriegstein, Technische Universität Dresden and Max Planck Institute for Human Cognitive and Brain Sciences Leipzig, Germany**

### **Introduction**

The correct perception of information carried by the voice is a key requirement for successful human communication. In autism spectrum disorder (ASD), a condition that is associated with difficulties in social interaction and communication, there is evidence that the ability to recognise another person by voice is impaired (Schelinski et al., *Neuropsychologia*, 2014). However, the underlying neuronal and perceptual mechanisms of this voice processing impairment are unknown. Here, we systematically investigated the behavioural and neuronal mechanisms of voice processing in high-functioning ASD.

### **Method**

Sixteen adults with high-functioning ASD and sixteen pairwise matched typically developed controls participated in two functional magnetic resonance imaging (fMRI) experiments on voice perception and a comprehensive behavioural test battery on voice recognition. In the fMRI experiments, participants passively listened to blocks of vocal and non-vocal sounds and performed voice identity and speech recognition tasks. The behavioural test battery included tests on (i) recognition and discrimination of unfamiliar and familiar voices, (ii) acoustic processing abilities that are associated with voice recognition (i.e., vocal pitch and timbre discrimination), (iii) control tasks (i.e., musical pitch and timbre perception).

### **Results**

The ASD group had particular difficulties with discriminating and recognising unfamiliar voices, while recognising familiar voices was comparable to controls. The ASD group showed specific impairments in vocal pitch discrimination that was dissociable from otherwise intact acoustic processing (i.e., musical pitch, musical timbre, and vocal timbre perception). Passive listening to vocal sounds and speech recognition elicited typical responses in voice-sensitive regions in the ASD group and controls. In contrast, the ASD group had a dysfunction in voice-sensitive regions during voice identity recognition in the right posterior superior temporal sulcus/gyrus—a region that is associated with processing acoustic voice features.

### **Discussion**

Our results allow a characterisation of the voice recognition impairment in ASD: Both the behavioural and neuronal findings indicate that in high-functioning ASD, the ability to recognise voices is impaired because of difficulties with processing acoustic aspects of voices, that is, difficulties with integrating the acoustic characteristics of the voice into a coherent percept. Impairments in voice processing might contribute considerably to the development of communication difficulties in ASD.

## **Early Parental Loss Predicts Late Life Sleep Problems: Evidence from the Longitudinal Survey of Health, Aging, and Retirement in Europe (SHARE)**

**Ralph Erich Schmidt, University of Geneva, Switzerland**

**Stefan Sieber & Boris Cheval, Swiss NCCR "LIVES", University of Geneva, Switzerland**

**Matthieu P. Boisgontier, University of British Columbia, Canada**

**Matthias Kliegel, Swiss NCCR "LIVES", University of Geneva, Switzerland**

**David Blane, University College London, United Kingdom**

**Delphine S. Courvoisier, University of Geneva, Switzerland**

### **Introduction**

Attachment refers to a basic psychobiological system that motivates humans to seek proximity of significant others in times of need. If attachment figures are not consistently available and supportive, proximity seeking fails to relieve distress. As a consequence, the risk of later emotional problems and disorders increases. Cross-sectional evidence suggests that insecure-anxious attachment is associated with sleep problems, but there is a notable lack of longitudinal investigations. This study investigated the links between loss of or separation from parents during childhood and sleep problems later in life using data from the Survey of Health, Aging, and Retirement in Europe (SHARE). More specifically, we examined (1) if early loss of one or both parents is associated with sleep problems in older adults, (2) if the age of the child at the moment of loss has an effect (sensitive period model), and (3) if early separation from parents is associated with sleep problems later in life.

### **Method**

Using a sample of 7,540 women (30,208 observations) and 5,758 men (23,167 observations) aged 50 to 96 years (SHARE, 2004-2015), we examined the associations between early loss of or separation from parents and sleep problems in later life. Information on childhood (parental loss; separation from parents because of long hospitalization; socioeconomic circumstances; health) was collected with a retrospective life-course questionnaire. Presence of sleep problems was assessed with a specific question in a health questionnaire. We computed multilevel logistic mixed models that were gender-stratified and adjusted for confounding variables (birth cohorts; countries) and control variables (childhood socioeconomic circumstances and health).

## Results

Among women, early parental loss was associated with a 17% increase in the odds of sleep problems later in life ( $p = .041$ ). Losing one parent or losing one's father were associated with 17% and 20% increases in the odds of sleep problems later in life ( $ps = .047$ ), respectively. If the loss of a parent occurred between birth and the age of 6 years, it was associated with a 33% increase in the odds of sleep problems later in life ( $p = .031$ ). Among men, early parental loss was not associated with late life sleep problems. Hospitalizations of more than one month during childhood were associated with a 30% increase in the odds of sleep problems later in life ( $p = .004$ ). Long hospitalizations remained associated with sleep problems ( $p = 0.049$ ) after adjusting for control variables related to other aspects of childhood life (socioeconomic circumstances and health).

## Discussion

Early separation from parents and, among women, early parental loss are associated with sleep problems in the second half of life. A possible explanation for these findings is that early attachment ruptures may lead to an insecure-anxious attachment style that is associated with heightened, sleep-interfering arousal. The observed gender difference may be explained by diverging compensation opportunities.

## Math-Failure Associations, Attentional Biases, and Avoidance Bias Predicting Math Anxiety and Performance in Adolescents

Eva Schmitz, Brenda Jansen & Reinout Wiers, University of Amsterdam, the Netherlands

Elske Salemink, University of Amsterdam and Utrecht University, the Netherlands

### Introduction

Anxiety for math-related situations is characterized by negative cognitions and avoidance behaviour, and has been negatively related to math performance. Cognitive models of vulnerability to anxiety stress the importance of cognitive biases in different stages of information processing of threat-relevant stimuli. Anxiety-related implicit associations, as well as attentional biases and avoidance tendencies for threatening stimuli have been found in anxious individuals in comparison to non-anxious controls. However, in math anxiety cognitive biases have received limited attention. The current study investigated whether three types of cognitive biases, that is math-failure associations, attentional bias (both engagement and disengagement), and avoidance tendency bias, predicted math anxiety and math performance.

### Method

A total of 529 Dutch secondary school students (Mage = 14.0 years, SD = 0.97), participated in the study. Cognitive biases were assessed using a math-failure Single-Target Implicit Association Task; a Math Visual Search Task, which allows disentanglement of the engagement and disengagement components of attention bias for maths stimuli; and a Math Approach Avoidance Task (Math AAT). In addition, adolescents self-reported their math anxiety and math grades.

### Results

Results revealed that stronger math-failure associations predicted higher math anxiety and lower math grades, while controlling for sex and educational level. Exploratory, a significant full mediation effect of math anxiety in the relation between math-failure associations and math grade was found. In addition, it was found that math attentional biases (i.e., Engagement Bias, and Disengagement Bias) and math avoidance bias did not significantly predict math anxiety nor math grade.

### Discussion

This study was the first to demonstrate the role of implicitly measured math-failure associations in math anxiety and math performance. Previous studies on math-anxiety associations did not find any relation. However, consistent with control-value theory of academic emotions, the current study showed that expectancy of failure might be crucial in evoking math anxiety and harming math performance. In addition, this study was the first to assess and disentangle engagement and disengagement attentional biases as well as math avoidance bias. A possible explanation for a lack of correlations might be that the math stimuli itself were not experienced as threatening in the current unselected sample.

## Emotional Reactivity, Emotion Regulation, and Regulatory Choice in Somatic Symptom Disorder

Katharina Schnabel & Michael Witthöft, Johannes Gutenberg-University of Mainz, Germany

### Introduction

In the past decades, emotion regulation has increasingly received attention in different research fields of clinical psychology, but somatoform disorders as one great domain of mental disorders appears to be a blind spot in most important reviews broaching the issue of emotion regulation and psychopathology. In the present study, we examine processes of emotion regulation regarding emotional reactivity, the efficacy of central emotion regulation strategies (reappraisal and suppression), and the regulatory choice regarding these strategies in patients with somatic symptom disorder compared to healthy comparison participants. So far, 34 patients with somatic symptom disorder and 28 healthy participants underwent two experimental studies, which included first the rating of negative emotional stimuli and forced implementation of cognitive reappraisal, expressive suppression or observation as a control strategy and in the second part the free choice between those strategies.

### Method

In study 1, in 48 trials participants rated valence and arousal (pre-rating) after being exposed to negative emotional pictures and then were asked to either reappraise, to suppress the expression of emotions or to just observe the stimuli. After implementing one of these strategies, participants rated valence and arousal again. In study 2, participants again rated the valence and arousal of negative pictures, but then they could choose between reappraisal and suppression to regulate their emotions.

### Results

Results in terms of emotional reactivity showed no significant group differences in their first reaction to the emotional stimuli regarding valence ( $p = .59$ ,  $d = -0.14$ ) or arousal ( $p = .24$ ,  $d = 0.31$ ). Regarding the efficiency of emotion regulation, two repeated-measure ANOVAs for valence and arousal were conducted. Results reveal that all participants showed significantly lower valence and higher arousal in pre ratings compared to post ratings. The strategy  $\times$  time interaction reached significance for both valence ( $F(2, 120) = 7.56$ ,  $p < .001$ ,  $\eta^2 = .11$ ) and arousal ( $F(2, 120) = 3.17$ ,  $p = .046$ ,  $\eta^2 = .05$ ), but no group differences between patients and healthy participants were found. Regarding the regulatory choice between suppression and reappraisal, a t test revealed no significant group difference ( $t(60) = 0.100$ ,  $p = .921$ ). Overall, both strategies were selected almost equally frequent.

### Discussion

The findings suggest that patients with somatic symptom disorder (a) do not show altered emotional reactivity; (b) do not demonstrate deficits in the efficacy of emotion regulation; and (c) do not select different strategies compared to healthy participants. The results challenge the view that problems in emotional reactivity and regulation are central for somatic symptom disorder.

## **The Impact of Personal Future Imagination on Affect: Systematic Review and Meta-Analysis**

**Torben Schubert, Renée Eloo, Jana Scharfen & Nexhmedin Morina, University Münster, Germany**

### **Introduction**

Future thought occupies a large part of our waking time and serves various relevant functions in our lives. Accordingly, our thoughts, emotions and behaviour are often shaped by how we view our personal future. The present systematic review and meta-analysis examined the impact of imagining personal future events on affect.

### **Method**

The systematic search in PsycInfo and Medline as well as hand-searches yielded 63 experimental studies conducted with 6,813 participants from different research areas. Applied interventions included the best possible self intervention, future worry induction, and episodic future simulation. We clustered studies according to their theoretical accounts and combined effect sizes in each study cluster.

### **Results**

Findings yielded that both positive and negative future imagination have a moderate to strong impact on affect. A stronger influence on affect emerged when imagining the future was compared to remembering the past. Relevant moderator variables in each research area were also identified and tested.

### **Discussion**

The findings suggest that personal future imagination has an impact on both positive and negative affect. Clinical work in particular can benefit from a more comprehensive examination of personal future thought. We will discuss the findings with regard to future imagination as a basic psychological process and its particular significance in clinical application. We will conclude with recommendations that may promote elaborate research on personal future imagination as well as possible avenues for clinical interventions.

## **Clustering Individualized Psychological Networks: Simulations and Application**

**Keisuke Takano, Mina Stefanovic, Charlotte Wittekind & Thomas Ehring, LMU Munich, Germany**

### **Introduction**

A psychological network is a useful tool to understand complex interactions between symptoms in psychopathology. Person-specific networks, representing how symptoms relate to the other symptoms within a person, are typically estimated using Vector Autoregressive Models (VAR) fitted on intensive longitudinal data from experience sampling method (ESM). Recent studies proposed algorithms to cluster individuals on the basis of the individual VAR networks, which are supposed to help researchers explore unknown groups of individuals who have particular features of the networks (or connectivity of symptoms) that can be a marker of psychopathology. In the current study, we evaluated one of the clustering algorithms, or the alternating least square (ALS) algorithm (Bulteel, Tuerlinckx, Brose, & Ceulemans, 2016), regarding its accuracy in predicting the number of clusters and participants' group membership from local features of VAR models.

### **Method**

We first performed computer simulations to evaluate the performances of the ALS algorithm with varying (a) the number of variables in a VAR model, (b) the size of group differences in the edges, and (c) the number of effective edges to recognize group differences. Second, we applied this algorithm to a real ESM dataset, where university students reported momentary levels of worry and anxiety mood for 10 times per day for consecutive six days.

### **Results**

The results of the computer simulations showed that the ALS algorithm reliably identifies true clusters when a simulated network has very large group differences ( $d = 2.0$ ) in at least 20% of edges that are included in the whole network. The prediction accuracy decreases as (a) the number of variables in a model increases, (b) the size of group differences decreases, and (c) the number of effective edges decreases. In the real data analysis, the ALS algorithm identified two groups of participants: one of the groups had (a) stronger connectivity between worry and anxiety and (b) higher levels of inertia (reflected on autoregressive coefficients) compared to the other group. Furthermore, this strong-connectivity group had higher mean levels of worry and anxiety than the low-connectivity group.

### **Discussion**

The current study evaluated the ALS algorithm to identify unknown clusters of participants in the VAR framework. Our computer simulations suggest that the ALS algorithm identifies true clusters reliably when the size of a network is relatively small and the edges in the network have very large group differences. We demonstrated the application of the algorithm in real ESM data, which shows the usefulness of the algorithm to find a group with significant pathological features in a psychological network.

## **Reproductive Status Alters the Effectiveness of Estradiol in Enhancing Exposure Therapy**

**Samantha Tang & Bronwyn Graham, University of New South Wales Sydney, Australia**

### **Introduction**

Exposure therapy is a key component of Cognitive Behavioural Therapy for anxiety disorders. Preclinical research from our lab suggests that exposure therapy may be less effective in mothers compared to non-mothers due to enduring changes following pregnancy (Tang & Graham, 2018). It is therefore essential that we find ways of improving treatment outcomes in this population, particularly given that majority of women will become mothers by the age of 44. One possible way of improving the treatment of anxiety in mothers is through the use of estradiol, the major form of estrogen. In virgin female rats and women who have no reproductive history, estradiol has been found to enhance fear extinction, the laboratory basis of exposure therapy (Li & Graham, 2017). Whether or not estradiol is equally effective in enhancing fear extinction in mothers is unknown. The current study therefore compared the effect of systemically administered estradiol on fear extinction between reproductively experienced and virgin female rats.

### **Method**

Reproductively experienced and virgin female rats underwent Pavlovian fear conditioning on Day 1. Rats were then administered either estradiol or vehicle prior to undergoing fear extinction on Day 2, and tested for their memory of extinction (i.e., extinction retention) the following day (Day 3).

### **Results**

Virgin female rats that were administered estradiol showed enhanced extinction retention (i.e., reduced relapse) compared to rats that received vehicle. There was no significant difference in extinction retention between both groups of reproductively experienced female rats.

## **Discussion**

While estradiol enhanced fear extinction in virgin females, it had no such effect in reproductively experienced females. The findings of this study indicate that while estradiol may be an effective pharmacological adjunct to exposure therapy among non-mothers, it may not be equally effective among mothers. To develop more effective treatments for anxiety disorders among women, it may be necessary to tailor treatments according to reproductive status.

## **Interpretation Bias Flexibility in Worry**

**Jemma Todd, Marie-France Anouck da Silva Rosa & Lies Notebaert, University of Western Australia, Australia**

### **Introduction**

Worry is characterised by repetitive negative thoughts and images regardless of whether or not the danger can be mitigated. And yet, worry when faced with a threat which should be responded to can be beneficial. The present research sought to better understand the role that flexibility in the negative interpretation of ambiguity (interpretation bias) plays in problematic worry. It was hypothesized that those with high levels of problematic worry would display an inflexible pattern of information processing, in that they would always interpret ambiguous information as threatening. In contrast, those with low worry would show flexibility, i.e. would be more likely to interpret ambiguous information as threatening when the threat predicts a danger that can be controlled as compared to when that danger cannot be controlled.

### **Method**

In a novel Auditory Ambiguity Interpretation Task (AAIT), university students displaying high (N=30) or low (N=31) worry on the Penn State Worry Questionnaire were presented with ambiguous auditory stimuli, which they classified as belonging to a sub-category of either plants or animals. One category signified a possible reward (40c), whilst the other signified possible danger (noise burst and 40c loss). In half of the blocks, participants could avoid the danger on some trials if they gave a danger-consistent resolution, whilst in the other blocks, participants had little control over the danger. Participants also completed questions assessing motivation to avoid danger.

### **Results**

Overall, participants were more motivated to avoid the danger when they had control over the danger than when they had little control  $F=8.57, p=.005$ , and individuals with high worry were more motivated to avoid the danger than those with low worry,  $F=4.57, p=.037$ . However, no significant differences were found between worry groups on AAIT interpretation bias.

### **Discussion**

Having control over danger appears to increase motivation to avoid danger, and worriers were found to be more motivated to avoid danger, however this did not translate into differences in the flexibility of interpretation between worry groups. It is possible that whilst participants showed between-subjects variation on the interpretation of ambiguous AAIT stimuli, they might be more immune to context-dependent within-subject variations in their interpretation. This would have interesting implications regarding the nature of interpretation bias as a more static construct. This is the first study to look at contextual influences on the interpretation of ambiguity. Further research is needed to determine whether interpretation bias is sensitive to change and if so under which conditions; or whether it is a more automatic processing bias that operates consistently across contexts.

## **A New Virtual Reality Paradigm to Examine Fear Renewal Following Exposure for Public Speaking Fear**

**Eva A.M. van Dis, Muriel A. Hagenaars, Elze Landkroon, Katharina Meyerbröker, Suzanne C. van Veen & Iris M. Engelhard, Utrecht University, the Netherlands**

### **Introduction**

Exposure-based interventions can reduce fear in patients with anxiety disorders, but fear often returns. The return of fear has extensively been studied in de novo fear conditioning studies in which fear is typically acquired and extinguished through passive observation. However, the ecological validity of these paradigms is limited. Therefore, we developed a well-controlled virtual reality (VR) paradigm to examine active exposure in individuals with a high fear of public speaking, as well as spontaneous recovery (i.e., return of fear after the passage of time) and fear renewal (i.e., return of fear after a context switch) one week later. We expected 1) fear reduction during exposure, 2) spontaneous recovery, and 3) fear renewal.

### **Method**

On Day 1, 32 participants with public speaking fear received exposure in front of a VR audience. On Day 8, they completed a spontaneous recovery phase in the same VR environment, followed by a fear renewal test, in which half of the participants gave a presentation in front of a new audience (context switch) and the other half gave a presentation in front of the same VR audience (no context switch). Subjective units of distress (SUDS) and heart rate were used as indicators of fear. Hypotheses were tested with Bayesian ANOVAs.

### **Results**

On Day 1, the SUDS strongly decreased during exposure ( $BF = 109$ ), but heart rate did not ( $BF < 1$ ). On Day 8, SUDS and heart rate were not higher than during the last presentation on Day 1 ( $BFs < 1$ ), which indicates no spontaneous recovery. After the context switch, fear returned as indexed by SUDS ( $BF = 387$ ), but not heart rate ( $BF < 1$ ).

### **Discussion**

Thus, this new ecologically valid and well-controlled VR paradigm successfully reduced subjective fear during exposure and induced renewal of subjective fear in individuals with public speaking fear.

## **What's Your Story? Narrative Coherence Has a Positive Impact on Socio-Emotional Responses of the Listener**

**Lauranne Vanaken, Patricia Bijttebier & Dirk Hermans, KU Leuven, Belgium**

### **Introduction**

Research has indicated that a supportive social network confers resilience to stress and is essential for maintaining good mental health. We can develop and nurture social relationships through conversing about past personal experiences, which essentially entails retrieving and sharing our autobiographical memories. Furthermore, we know that there are numerous individual differences herein, one of which is autobiographical memory coherence, or narrative coherence. Coherence has been related to psychological well-being, however, underlying mechanisms remain unclear. We suggest a model in which social functioning mediates the association between narrative coherence and well-being.

## **Method**

In an experimental study (N = 96), we investigated whether narrative coherence of the speaker impacted socio-emotional reactions of the listener. We predicted that an incoherently narrated memory would arouse negative feelings in the listener, possibly causing social support to diminish, whereas a coherent one would be reinforced by receiving positive social feedback and support.

## **Results**

Results were mostly in line with our hypotheses, as participants showed more willingness to interact, more empathy and trust, more positive feelings, less negative feelings and more instrumental support towards those that talked in a coherent manner about their autobiographical memories in comparison to those that talked in an incoherent manner. Mood induction in the listener took place largely in accordance with the valence of the stories. Remarkably, coherence and valence of the memory also interacted in their effect on negative feelings that the listener experienced. These were evoked when the speaker narrated incoherently, but especially when it concerned a positive memory, as for negative memories incoherence was possibly more tolerated as part of the meaning-making process.

## **Discussion**

The importance and clinical relevance of these findings is illustrated in the light of the relation between social support and mental health.

## **The Influence of an Induced Negative Emotional State on Autobiographical Memory Coherence**

**Elien Vanderveren, Patricia Bijttebier & Dirk Hermans, KU Leuven, Belgium**

### **Introduction**

Autobiographical memory dysfunctions play an important role in the development and course of psychological disorders. One characteristic of autobiographical memories that appears to be related to psychological well-being and symptoms of psychopathology is memory coherence. People more adept at narrating about personal experiences in a coherent manner report more psychological well-being and less symptoms of depression. However, it remains unclear whether the relation between memory coherence and depression is of a causal nature and which underlying mechanisms might explain this relation.

### **Method**

The current study aimed to examine the causal relation between negative mood (one of the core symptoms of depression) and memory coherence by means of a mood induction paradigm. A group of 165 students were randomly allocated to one of three mood groups: negative, positive, and neutral. We hypothesized that memory coherence would decrease following a negative mood induction. In addition, working memory capacity was expected to mediate the association between mood and memory coherence.

### **Results**

Contrary to predictions, memory coherence increased following a negative mood induction. This increase was likewise observed in the positive mood group, though memory coherence remained consistent in the neutral mood group. This effect of mood on memory coherence was solely observed in female participants and not in the small male subsample. Results provided no support for the hypothesis that working memory capacity functioned as an underlying mechanism.

### **Discussion**

Results of the current study show that memory coherence is dependent on current emotional state, though not as originally expected. The increase in memory coherence in the negative condition might function as a natural attempt to repair positive mood, since previous studies have shown that recalling specific and concrete autobiographical memories is effective in repairing a positive mood. Potential clinical and theoretical implications are further discussed.

## **The Impact of Emotion Regulation Strategies on Affect States in Young Adolescents**

**Laura Wante, Brenda Volkaert, Marie-Lotte Van Beveren, Lotte Theuwis & Caroline Braet, Ghent University, Belgium**

### **Introduction**

Recent research suggests that impaired emotion regulation (ER) is an important risk factor for the development of adolescent psychopathology, such as depression. Unfortunately, to date, little research has explored how distinct ER strategies impact affect in youth. Therefore, the aim of the current study was to explore the differential effects of ER strategies on affective states in early adolescents.

### **Method**

In Study 1 (n = 76), we examined if early adolescents are able to use distraction and whether the effects of this strategy are similar to talking to one's mother. In Study 2 (n = 184), we compared the effects of distraction, cognitive reappraisal, acceptance, and rumination on positive and negative affect states in early adolescents (9-13 yrs). In both studies, participants received specific instructions on how to regulate their emotions after a standardized negative mood induction. In Study 3 (n = 261), we compared the effects of distraction, cognitive reappraisal, problems solving, and acceptance to the effects of rumination and a neutral cognitive task (control condition) on positive and negative affect states in early adolescents (10-13 yrs). Here, participants received a 2-hour ER training.

### **Results**

The findings indicate that mainly distraction, but also cognitive reappraisal and problem solving, caused a significantly larger increase in positive affect (i.e. happiness) and a decrease in negative affect (i.e. sadness), compared to acceptance, rumination, and a neutral cognitive task.

### **Discussion**

In general, the results indicated that distraction, but also cognitive reappraisal and problem solving had promising short-term effects on positive and negative affect in early adolescents. These findings suggest that targeting adaptive ER skills may be an important strategy to prevent or treat psychological problems in early adolescents. Future studies should investigate the effectiveness of a more extensive ER training on ER skills and emotional well-being in at risk-youngsters.

## **A Feasibility RCT of Computerized Positive Mental Imagery Training in Inpatient Mental Health Settings**

**Katharina Westermann, Simon E. Blackwell & Marcella L. Woud, Mental Health Research and Treatment Center Bochum, Germany**

**Christian Graz, Nexus-Klinik Baden-Baden, Germany**

**Peter W. Nyhuis, St. Marien-Hospital Eickel Herne, Germany**

**Jürgen Margraf, Mental Health Research and Treatment Center Bochum, Germany**

### **Introduction**

To improve recovery in mental health it could be helpful to enhance the experience of positive affect (e.g. Wichers et al., 2007). Experimental psychopathology and preliminary clinical research indicates the potential of a computerized cognitive training paradigm involving generation of positive mental imagery to increase positive affect and reduce symptoms related to positive affect deficits, specifically anhedonia. The study investigates the feasibility of using computerized positive mental imagery training (PMIT) as an adjunct treatment module for patients in inpatient mental health settings (Blackwell, Westermann et al., 2018; [clinicaltrials.gov: NCT02958228](https://clinicaltrials.gov/ct2/show/study/NCT02958228)).

### **Method**

The study is a feasibility randomized controlled trial with three parallel arms. Fifty-seven patients from two different inpatient mental health treatment clinics in Germany (NEXUS-Klinik in Baden-Baden; St. Marien-Hospital Eickel) were randomized to one of three different groups on a 1:1:1 ratio: PMIT plus treatment as usual (PMIT +TAU), an active comparator, cognitive control training, plus treatment as usual (CCT + TAU), or treatment as usual only (TAU). PMIT or CCT consisted of an introductory session followed by up to eight full training sessions over two weeks. Outcome measures (e.g. positive affect measured on the Positive and Negative Affect Schedule, PANAS; anhedonia measured on the Dimensional Anhedonia Rating Scale; DARS) were assessed at pre- and post-training, and at 2-week follow-up. Both raw means and standardized effect sizes (Cohen's *d*), with 95% confidence intervals, were calculated for both intention-to-treat (using mixed models) and per-protocol samples.

### **Results**

Adherence to the training was good, and attrition low. The patterns of results for the outcome data were consistent with the idea of the specific effect of PMIT on anhedonia (as measured using the DARS), but not on the primary outcome of positive affect (as measured using the PANAS). Furthermore, there were notable differences in both the patient characteristics and the patterns of outcomes between the two trial sites.

### **Discussion**

The results indicate the feasibility of PMIT as a treatment adjunct in inpatient mental health settings. Limitations include the small sample size, limited follow-up, and lack of blinding of the researcher carrying out assessments. However, the results support carrying out a larger trial of PMIT in inpatient settings with a particular focus on reducing anhedonia.

## **Inhibition of Personally-Relevant Sad Faces Predicts Six-Month Cortisol Awakening Response**

**Shiu Wong, Concordia University, Canada**

**Florencia Trespalacios & Mark Ellenbogen, Concordia University**

### **Introduction**

Failure to inhibit interference from distracting emotional stimuli (i.e., poor cognitive inhibition) may subsequently obstruct an individual's ability to regulate their behavioural and emotional responses to environmental stressors. Few studies have examined the longitudinal association between inhibitory abilities and regulation of the hypothalamic-pituitary-adrenal axis (HPA) in the natural environment. We also explored a causal model linking chronic stress, cognitive inhibition, and cortisol reactivity using mediation analysis.

### **Method**

Seventy-nine healthy young adults underwent two assessments 6 months apart. Participants' ability to suppress interference from distracting emotional stimuli was assessed using a negative affective priming task that included both generic and personally-relevant (i.e., participants' intimate partners) facial expressions of emotion. The UCLA Life Stress Interview was administered to measure chronic stress.

### **Results**

Results indicated that poorer inhibition of only personally-relevant sad and angry faces, but not generic stimuli, significantly predicted an increased cortisol awakening response (CAR) six months later. In addition, the association between chronic stress and the six-month CAR was mediated by participants' ability to inhibit personally-relevant sad faces.

### **Discussion**

We conclude that chronic stress may sensitise the stress response due to its negative influence on cognitive inhibition and personally-relevant processing may be central in trying to understand how emotional information processing moderates HPA functioning.

## **Rumination, Automatic Thoughts, Dysfunctional Attitudes and Thought Suppression as Predictors of Depression and Anxiety Symptoms**

**Saadet Yapan & Mehmet Hakan Turkcapar, Hasan Kalyoncu University, Turkey**

### **Introduction**

Depression and anxiety are the most common mental health disorders in society (WHO, 2017). Therefore, it is important to clarify the nature of these disorders. In the literature, depression and anxiety have been associated with different variables. Although many studies have shown that rumination, dysfunctional attitudes, automatic thoughts and thought suppression are correlated with depression and anxiety symptoms, no study has been found that examines the predictive effects of these variables together on severity of depression and anxiety symptoms. In the present study, predictive effects of rumination, automatic thoughts, dysfunctional attitudes and thought suppression on depression and anxiety symptoms were examined.

### **Method**

The present study was conducted with 281 university students (186 female and 96 male with mean age 21.26± SD of 2.091). Turkish versions of Short Version of the Ruminative Response Scale (RRS; Treynor, 2003; Erdur-Baker and Bugay, 2012), Dysfunctional Attitudes Scale Abbreviated Turkish Form (DAS-R-TR; Özdel and Batmaz, 2016), Automatic Thoughts Questionnaire (ATQ; Hollan and Kendal, 1980; Şahin ve Şahin, 1992), White Bear Suppression Inventory (WBSI; Wegner and Zanakos, 1994; Altın and Gençöz, 2004), Beck Depression Inventory (BDI; Beck, 1979; Hisli, 1989) and Beck Anxiety Inventory (BAI; Beck et al., 1988; Ulusoy et al., 1998) were used as data

collection tools. Both RRR and DAS-R-TR have two subscales (RRS: brooding and reflecting; DAS-R-TR: perfectionism and dependence). Multiple regression analysis was used in analysis of research data.

#### **Results**

Multiple regression analysis revealed that there were two models to determine the predictors of severity of depression symptoms. In the first model, automatic thoughts were solo variable explaining 47% of variability of the severity of depressive symptoms [ $\beta=0.683$ ,  $p < .01$ ]; in the second model, reflecting contributed 0.04% to total variance, and the explained variance increased to 51% [ $\beta_{\text{automatic thoughts}} = 0.592$ ,  $\beta_{\text{reflecting}} = 0.229$ ;  $p < 0.01$ , respectively].

Three models were revealed as a result of multiple regression analysis to determine the predictors of severity of the anxiety symptoms. In the first model, it was observed that, automatic thoughts were only variable explaining 37% of variability of the severity of depressive symptoms [ $\beta=0.611$ ,  $p < 0.01$ ]; in the second model, thought suppression contributed 0.043% to total variance, and explained variance increased to %42 [ $\beta_{\text{automatic thoughts}} = 0.523$ ,  $\beta_{\text{thought suppression}} = 0.225$ ;  $p < 0.01$ ].

#### **Discussion**

Continuation of results: In the third model, RRS total score contributed 0.024% to total variance, and the explained variance increased to 44% [ $\beta_{\text{automatic thoughts}} = 0.446$ ,  $\beta_{\text{thought suppression}} = 0.189$ ,  $\beta_{\text{rumination scale}} = 0.168$ ;  $p < 0.01$ , respectively].

Discussion: The results obtained from the study indicated that automatic thoughts and reflecting predicted the severity of depressive symptoms whereas automatic thoughts, thought suppression and RRS total score predicted the severity of anxiety symptoms. Dysfunctional attitudes couldn't predict both anxiety and depression symptoms. This finding may be related with; dysfunctional attitudes remain hidden until experienced stressful life events and study's conducted with nonclinical sample. The results of present study show that; automatic thoughts are the most effective predictor of severity of anxiety and depressive symptoms. This finding is consistent with the Beck's depression and anxiety model.

### **Impulsivity and Poor Inhibitory Control in Emotional Contexts in Suicide Ideators and Attempters: Evidence from an Emotional Stop-Signal Task and Self-Report Measures**

**Sungeun You, Chungbuk National University, South Korea**

**Chae Eun Lim, Korea University, South Korea**

**Moran Park & Seongeun Ryu, Chungbuk National University, South Korea**

**Hyejin J. Lee, Jong Moon Choi & Yang Seok Cho, Korea University, South Korea**

#### **Introduction**

The goal of this study was to examine behavioral impulsivity, particularly negative urgency and inhibitory control in emotional contexts in people with a history of suicidal ideation or attempt.

#### **Method**

Three mutually exclusive groups of community adults were recruited: (a) people with a lifetime history of suicide attempt, (b) those with a lifetime history of suicide ideation but no history of suicide attempt, and (c) those with no lifetime history of suicide ideation or attempt. An emotional stop-signal experiment, with distinct blocks of threatening (i.e., angry-happy faces) and non-threatening (i.e., sad-happy faces) emotional contexts, was completed by all participants, who then completed the self-report measures of impulsivity.

#### **Results**

Using self-report measures of impulsivity, suicide attempters reported higher levels of negative urgency, that is, a tendency to act rashly in a negative emotional state, compared to suicide ideators and non-suicidal controls. Using a modified stop-signal task, no group difference was obtained between suicide attempters and ideators. Compared to non-suicidal controls, suicide ideators and attempters had poorer inhibitory control in response to positive emotions in the threatening context, but not in the non-threatening context. Contrary to the hypothesis, suicide ideators and attempters did not differ from non-suicidal controls in their inhibitory control in response to negative emotions.

#### **Discussion**

These results suggest that people who have thought about or attempted suicide have impaired inhibitory control toward positive emotional stimuli in threat contexts but not toward negative emotional stimuli per se compared to healthy controls. However, suicide attempters perceived themselves as more impulsive when in negative emotional states compared to suicide ideators and non-suicidal controls.

### **A Meta-Analytic Structural Equation Model of the Relationships Between Depression, Anxiety and Reinforcement Sensitivity**

**Iftah Yovel, Ben Katz & Kathryn Matanky, The Hebrew University of Jerusalem, Israel**

#### **Introduction**

The joint subsystems hypothesis (Corr, 2002) of reinforcement sensitivity theory (RST; Gray, 1987) posits that mental health disorder emerges as a function of both dysfunctional reward sensitivity via the Behavioral Approach System (BAS) and punishment sensitivity via the Behavioral Inhibition System (BIS). We tested these hypotheses via a systematic meta-analysis and considered whether the effect of reinforcement sensitivity would change based on disorder. Furthermore, we performed a separate meta-analytic structural equation model (mSEM) to directly control for comorbidity between depression and anxiety.

#### **Method**

A set of 205 articles with published and unpublished data were included in the meta-analysis. We recorded correlations between RST measures and self-report measures of depression/anxiety, as well as group differences in reinforcement sensitivity between those diagnosed with depression/anxiety disorders and healthy controls. Any article that reported correlations between depression, anxiety, reward sensitivity and punishment sensitivity was partitioned to a separate mSEM analysis.

In the main meta-analysis, all effect sizes were converted to Hedges'  $g$ . Then, to examine the transdiagnostic role of reinforcement sensitivity, two separate random-effects meta-analyses were performed: one for reward sensitivity, and another for punishment sensitivity. Differences in clinical clusters' effect sizes were then compared across disorders with a robust subgroup analysis. In the mSEM, the weighted average correlation between every factor was calculated, and then subjected to analysis via structural

#### **Results**

In the standard meta-analysis, BIS was found to have a large positive relationship with both depression,  $g = .99$ , and anxiety,  $g = 1.21$ , with a significant difference between the two,  $Q(1) = 5.49$ ,  $p = .01$ . Conversely, BAS had a small negative relationship with depression,  $g = -.21$  and a trivially small one with anxiety,  $g = -.11$ , which were significantly different,  $Q(1) = 3.83$ ,  $p = .05$ . The mSEM also found the BAS to

discriminate between disorders, where only the relationship between depression was significant,  $r = -.07$ . BIS, on the other hand, was nearly identical for both depression and anxiety,  $r_s = .35-.36$ .

### **Discussion**

This study supports the hypotheses laid out in RST, indicating that punishment sensitivity may play a large, transdiagnostic role in predicting all affective psychopathology and that reward sensitivity may discriminate between depression and anxiety. It also indicates the importance of including both forms of reinforcement sensitivity when building predictive models of affective psychopathology.

## **A Cognitive Coping Model of Reinforcement Sensitivity and Affective Pathology**

**Iftah Yovel & Benjamin Katz, The Hebrew University of Jerusalem, Israel**

### **Introduction**

Dysregulated reinforcement sensitivity is a widely-cited predictor of affective psychopathology (Bijttebier et al., 2009; Gray & McNaughton, 1982). A hypersensitivity to punishment via a highly responsive Behavioral Inhibition System (BIS) is framed as a neuroticism-like, transdiagnostic predictor of internalizing pathology (Hundt, et al., 2008). Hyposensitivity to reward, on the other hand, via a less responsive Behavioral Approach System (BAS), has been theorized to predict depressive disorders (Nusslock & Alloy, 2017). In this poster, we consider a clinical model of reinforcement sensitivity wherein sensitivity to reward and punishment predicts affective psychopathology via its impact on habitual use of adaptive and maladaptive types of emotion regulation strategies. Specifically, we consider how BAS may impact a tendency to use promotion-oriented goals and adaptive coping strategies such as positive reappraisal, and how BIS may impact the use of prevention-oriented goals.

### **Method**

512 adult participants (female = 285) were recruited via the Prolific Academic Platform. They then completed gold-standard measures for reinforcement sensitivity (BIS/BAS; Carver, 1994), motivation orientation (Promotion/Prevention scale; Lockwood, 2002), reappraisal (Emotion Regulation Questionnaire; Gross, 2013), affective pathology (DASS; Lovibond, 1995), as well as two measures of negative self-judgement: the Five Factor Mindfulness Questionnaire's Nonacceptance subscale (Baer, 2006) and the Ruminative Response Scale's Brooding subscale (Treynor, 2003). Collected data was subjected to a structural equation model in the order of: reinforcement sensitivity > motivation orientation > emotion regulation > affective pathology. The most parsimonious model will be presented.

### **Results**

BAS sensitivity predicted preference for reward-promotion goals, which in turn predicted likelihood to use the adaptive coping strategy of positive reappraisal. This negatively predicted levels of pathology. BIS sensitivity, on the other hand, predicted preference for punishment-prevention goals. This preference both negatively predicted adaptive coping strategies, and positively predicted Self-judgement. Self-judgement then positively predicted levels of pathology, and positive reappraisal negatively predicted it. Altogether, this model provided a good fit for the data,  $X^2(2900) = 5330$ ,  $p < .0001$ ; Adj  $X^2 = 1.8$ , RMSEA = .057 [.055; .060], SRMR = .097

### **Discussion**

Altogether, this model presents a rare examination of the cognitive mechanisms through which dysregulated reinforcement sensitivity may ultimately impact psychopathology. Future research may build on the present findings, further applying RST to frameworks of stress-coping (Monroe, 2008), promotion/prevention (Higgins, 1997), and distress tolerance (Leyro et al., 2010).

## **Reinforcement Sensitivity Theory and Bipolar Disorder: A Meta-Analysis**

**Iftah Yovel, Benjamin Katz & Kathryn Matanky, The Hebrew University of Jerusalem, Israel**

### **Introduction**

Reinforcement sensitivity theory (RST; Gray, 1987, 2000) posits that an individual's reactivity to appetitive and aversive stimuli is regulated by the Behavioral Approach System (BAS) for reward and the Behavioral Inhibition System (BIS) for punishment. The BAS dysregulation theory of bipolar disorder (Alloy & Abramson, 2010) identifies reward hypersensitivity as a risk factor for bipolar spectrum disorders. The BAS dysregulation theory has had a wide impact on the way bipolar disorder's etiology is understood. However, until now, no systematic meta-analysis has quantified the relationships between reinforcement sensitivity and bipolar disorder across the literature, nor has there been an attempt to quantify the extent to which these relationships are impacted by the clinical state of the patient.

### **Method**

A set of 56 articles with published and unpublished data were included in the meta-analysis. Correlations between RST measures and self-report measures of mania (e.g., Hypomanic Personality Scale; Eckblad, 1986) were recorded, as well as group differences in reinforcement sensitivity between those diagnosed with bipolar disorder and healthy controls. Altogether, 144 correlations and standard mean differences were analyzed. Effect sizes were converted to Hedges'  $g$ . Then, two separate random-effects meta-analyses were performed: one for reward sensitivity, and another for punishment sensitivity. Subgroup analysis then compared effect sizes across categorical moderators including diagnosis (i.e., Bipolar I, Bipolar II, Mixed) and clinical state (i.e., all-healthy correlations vs clinical/healthy group comparisons).

### **Results**

Bipolar disorder was found to have a moderate, positive relationship with both BAS sensitivity,  $g = .42$  and BIS sensitivity,  $g = .56$ . Effect sizes were not moderated by diagnosis for BAS,  $Q(2) = 0.66$ ,  $p = .72$ , or for BIS,  $Q(2) = 3.49$ ,  $p = .17$ . Clinical state, on the other hand, did moderate effect sizes. BAS had a stronger relationship with all-healthy samples  $g = .74$  than with clinical/healthy samples,  $g = .26$ ,  $Q(1) = 16.66$ ,  $p < .0001$ . Conversely, BIS only had a significant relationship with clinical/healthy samples,  $g = .80$ , and not with all-healthy samples,  $g = .02$ . This difference was significant  $Q(1) = 42.05$ ,  $p < .0001$ .

### **Discussion**

This study supports the main hypotheses of the BAS dysregulation theory, finding a positive relationship between BAS sensitivity and bipolar disorder. It also points to possible future directions, including interactions with BIS sensitivity and clinical state.

## **A Structural Equation Modeling Meta-Analysis of Coping, Locus of Control, Self-Efficacy and Mental Health**

**Stefanie J. Schmidt, University of Bern and University Hospital of Bern, Switzerland**

**Nina Schnyder, University Hospital of Child and Adolescent Psychiatry and Psychotherapy of Bern, Switzerland**

**Michael Kaess, University Hospital of Child and Adolescent Psychiatry and Psychotherapy of Bern, Switzerland, and University of Heidelberg, Germany**

**Andjela Markovic, University Hospital of Child and Adolescent Psychiatry and Psychotherapy of Bern, Switzerland**

**Liz Rietschel, Academy for Psychotherapy, SRH University Heidelberg, Germany**

**Susann Ochsenein & Chantal Michel, University Hospital of Child and Adolescent Psychiatry and Psychotherapy of Bern, Switzerland**

**Frauke Schultze-Lutter, University Hospital of Child and Adolescent Psychiatry and Psychotherapy of Bern, Switzerland, and Heinrich-Heine University Düsseldorf, Germany**

**Nicola Groth, University Hospital of Child and Adolescent Psychiatry and Psychotherapy of Bern, Switzerland**

### **Introduction**

Mental disorders are regarded as major causes of disability-adjusted life years. Thus, there is a clear need to investigate the impact of preventive and risk factors on mental health as they might be worthwhile targets for future psychosocial mental-health promotive interventions. A crucial step towards this goal is to synthesize findings and to develop a better understanding of the interplay of locus of control, self-efficacy and coping as important predictors of mental health.

### **Method**

The aim of this study was to perform a two-staged structural equation modeling meta-analysis (TSSEM) to examine whether coping mediates the associations between locus of control, self-efficacy and mental health outcomes in the general population and clinical samples.

### **Results**

TSSEM included 15 studies and using a pooled sample of 3986 respondents and 225 cross-sectional effect sizes indicated that maladaptive coping mediates the associations between maladaptive locus of control and poor mental health outcomes. In contrary, adaptive coping did not mediate this relationship, and was only significantly associated with self-efficacy and adaptive locus of control and unexpectedly not with mental health outcomes. Both maladaptive and adaptive locus of control but not self-efficacy had direct links to mental health that were independent from coping.

### **Discussion**

Interventions should not only focus on enhancing adaptive coping as it might be more promising to diminish maladaptive locus of control, which may result in reduced maladaptive coping and finally improved mental health.

## **Personality Disorders**

### **Tailored CBT to Treat Experiential Avoidance in an Adult with Offending Behaviours**

**Lucy Armstrong, University of Bath, United Kingdom**

#### **Introduction**

JD entered adult secondary care services following a 20-year history of committing arson, theft and bomb hoaxes which had resulted in seven criminal convictions and several prison sentences. At the time of entering services, he was on probation, and referral information indicated an "unspecified disorder of adult personality and behaviour". Most offences had been triggered by stressful life events, and occasions in which JD had experienced significant rejections and betrayals. JD was committed to psychology therapy to understand his previous crimes and his fear of "opening up to others", to build adaptive coping strategies and prevent himself from committing further crime.

#### **Method**

JD's previous offending events appeared to be triggered by unpleasant feelings of betrayal and rejection (common experiences during his childhood), and subsequent conflicting beliefs of both "needing to get bad feelings out" and "others will judge me negatively if I open up". Beliefs and perceived emotional invalidation during childhood together may have led to feelings being suppressed and consequently accumulated, resulting in severe urges to externalise these by offending, or as JD phrased it "putting my feelings onto something else". Treatment primarily involved the use of cognitive behavioural techniques (CBT) over 11 weekly sessions to explore emotional awareness and expression. A DBT-based assertiveness module was later incorporated into sessions in line with guidelines around experiential avoidance (EA). Building rapport was slow and as a result the first CBT intervention phase (psycho-education, diaries) was commenced whilst a longitudinal formulation was gradually developed.

#### **Results**

Levels of distress reduced significantly in the first phase of treatment, from scores of 13 on both PHQ-9 and GAD-7 in week 1 to scores of 4 on both measures in week eight. JD's scores on the Brief Experiential Avoidance Questionnaire (BEAQ) significantly reduced from 71 to 37 (out of 90) during the first eight weeks of treatment (CBT). JD's BEAQ scores did not reduce further during the DBT-informed phase of treatment (sessions 9-11). Throughout therapy JD became observably more expressive and relaxed. By the end of treatment, he had challenged himself to several stress-inducing situations (e.g. initiating difficult conversations) which he would have previously avoided, finding himself better able to cope with the feelings these provoked. JD reported feeling more comfortable asserting himself with others and did not re-offend during treatment.

#### **Discussion**

This case study supports the idea of using a tailored CBT approach to reduce distress and EA, which may reduce risk of further externalising behaviours. The intervention took a highly flexible approach, overlapping psycho-education around emotions with an extended longitudinal formulation period to allow JD to feel comfortable enough to generate new ways of thinking.

## **Clinical Implications of the Relation Between Family Characteristics and Patient's Functionality in a Personality Disorders and Adolescents Program**

**Andrea Astolfo, Alexis Galacho, Angeles Salerno, Eugenia Beauchamp, Cesar Arredondo & Cristina Daria, Red Unitas, Argentina**

### **Introduction**

Families have a central role in the patient's functional and social development, as well as in the coping strategies regarding their pathology. Personality disorders severely affect people's functionality, mostly in a country with high rates of unemployment, leading them to depend on their families, situation which in most cases, produces a positive feedback of the symptoms and a negative impact on the patients social insertion. This may also lead to chronification of the patients in treatments.

This study aims to develop a brief analysis of the relationship between family functioning based on the Family Adaptability and Cohesion Evaluation Scale (FACES III) and the EEAG of the patient, aiming to develop intervention strategies leading to prevention of pathological impact.

### **Method**

The study was conducted among patients and their families of Emotional Regulation Disorders Program in Red Unitas with a population of patients in productive age (18-30 years old) and with patients and their families in Adolescents Program in the same institution.

### **Results**

A correlation was found between the families' characteristics regarding adaptability and cohesion and the patients' functionality and social insertion which was major in the older group of patients. This may contribute to improve our existing tools in family intervention programs and to generate an early intervention in the case of adolescents.

### **Discussion**

Congruent with findings from literature and the evidence from clinical work, family's functioning characteristics remain an important predictor of the patients outcome. Given the consistency of this finding, assessment of families structural characteristics is vital in order to elaborate therapeutic interventions and to prevent patients chronification and worsening of symptoms. Future research should continue to focus its efforts on unpacking the potential mechanisms underlying this relation to allow for more targeted interventions.

## **Posttraumatic Stress Symptoms Do not Negatively Impact the Effectiveness of Dialectical Behaviour Therapy for Borderline Personality Disorder**

**Jenna Boyd, McMaster University, Canada**

**Michelle Carrigan, Tricia Logan, Elisha DeKort, Lori Dunne & Holly Raymond, St. Joseph's Healthcare Hamilton, Canada**

**Katherine Holshausen, McMaster University, Canada**

### **Introduction**

Posttraumatic Stress Disorder (PTSD) and Borderline Personality Disorder (BPD) are highly comorbid psychiatric conditions, where as many as 50% of individuals with BPD also meet criteria for PTSD. Comorbid BPD and PTSD is associated with greater odds of a lifetime suicide attempt, more comorbidity, and greater impairments in quality of life. Dialectical Behaviour Therapy (DBT) targets symptoms of behavioural and emotional dysregulation, and interpersonal difficulties. Given the association between comorbid BPD and PTSD and increased symptom severity, it has been suggested that PTSD symptoms may impact response to treatment with DBT. To date, limited research has investigated this question, with mixed findings. The purpose of this study was to assess changes in PTSD and BPD symptoms and investigate the impact of PTSD symptoms on treatment outcome of DBT for BPD over the first four months of treatment.

### **Method**

Twenty-seven individuals with BPD and comorbid PTSD symptoms participated in four months of standard DBT (group and individual therapy and phone coaching) in an outpatient hospital setting. Participants completed baseline and 4-month self-report assessment of BPD and PTSD symptoms and emotion regulation difficulties (ERD). Correlational analyses were used to examine the relation between BPD symptoms, PTSD symptoms, and ERD at baseline. Paired sample t-tests were used to examine changes in symptom severity over the 4-month period. Linear regressions were used to determine if baseline PTSD symptoms predicted change in BPD and ERD symptoms using residualized change scores.

### **Results**

At baseline, PTSD symptoms were significantly positively correlated with BPD symptoms and ERD ( $p < .01$ ). PTSD symptoms did not improve over the 4-month treatment period ( $p > .05$ ), while BPD symptoms and ERD significantly improved ( $p < .05$ ). Linear regressions revealed that PTSD symptom severity at baseline did not predict change in BPD symptoms or ERD ( $p > .05$ ).

### **Discussion**

Higher PTSD symptoms were associated with higher levels of BPD symptoms and ERD and DBT was associated with a significant improvement in BPD symptoms and ERD, but not PTSD symptoms. However, baseline PTSD symptom severity did not predict change in BPD symptoms or ERD. Taken together, these results indicate that although individuals with higher levels of PTSD symptoms have higher levels of BPD symptoms and ERD at baseline, this does not impact their ability to benefit from treatment with DBT. Future work should determine when, in the course of treatment for BPD, is optimal to employ additional treatment for PTSD.

## **Moderator Effect of Self-Compassion Between Experiences of Subordination in Childhood and Borderline Traits**

**Diogo Carreiras, Marina Cunha & Paula Castilho, CINEICC-University of Coimbra, Portugal**

### **Introduction**

The Borderline Personality Disorder (BPD) is a severe disorder with features as impulsivity, instability, emotional deregulation and non-suicidal self-injury. These features may develop over time and can be identified in adolescence. The development of borderline traits has been proven to be associated with adverse childhood experiences and self-compassion has been identified as protective factor to psychopathology.

### **Method**

The present study aimed to explore the role of self-compassion on the relationship between experiences of subordination in childhood and borderline traits in adolescence, through a mediator model using PROCESS. The sample was composed by 212 adolescents (70 males and 142 females) with a mean age of 15.49 ( $SD = .69$ ) from the 10th and 11th grade. 92% of the students never repeated a year in school.

## Results

According to gender, females revealed to have higher levels of borderline traits than males, however, no differences were found in self-compassion and adverse experiences in childhood. The moderation model explained 49% of the variance ( $p < .001$ ) and moderation effect of self-compassion between experiences of subordination in childhood and borderline traits was significant. People that had adverse experiences in childhood, with higher levels of self-compassion, present fewer borderline traits.

## Discussion

These findings suggest the importance of increasing self-compassion to potentially buffer the impact of a negative childhood environment on the development of borderline traits in adolescence. Self-compassion seems to be an important factor to decrease borderline features.

## The Art of Prophecy Remains Difficult: Predicting Treatment Outcomes in Inpatients with Borderline Personality Disorder

Matthias Feldmann & Philipp Herzog, Philipps-University Marburg, Germany

Ulrich Voderholzer, Schön-Klinik Roseneck, Germany

Michael Armbrust, Schön-Klinik Bad Bramstedt, Germany

Eva-Lotta Brakemeier & Winfried Rief, Philipps-University Marburg, Germany

## Introduction

Patients with borderline personality disorder (BPD) account for a high percentage of patients treated in psychosomatic clinics in Germany. In this setting, response rates of 44% have been reported (Kröger, Harbeck, Armbrust & Kliem, 2013). In order to tailor treatment strategies to the specific characteristics and problems of BPD patients, a first promising approach might be to identify predictors of treatment outcomes from patient characteristics at the beginning of treatment. Previous studies often lacked a sufficient sample size for predictor analyses and examined either treatment discontinuation or symptom change as an outcome, leading to heterogeneous results.

## Method

In a large naturalistic sample, patients with BPD ( $N = 878$ ) were treated with non-manualized dialectical behavior therapy (DBT) for an average of 66 days in a German psychosomatic hospital. Effect sizes were computed. In addition, 91 potential predictors were included in the Bootstrap Enhanced Regularized Regression to identify stable predictors of residualized symptom change measured by the Brief Symptom List (BSL) and residualized functional change measured by the Short Form 36 (SF-36). The predictors identified in a training set were then tested in a holdout sample and a repeated five-fold cross validation design.

## Results

Pre-post effect sizes were small (SF-36, BSL) to medium (BDI-II). Lower education, lower age, and comorbid substance abuse disorder were the main predictors of premature treatment discontinuation. Bodily pain as well as factors associated with motivational aspects consistently predicted premature treatment discontinuation, residualized symptom change, and residualized functional change. Low affect regulation skills and no previous outpatient psychotherapy positively predicted residualized symptom change. Predictions in the holdout sample achieved an AUC of 63.1% for premature treatment discontinuation, 5.6% variance explained for residualized functional change and 0.6% for residualized symptom change.

## Discussion

The results that lower education and age as well as substance abuse predict premature treatment discontinuation replicate findings from comparable large German samples (Kröger, Harbeck, Armbrust & Kliem, 2013; Kröger, Roepke & Kliem, 2014). The positive effects of low affect regulation skills at baseline on residualized symptom change may indicate their importance as a mechanism of change in DBT. The low predictive power could be a result of the heterogeneity of BPD. Patient Motivations and expectations as well as the therapeutic relationship might be important predictors that were not included in this study and should be studied in future research.

## Dialectical Behaviour Therapy (DBT) for Emotion Regulation (ER) Difficulties: A Systematic Review

Lauren Harvey, Caroline Hunt & Fiona White, University of Sydney, Australia

## Introduction

While Dialectical Behavior Therapy (DBT) appears efficacious in reducing suicidal and self-harming behaviour, it is unclear whether DBT reduces emotion regulation (ER) difficulties, a purported mechanism of change of treatment. This review aims to investigate and evaluate the current evidence to understand the effectiveness of DBT in improving ER difficulties.

## Method

A qualitative synthesis of studies investigating the effectiveness of DBT on self-reported ER difficulties as measured by the Difficulties in Emotion Regulation Scale (DERS) was performed, identifying eligible studies using PsycINFO, PubMed, MEDLINE and EMBASE databases. Fourteen studies were identified.

## Results

Current evidence indicates that DBT does not show consistent benefits relative to existing psychological treatments in improving ER difficulties. The literature is compromised by significant methodological limitations increasing risk of bias across study outcomes. Furthermore, high variability across DBT programs and a lack of investigation regarding adherence and participant engagement within the intervention was observed.

## Discussion

Further research is needed in order to conclude regarding the effectiveness of DBT in improving ER difficulties. Consistent use of active treatment conditions, greater standardisation of DBT-based interventions in addition to further examination of participant engagement level in DBT-based interventions across the long-term may assist understanding as to whether DBT improves ER difficulties.

## **Factors Predicting Dropout From Dialectical Behavior Therapy Skills Training in Japan**

**Mamiko Igo, Teikyo Heisei University, Japan**

**Kodai Matsuno, Musashino University, Japan**

**Saori Yamazaki & Yasuichiro Yusa, Hasegawa Mental Health Institute, Japan**

### **Introduction**

Dialectical behavior therapy skills training (DBT-ST) has been shown to effectively treat individuals with emotion dysregulation such as borderline personality disorder (BPD). Some studies have investigated factors predicting dropout from DBT-ST, but the results were incongruent (e.g., Stratton et al., 2018; Farrés et al., 2018). Moreover, no studies have investigated factors predicting dropout from DBT-ST in Japan. The aim of this study was to examine factors that might be associated with dropout from DBT-ST in a sample of subjects with emotion dysregulation in Japan.

### **Method**

A total of 20 participants were assigned DBT-ST. All participants experienced emotional dysregulation such as BPD. Of the total sample, 11 participants completed DBT-ST (9 women, mean age  $\pm$  SD = 36.82  $\pm$  7.35), 9 participants dropped out (8 women, mean age  $\pm$  SD = 34.22  $\pm$  6.74). Participants completed the following socio-demographic items: (1) married/unmarried, (2) working/not working, (3) receive individual therapy/not receive individual therapy, (4) receive ambulant treatment/not receive ambulant treatment. Participants also completed the following scales: (1) items relating to BPD in the Personality Diagnostic Questionnaire-Revised (PDQ-R), (2) the Five Facet Mindfulness Questionnaire (FFMQ), (3) the Beck Depression Inventory II (BDI-II). Participants completed the scales at baseline, and we conducted a skills training group that met once a week for 24-weeks.

### **Results**

The dropout rate in this sample was 45%. Chi-square test revealed that employment situation variables were significantly different between the two groups ( $\chi^2=5.69$ ,  $p=0.02$ ,  $\phi=-0.53$ ). More participants in the non-dropout group were employed than participants in the dropout group. Other socio-demographic variables were not significantly different between the non-dropout group and the dropout group (married/unmarried;  $\chi^2(1)=0.20$ ,  $p=0.10$ ,  $\phi=-0.18$ , get individual therapy/ not get individual therapy;  $\chi^2(1)=0.64$ ,  $p=0.42$ ,  $\phi=0.18$ , get ambulant treatment/ not get ambulant treatment;  $\chi^2(1)=0.07$ ,  $p=0.80$ ,  $\phi=0.06$ ). The results of independent-sample t-tests show BDI-II scores are significantly higher in the non-dropout group than the dropout group ( $t(18)=1.90$ ,  $p=0.07$ ,  $d=0.85$ ). The difference of the FFMQ scores and the PDQ-R scores were not significant between the two groups, but the FFMQ had a medium effect (FFMQ;  $t(18)=1.39$ ,  $p=0.19$ ,  $d=0.65$ , the PDQ-R;  $t(18)=0.43$ ,  $p=0.68$ ,  $d=0.21$ ).

### **Discussion**

We demonstrated that unemployed participants were more likely to dropout. Employment indicates the ability to pay the high cost of therapy and the general ability to acquire knowledge and skills from the therapy. The results showed that BDI-II scores of the non-dropout group was higher than the dropout group. We assume that this result is related to a motivation for treatment, however, future investigation is needed. The FFMQ's effect size was medium. Low level of mindfulness at baseline predicted treatment dropout.

## **Dialectical Behavioural Therapy Dosage and its Consequences on Impulsivity and Suicide Risk in a French Sample: A Preliminary Study**

**Sylvia Martin, Aix Marseille University, France**

**Jonathan Del Monte & Pierluigi Graziani, Nimes University, France**

### **Introduction**

Borderline Personality Disorder (BPD) is a core issue for assessing suicidal risk. The role of impulsivity (1,2) negative emotion (anger)(3,4) and relational issues (aggression)(5,6) ( creates therapeutical difficulties in BPD treatment. Involvement in structured therapy protocols (DBT, CBT) seems to be the key. Dialectical and Behavioral Therapy (DBT) management has shown its effectiveness but this therapy is sometimes difficult to implement due to its duration (12 months). These methodological constraints led us to modify it's structure by adjusting the duration and organization of the therapy. We create a 6 months program made of 3 different modules: the Behavioural Cognitive Training Group for learning the Skills related to the Observation and Regulation of Emotion (ECCLORE). The objective of this study is to validate the effectiveness of this program.

### **Method**

32 BPD (woman) were recruited from our daily care center during the last year (mean age=42 years, mean for first diagnose = 14 months ago) from DSM-5 criterion. We measured Impulsivity (UPPS), Aggression (AQ12), Hopelessness (H), Borderline dimension (BPQ) and suicidal risk (SBQ-r).

### **Results**

From pre to post group, Suicidal Risk, Aggression and Despair significantly decreased Sdq-r ( $p=.030$ ), AQ12 ( $p=.003$ ), H ( $p=.005$ ). Concerning the BPD dimension measure, almost all dimension significantly diminished: Affect instability ( $p=.005$ ), Abandonment ( $p=.003$ ), Relation ( $p=.039$ ), Self Image ( $p=.007$ ), Suicide, Self mutilation ( $p=.005$ ), Emptiness ( $p=.000$ ), Intense Anger ( $p=.012$ ), Quasi psychotic states ( $p=.020$ ), BPQ score ( $p=.000$ ). Regarding impulsivity, only negative urgency decreased ( $p=.002$ ). BPQ score was highly correlated to Despair ( $p=.000$   $r=.473$ ), Aggression ( $p=.000$   $r=.677$ ) and Impulsivity dimensions (negative Urgency  $p=.000$   $r=.622$ ; positive urgency,  $p=.004$   $r=.357$ ; Lack of premeditation  $p=.003$   $r=.365$  and sensation seeking  $p=.005$   $r=.342$ ). Surprisingly, SBQ-r wasn't correlated to BPQ level but only with Positive Urgency level ( $p=.004$   $r=-.435$ ) and lack of perseverance ( $p=.039$   $r=-.316$ ).

### **Discussion**

On a qualitative level, the 6 months DBT adaptation reduced impulsivity, aggression, suicidal risk, BPD level. Impulsivity work and especially Positive Urgency assessment need to be more detailed to encourage treatment orientation towards positive emotion without negative side effects creation.

## **Borderline Personality Disorder and Suicidal Risk Regarding Impulsivity and Metacognition Dimensions**

Sylvia Martin, Aix Marseille University, France

Pierluigi Graziani & Jonathan Del Monte, Nîmes University, France

### **Introduction**

Impulsivity is supposed to encourage suicidal attempts but recent studies proved that it's not always so. Compared to impulsivity facets, negative affects and negative rumination were more significant. Inherently repetitive negative cognitions have been linked to thoughts of suicide and suicide attempts making cognitive processes a core feature for suicidal risk. For suicidal issues, more than Axis I disorders, BPD is a big concern. This study aims to evaluate BPD's patients functioning to examine the links between metacognitive functioning and impulsivity facets, regarding their influence on suicidal risk.

### **Method**

Population: 190 BPD patients were recruited from DSM 5 criteria (mean age=39.95 years, 9 males and 181 female). Measures: UPPS-S for impulsivity, MCQ30 for metacognition, BPQ for borderline personality traits and SBQ-r for suicide risk assessment.

### **Results**

Only positive urgency correlated to SBQ-r $(r=-.0241)$  making global impulsivity correlation with suicidal risk $(r=-.215)$ . No correlation directly linked metacognitive dimensions to impulsivity. Negative thinking was correlated to negative urgency $(r=.373)$ , positive Urgency $(r=.245)$ , lack of premeditation $(r=.171)$ , Sensation seeking $(r=.212)$ , UPPS $(r=.314)$ . Metacognition globally correlated to Negative Urgency $(r=.266)$ , sensation seeking $(r=.273)$ , UPPS $(r=.218)$ . Regarding BPD dimension, SBQ-r only correlated to "suicide and self mutilation" dimension. This dimension correlated surprisingly to positive thinking $(r=.187)$  and need of control $(r=.255)$ . Regression failed to predict SBQ-r from UPPS nor MCQ30 dimensions. Predicting suicidal risk from all the correlated dimension only pointed out the impact of suicidal and self mutilation tendency from BPQ (beta=.398). ( $*p<.05$ ,  $**p<.005$ ,  $***p<.001$ ).

### **Discussion**

This results confirms that the link between impulsivity and suicidal could be questioned. More in detail, linking suicide to negative emotion impulse appears to be a false belief as we prove the link between positive emotions based urgency directly to suicidal risk. Looking at the negative correlation existing, working on positive urgency needs to be done carefully as it could increase suicidal risk. Therapy programs working with emotion need to be more precise in their effectiveness for positive emotions.

## **Dissociative Experiences as a Predictor of DBT Outcomes in Individuals with Borderline Personality Disorder**

Nursel Selcuker, Yulia Kim, Anastasia McGlade, Hollie Granato & Lynn McFarr\*, Harbor - UCLA, USA

### **Introduction**

Dissociation is a complex phenomenon present across a variety of mental health disorders (Lyssenko et al., 2017), and is particularly prevalent in the context of Borderline Personality Disorder (BPD) (Korzekwa, Dell, & Pain, 2009). Although the role of dissociation is not well understood, individuals with BPD who experience dissociative symptoms tend to exhibit more severe psychopathology and have increased likelihood of a comorbid psychiatric disorder (Scalabrini et al., 2017; Delgado et al., 2018). By increasing our understanding of dissociation and how it may interfere with learning and practicing new skills, mental health professionals can better monitor these symptoms and implement more individualized interventions. The primary objective of this study is to identify effects of dissociative experiences on clinical outcomes in individuals with BPD. We specifically hypothesize that patients with more severe dissociative experiences will show reduced improvement on measures of emotion.

### **Method**

This study included 39 clients diagnosed with Borderline Personality Disorder enrolled in Dialectical Behavior Therapy through an outpatient mental health clinic housed within a community mental health hospital. We will examine the extent to which pre-treatment score on the Brief Dissociative Experiences Scale (DES-B; Bernstein & Putnam, 1986) impacts pre- to post-treatment change on the Outcomes Questionnaire-45 (OQ-45; Lambert et al., 1996ab), Borderline Symptom List-23 (BSL-23; Bohus et al., 2009), and Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). All participants completed survey measures prior to commencing treatment and again at 6-months into treatment and at 12-months.

### **Results**

Preliminary analyses demonstrate that 80% (N = 31) of the participants in this study endorse at least one dissociative symptom in the past month, with 35% (N = 14) of the sample endorsing dissociative symptoms at the severe threshold outlined by the DES-B scoring instructions. Additionally, clients with severe dissociative symptoms at baseline showed significantly higher Borderline symptoms at 12-months compared to those with low dissociative symptoms at baseline. Finally, results have found preliminary support that dissociation severity during treatment mediates treatment outcomes for participants with severe dissociation symptoms such that more dissociation results in less improvement in Borderline symptoms at 12-months.

### **Discussion**

While previous research has highlighted the prevalence of dissociative symptoms among clients diagnosed with Borderline Personality Disorder who are enrolled in DBT, the participants within this current study suggest that these symptoms may be prevalent at lower levels to an even greater extent than previously thought. Additionally, results from this study support the hypothesis, highlighting the deleterious impact of dissociation on treatment outcomes.

## **Distinct Adverse Childhood Experiences (ACEs) are Associated with Self-Criticism and Self-Compassion**

Iona Naismith & Santiago Zarate Guerrero, University of the Andes, Colombia

Janet Feigenbaum, University College London, United Kingdom

### **Introduction**

Cultivating self-compassion is increasingly recognized as a powerful method to regulate hyperactive threat-processes like shame and self-criticism, but fear of self-compassion (FSC) can inhibit this. These difficulties are under-explored in personality disorder (PD) despite their prevalence. Furthermore, little evidence exists regarding how these factors relate to adverse childhood events (ACEs).

### **Method**

53 participants with a diagnosis of PD completed measures including childhood abuse/neglect, invalidation, early warmth, self-compassion, shame, self-criticism and FSC.

## **Results**

Self-compassion was predicted uniquely by low early warmth; self-inadequacy by invalidation and abuse; whereas FSC was predicted by multiple ACEs. FSC and self-compassion were significantly correlated with self-criticism and shame, but not with one another.

## **Discussion**

Low self-compassion and high FSC appear to be distinct problems, substantiating physiological models proposing distinct threat and soothing systems. Results are consistent with theories positing that low self-compassion has distinct origins to shame, self-criticism and FSC.

## **Dissociation and Therapy of Depressive and Anxiety Disorders With or Without Personality Disorders**

**Jan Prasko, Ales Grambal, Petra Kasalova, Marie Ociskova & Michaela Holubova, University Hospital Olomouc, Czech Republic  
Antonia Kotianova & Milos Slepecky, Constantine the Philosopher University, Slovakia**

### **Introduction**

The aim of the study was to analyse the impact of dissociation on the treatment of the patients with anxiety/neurotic spectrum and depressive disorders, and with or without personality disorders.

### **Method**

The sample consisted of inpatients who met the ICD-10 criteria for the Depressive disorder, Panic disorder, GAD, Mixed anxiety-depressive disorder, Agoraphobia, Social phobia, OCD, PTSD, Adjustment disorders, Dissociative/Conversion disorders, Somatoform disorder or other anxiety/neurotic spectrum disorder. The participants completed Beck Depression Inventory, Beck Anxiety Inventory, subjective version of Clinical Global Impression-Severity, Sheehan Patient-Related Anxiety Scale, and Dissociative Experience Scale, at the start and the end of the therapeutic program.

### **Results**

The total of 840 patients with anxiety or depressive spectrum disorders, who were resistant to pharmacological treatment in outpatients basis and were referred for hospitalization for the six-week complex therapeutic program, were enrolled in this study. 606 of them were statistically analyzed. The patients' mean ratings on all measurements were significantly reduced during the treatment. The patients without comorbid personality disorder improved significantly more than patients with comorbid personality disorder in the reduction of depressive symptoms. However, there were no significant differences in change of anxiety levels and severity of the disorder between the patients with and without personality disorders. The higher degree of dissociation at the beginning of the treatment predicted minor improvement. The higher therapeutic change was connected to the greater reduction of the dissociation level.

### **Discussion**

Dissociation presents an important factor influencing treatment effectiveness in the treatment-resistant patients with anxiety/depression with or without personality disorders.

## **Mindfulness and Self-Compassion - Final Results of Changes Induced by Group Schema Therapy for Borderline Personality Disorder**

**Florian Ruths, Christina Thomas, Navya Anand & Anna Lavender, SLAM, United Kingdom**

### **Introduction**

As a sub-study of the international multi-site randomised control trial of Group Schema Therapy for Borderline Personality Disorder; this sub-study investigates changes in mindfulness and self-compassion throughout the Group Schema Therapy for Borderline Personality Disorder. Little is known about the impact of Schema Therapy on the mindful awareness and attention and self-compassion of patients with Borderline Personality disorder. Mindfulness techniques have been used in other forms of therapy for BPD such as Dialectical Behavioural Therapy (DBT) (Linehan, 1999). DBT has been shown to improve levels of self-compassion. This study hypothesizes that 24 months of group schema therapy will improve mindfulness skills and levels of self-compassion more than the control condition of treatment-as-usual. Preliminary findings during the trial have shown significant changes, confirming our hypothesis.

### **Method**

The sub-study is a randomised control single-blind trial study. This study is a sub-study of the multi-centre randomised control single-blind intervention study to investigate group schema therapy with Borderline Personality Disorder. Forty-five male and female Borderline Personality Disorder patients across 3 sites, 2 in the UK and 1 in Amsterdam completed measures: The Five Facets of Mindfulness shortened form (FFMQ-s), self-compassion scale (SCS-12 item) shortened form and BPDSI scale were used with this sample at baseline, as well as at 12 months post-treatment.

### **Results**

Previously presented results at various time points of the study showed a significant change in self-compassion and mindful awareness through Groups Schema Therapy. The final data are currently being analysed and final quantitative findings will be presented at the conference.

### **Discussion**

Although not explicitly focussing neither on mindful awareness nor on the cultivation of self-compassion, group schema therapy seems to promote elements that are more traditionally associated with mindfulness-based and compassion-based interventions. The more explicit use of mindful awareness and techniques promoting compassion may be considered in schema-based interventions. At the same time, the use of schema model and schema language may have a generic role in non-schema based psychological intervention targeting mindful awareness and self-compassion.

## **Treating Borderline Personality Disorder with CBT in Private Practice in Low Resourced Settings: An Individual Clinical Case Report**

**Mariam Salie, Stellenbosch University, South Africa**

### **Introduction**

The client presented in private practice with strong dissociative symptoms, feeling as if he was losing his mind and finding it harder to get through each day. He reported that it was not a new feeling and while he has previously made excuses for himself and how he responded to these experiences, he could no longer do that as he now had two children and needed to be a good example for them.

## **Method**

Client L experienced abandonment from both his biological mother and father and was raised by his maternal grandfather whom he idealized. At 15 he suddenly lost his grandfather to severe illness and once again was left feeling abandoned. During his teen years he attempted to make contact with his father but was rejected again. After his grandfather's death, his family had little patience for him. These experiences led him to developing a core belief that he was 'not good enough' and his life was spent living up to that belief, abusing substances and engaging in self-destructive behavior. Since being a husband and a father, he now functions on trying to disprove that belief by being a model husband and father and aggressively defending that title in any situation that he feels threatens his ability. CBT was used in conjunction with DBT techniques to address the borderline personality symptoms, to challenge the dysfunctional beliefs, build distress tolerance skills and manage his anger.

## **Results**

This is an ongoing case, and the salient challenges include managing the anger and resulting aggressive and violent behavior, managing the unstable affect and distress tolerance and managing the intense dissociative symptoms. A considerable amount of time is spent on boundary work and taking responsibility.

## **Discussion**

The main difficulty with this case was developing a treatment plan to work with the financial constraints. Sessions from the onset had to be bi-weekly with occasional longer breaks when finances are low. This makes it difficult to ensure that lessons learned remain intact and are implemented regularly. An additional difficulty was ensuring that homework tasks were carried out and monitoring the mood, self-destructive behavior and suicidality.

## **Feasibility of 16-Week Dialectical Behavior Therapy for Adolescents (DBT-A) Multifamily Program for Suicidal and Self-Harming Adolescents in Finnish Public Mental Health Services**

**Saana Sarparanta, Laura Suomalainen, Mauri Marttunen & Klaus Ranta, Helsinki University Hospital, Finland**

### **Introduction**

Self-harming behavior among adolescents predicts later suicidal ideation and suicidal behavior especially among adolescents with more frequent acts of self-harm. Past-year prevalence of self-harming behavior among adolescent populations varies between 5-10% in general populations, overall lifetime prevalence reaching up to 16.9%. The mean age of starting self-harming behavior, most commonly cutting, is reported to be 13 –years. Dysfunctional emotion regulation is associated with suicidal ideation and suicide attempts, and the severity of suicidal behavior. Acknowledging the association between emotional dysregulation, self-harming and suicidal behaviors, intervention programs targeting suicidal and non-suicidal self-harming behaviors among adolescents with emotion dysregulation should be implemented.

### **Method**

A 16-week multifamily treatment program of Dialectical Behavior Therapy for Adolescents (DBT-A) was implemented in outpatient clinics in Helsinki University Hospital (HUH), Department of Adolescent Psychiatry. DBT-A is targeted to adolescents with severe emotion dysregulation and suicidal and self-harming behaviors. DBT-A treatment program consists of weekly individual therapy sessions, weekly skills training groups including the parents or other significant caregivers, and telephone consultation and family sessions according to need. DBT-A is a principle-based treatment program consisting of five skills modules addressing common cognitive-emotional skills deficits among the targeted adolescents and their families.

### **Results**

The feasibility of DBT-A treatment program in HUH will be assessed during the spring 2019. The preliminary results on the feasibility of DBT-A in HUH will be presented and visualized in the poster, focusing primarily on the change of suicidal behaviors (pre- and post -measured with C-SSRS interview) and non-suicidal-self-harming behaviors (pre- and post -measured with DSHI interview). Second, the change in the use of emergency room- and inpatient services will be presented. Third, the self-reported change in borderline personality symptoms, depressive symptoms and the functionality of the family interaction will be presented and visualized.

### **Discussion**

The preliminary results from the spring 2019 will shed light on the feasibility of 16-week DBT-A multifamily treatment program in an adolescent population with severe emotional and behavioral dysregulation, in Finnish public mental health care services. The feasibility and the effectiveness of DBT-A will be assessed more comprehensively during 2020-2024, and the results will reveal the feasibility and the effectiveness of the DBT-A in HUH more comprehensively in the future.

## **Parenting and Its Relationship with Psychopathology, Affect Regulation, Interpersonal Functioning in Youth with Cluster B Personality Disorders and Their Parents**

**Apoorva Shrivastava, Manjula M., K. John Vijaysagar & Harish T., National Institute of Mental Health and Neuro Sciences (NIMHANS), India**

### **Introduction**

Cluster B Personality Disorders (PD) are characterized by personality styles that are impulsive, dramatic, highly emotional, and erratic. The commonalities between cluster B personality disorders lie in terms of affect regulation, cognitive styles, interpersonal relationships and parenting practices. Parental psychopathology, affect regulation, interpersonal functioning has been found to be related to their (parents') parenting practices which in turn affect child's psycho-social functioning and general mental health (Vostanis et al., 2006). There is a dearth of studies on youth with PDs, parenting in relation to fathers in PDs, reciprocal linkage between parenting and child psychopathology and researches in Personality disorders in Indian context. To address this gap the present study was undertaken which looks into the relationship of parenting with psychopathology, affect regulation and interpersonal functioning in youth with cluster B personality disorders and their parents.

### **Method**

The study is in progress. A sample of 10 youth (16 to 24 years) with Cluster B personality disorder along with their parents, are being assessed using MINI neuropsychiatric interview (Sheehan et al., 2009), Brief symptom inventory (Derogatis, 1993), Difficulty in emotion regulation scale (Gratz & Roemer, 2004), Barrat Impulsivity Scale (Barratt, 1985), Toronto Alexithymia scale (Bagby, Parker & Taylor, 1994), Inventory of interpersonal problems (Horowitz et al., 1988) and Parenting styles and dimension questionnaire (Robinson, Mandelco, Olsen, & Hart, 1995). SCID 5 (First et al., 2015) is used for screening. The sample is being recruited from in-patient and out-patient services of NIMHANS, Bangalore, India, and data collection is going on.

## **Results**

The preliminary data shows presence of similar personality traits (anankastic) in the family along with Borderline PD in the youth. Depression was found in the Mother, alongwith difficulties in affect regulation in the family. Alexithymia was found in the youth but not in parents. Interpersonal conflicts have been found to be present in the families screened so far. Further analysis and results will be elaborated during presentation.

Further, correlation will be carried out between measures for affect regulation,interpersonal functioning, psychopathology in youth and their parents with parenting scores respectively.Correlation will be calculated between affect regulation,interpersonal functioning, and psychopathology as measured in youth and their parents. T test will be done to see the differences in youth with and without parental psychopathology. Results of further analysis and results will be elaborated during presentation.

## **Discussion**

The study is in progress. Results will be discussed during presentation.

## **Application of Imagery Rescripting in the Treatment of Emotional Dysregulation in Borderline Personality Disorder: Feasibility of a New Short Intervention**

**Zrinka Sosic-Vasic & Caroline Schaitz, University Hospital of Ulm, Germany**

### **Introduction**

This is the first study targeting prospective mental images related to self-harming behavior in patients with borderline personality disorders (BPD) by applying imagery rescripting and rehearsal techniques within a two-session program. Feasibility in terms of treatment acceptance and safety was evaluated.

### **Method**

Seven women with BPD were treated with this new approach. During two sessions they were guided to create new mental images related to the experience of coping with emotional distress. Borderline symptoms (BSL-95), overall clinical improvement (CGI), emotion regulation (FEEL-E and ERQ), and self-harming behavior (emotional dysregulation behavior according to BSL-95) were recorded prior to treatment (t1), post treatment (t2) and at a 1-year-follow-up (t3).

### **Results**

No substantial symptom exacerbation was recorded from t1 to t2, or even to t3 as indicated by a decrease in total BSL-95 score and an even mild CGI score improvement. No drop-out rates were recorded. Adaptive emotion regulation strategies (FEEL-E) increased whereas maladaptive strategies decreased. Moreover emotional dysregulated behavior as assessed by rates of self-harm (BSL-95) decreased in our sample, however, not for all patients.

### **Discussion**

Data from our feasibility study suggest that this short-term intervention is save and acceptable for patients suffering from BPD. The intervention has the potential to modulate emotion regulation strategies and self-harming behavior in patients with BPD. However, results are limited by the very small sample size, and the lack of a control group.

## **Altered Social Cognitions Among Patients with Borderline Personality Disorder: Is There a Neural Signature?**

**Zrinka Sosic-Vasic, Julia Eberhardt, Julia E. Bosch & Lisa Dommes, University Hospital of Ulm, Germany**

**Karin Labek & Anna Buchheim, University of Innsbruck, Austria**

**Roberto Viviani, University of Innsbruck, Austria, and University of Ulm, Germany**

### **Introduction**

Instability in interpersonal relations is a core feature within borderline personality disorder (BPD). Previous studies have pointed to neural dysregulation in areas associated with negative affect such as increased amygdala activity. However, even though far less intensively investigated, accumulating findings have drawn attention to deficits in social cognition and their likely role in engendering emotional instability. We therefore assessed neural correlates of social cognition in BPD within a functional imaging study (fMRI).

### **Method**

Using a passive-viewing paradigm, we exposed 20 patients with BPD and 20 healthy controls to blocks of stylized drawings of scenes of mourning – as the topic of loss and separation is of high relevance to BPD patients –, scrambled pictures (baseline), and control drawings during fMRI (3 T).

### **Results**

BPD individuals compared to healthy controls exhibited increased activation in a cluster comprising the left sensorimotor cortex and the left dorsal posterior insula when viewing mourning pictures vs. control pictures. In addition, for both groups an effect of a positive trend over time was observed in the inferior frontal gyrus. However, this effect was reduced for patients with BPD.

### **Discussion**

Our findings point to possibly less sophisticated social cognition capacities among patients with BPD as reflected by increased mirror neuron system activity relevant to the encoding of rather basic aspects of the perception of motoric activity and pain, and decreased inferior frontal gyrus activity relevant to more complex aspects of social cognition.

## **Childhood Adversity and Borderline Personality Disorder: A Meta-Analysis**

**Carly Porter, Jasper Palmier-Claus, Warren Mansell, Helen Warwick & Filippo Varese\*, University of Manchester, United Kingdom**

### **Introduction**

Borderline personality disorder (BPD) is an enduring and distressing condition characterised by affect instability, identity disturbance, interpersonal difficulties and harmful behaviours. Given the severe impact of BPD on those affected as well as their relatives/carers, there is a considerable need to understand its risk factors to inform preventative and therapeutic interventions. A growing number of empirical studies have indicated that BPD is associated with high rates of childhood adversity (e.g. abuse, neglect), but as yet no meta-analysis has been conducted to evaluate the magnitude and consistency of these associations across available case-control, epidemiological and prospective cohort studies. The primary objectives were: 1) To investigate whether exposure to childhood adversity is elevated in individuals with BPD compared to non-clinical and clinical controls; 2) To investigate which types of childhood adversity were most

elevated in BPD samples compared to non-clinical controls; 3) To investigate rates of childhood adversity in BPD compared to specific types of clinical controls e.g. mood disorder, other personality disorders, psychosis.

#### **Method**

Comprehensive literature searches were conducted on Medline, Embase, and PsychInfo, in addition to screening of reference lists of previous narrative reviews of this literature. Reports were systematically screened and relevant statistical information extracted to compute effect sizes and conduct a series of random-effect meta-analyses to address the above review aims.

#### **Results**

Twenty-nine eligible studies comparing BPD to non-clinical controls and 58 studies comparing BPD to clinical controls (e.g. mood disorder, personality disorder, psychosis). Random-effect meta-analysis of case control studies revealed that, after accounting for outliers and publication bias, individuals with BPD are 8.66 (95%CI 7.40-16.00) times more likely to have experienced childhood adversity than non-clinical controls. Prospective cohort and epidemiology studies showed that individuals with BPD were 2.59 (95% CI .93-7.30) and 2.56 (95%CI 1.24-5.30) times more likely to have experienced childhood adversity than non-clinical controls. Findings were significant across adversity subtypes, with emotional neglect and abuse demonstrating the largest effect (OR= 20.02, 95% CI= 9.95-40.27 and OR =14.38, 95% CI=8.03-25.75, respectively). Individuals with BPD were 2.88 (95% CI 2.61-3.18) times more likely to have experienced adversity than clinical controls.

#### **Discussion**

The findings of this meta-analysis corroborate theoretical proposals suggesting that exposure to adverse life experiences is a central component of the complex aetiology of BPD, and highlight the importance of targeting childhood adversity and its sequelae in the prevention and treatment of BPD.

### **Metacognitive Awareness is Associated with Non-Suicidal Self-Injury: A Preliminary Study**

**Daniel Vega Moreno, Consorci Sanitari de l'Anoia, Spain**

**Laia Briones Buixassa, Fundació Sanitària d'Igualada - Universitat de Vic (UVic), Spain**

**Carlos Schmidt, Universitat de Barcelona (UB), Spain**

#### **Introduction**

Non-suicidal self-injury (NSSI) is defined as the direct and deliberate destruction of one's own body tissue in the absence of lethal intent. It is now considered a public health problem. Some authors have developed comprehensive models of NSSI based on emotional dysregulation, which state that individuals self-harm in response to a greater frequency of negative emotional states and a lower tolerance to these states. On the other hand, metacognitive awareness is defined as the ability to be unentangled from the contents of awareness, observing elements of the experience as events and not as static entities. This ability is commonly referred to as decentering. Previous research has proposed that the enhancement in decentering ability may lead to respond less emotionally to internal and external experiences. There is a lack of research on the relationship between NSSI and metacognition.

#### **Method**

The sample of study comprised three groups of young adults (age from 18 to 30). A healthy control group (HC, n=23), a group of students with NSSI (CA, n=13) and a group of Borderline Personality Disorder patients with NSSI (BPD, n=13). The Spanish version of The Experiences Questionnaire (EQ; Soler et al. 2014) was used to assess all participants. EQ is a 11-item measure, assessing a metacognitive ability known as decentering (i.e., the individual's ability to observe thoughts and emotions as temporary objects of the mind).

#### **Results**

HC group showed a better decentering ability than CA and BPD groups (group, mean, SD: HC, 39.91, 7.47; CA, 31.53, 6.65; BPD, 26.61, 7.39). An ANOVA analysis was conducted with Group as between-subject factor (HC, CA, BPD) and EQ scores as a within-subject factor. Post-hoc analysis revealed statistical differences between groups (HC>CA,BPD).

#### **Discussion**

Our findings suggest that low scores in decentering, as a metacognitive ability, corresponded to participants suffering from NSSI. These also suggest that decentering may play a key role in the treatment with people who self-harm.

### **Exploring the Case for Incorporating Psychedelics Within Psychotherapeutic Interventions for Borderline Personality Disorder**

**Richard Zeifman & Anne Wagner, Ryerson University, Canada**

#### **Introduction**

Borderline Personality Disorder (BPD) is a severe psychiatric disorder characterized by emotion dysregulation and suicidal behaviours. Despite the existence of evidence-based psychotherapeutic interventions for BPD, these interventions have important limitations, including limited treatment efficacy. Furthermore, there is little evidence for efficacious pharmacological interventions for BPD. Thus, there is a need for improving current interventions for BPD. Recent research incorporating psychedelics (e.g., psilocybin, ayahuasca, and lysergic acid diethylamide) within interventions for a wide range of psychiatric disorders have shown promising results. However, research has not yet explored the utility of incorporating psychedelics within interventions for BPD.

#### **Method**

We conducted a literature review on the impact of psychedelics on treatment targets in interventions for BPD, as well as purported overlapping mechanisms of change between interventions for BPD and psychedelics.

#### **Results**

A review of cross-sectional, longitudinal, experimental, and clinical research indicated that administration of psychedelics lead to decreases in BPD treatment targets (i.e., emotion dysregulation, behavioural dysregulation, disturbances in identity, and social functioning). Furthermore, research suggests that there are overlapping mechanisms of change between interventions for BPD and psychedelics (i.e., emotion dysregulation, mindfulness, and self-compassion). We also review the limited number of studies in which individuals with BPD have been administered psychedelics.

#### **Discussion**

Safety concerns and clinical recommendations regarding the administration of psychedelics to individuals with BPD, as well as proposed next research steps are described. This review suggests that research on incorporating psychedelics within interventions for BPD is warranted and may show promise for improving upon current interventions for BPD.

## **Metacognition Moderates the Relationship Between Interpersonal Functioning and Emotion Dysregulation in Personality Disorders**

**Alafia Jeelani, Manjula M. & Shyam Sundar Arumugham, National Institute of Mental Health and Neuro Sciences (NIMHANS), India**

### **Introduction**

Metacognition refers to comprehensive mindreading capacity (Semerari et al., 2007) overlapping in this respect with the concept of mentalization proposed by Bateman and Fonagy (2004). Research has increasingly suggested that deficits in metacognitive function play a key role in the development of psychosocial dysfunction among adults with severe mental illness (Dimaggio & Lysaker, 2010; Dimaggio, Lysaker, Carcione, Nicolò, & Semerari, 2008; Semerari et al., 2003). For instance, difficulties managing relationships might be in part a direct result of difficulties detecting and labeling the intentions of other people. Difficulties responding effectively to feeling overwhelmed at work might result from an inability to recognize one's emotions and see one's own conclusions as subjective and fallible (Lysaker, Gumley, & Dimaggio, 2011). Research has shown that people with personality disorders experience deficits in emotion regulation and interpersonal functioning, but little work investigates what factors influence capacity for empathic interaction. Disruption in the capacity for or utilization of metacognition has far-reaching consequences for an individual's self-experience and functioning in the interpersonal environment (Brüne et al., 2011). This is crucial since at the heart of many forms of adult psychopathology the impairments of social functioning (as in those diagnosed with schizophrenia; Lysaker et al., 2011a,b,c), interpersonal functioning (as in those diagnosed with personality disorders; Carcione et al., 2011) and affective functioning (as observed in alexithymia; Vanheule et al., 2011) or the overregulation of affect observed in alexithymic and personality disorders (Nicolò et al., 2011) are likely to be strongly linked to metacognition.

### **Method**

This study sought to understand the associations among several variables known to be impaired in personality disorders including metacognition, emotion regulation, and interpersonal functioning. The potential protective role of metacognition for interpersonal functioning was also investigated. We first hypothesized that poor metacognition and interpersonal functioning would be associated with emotion dysregulation. Second, we hypothesized that metacognition would moderate the relationship between emotion regulation and interpersonal functioning such that at high levels of metacognition, poor interpersonal functions would no longer significantly predict emotion dysregulation. This study is currently ongoing and has an estimated sample size of 100 (70% of which is completed) Participants with a personality disorder diagnoses were recruited as part of the study. Participants were receiving services at an urban tertiary care mental health center. Measures included the Brief Symptom Inventory-53, Metacognition Assessment Interview, Inventory of Interpersonal Problems-25 and Difficulties in Emotion Regulation Scale and other clinical measures.

### **Results**

Results revealed that metacognition was strongly associated with emotion dysregulation. In moderation analyses, metacognition significantly moderated the relationship between emotion dysregulation and interpersonal functioning such that at lower levels of metacognition, poor interpersonal functions predicted emotion dysregulation, but at higher levels of metacognition, the relationship was significant/not significant.

### **Discussion**

Preliminary results indicate that good interpersonal functions are important for effective emotion regulation in people with PDs, but that this relationship is moderated by metacognition. Higher metacognitive ability may convey a protective effect, allowing one to overcome deficits in emotion regulation to empathically engage with others. Results emphasize the importance of interventions tailored to the metacognitive level of clients with PDs.

## Poster Session 5 (12.00-14.30)

### German Language

- 1 **Deutschsprachige Übersetzung und psychometrische Evaluation der Feedback on Physical Appearance Scale (FOPAS) an einer Stichprobe aus jugendlichen Patientinnen mit Essstörungen**  
Hannah L. Quittkat, Universität Osnabrück, Deutschland
- 2 **Agilität in der Kognitiven Verhaltenstherapie**  
Wolf-Ulrich Scholz, Goethe-Universität, Deutschland
- 3 **Biofeedback und Neurofeedback bei depressiven Störungen – ein Update**  
Carmen Uhlmann, Zentrum für Psychiatrie Weissenau und Universität Ulm, Deutschland
- 4 **2008-2018: Wirksamkeit von Therapien und Patientenzufriedenheit mit Psychotherapeuten in Ausbildung (PiA)**  
Ilka Vasterling, Technische Universität Braunschweig, Deutschland
- 5 **Stationäre Intensivtherapie bei Zwangsstörungen: Vorstellung eines Behandlungskonzeptes und dessen Effektivität**  
Thorsten Zeidler, Christoph-Dornier-Klinik für Psychotherapie, Deutschland
- 6 **Schützt die islamische Körperbedeckung muslimische Frauen vor dem negativen Effekt von Schlankheit betonenden Bildern auf das Körperbild?**  
Leonie Wilhelm, Osnabrück University, Germany

### Intellectual & Developmental Disabilities - English Programme

- 7 **Cognitive Flexibility and Perfectionism**  
Justine Bordeleau, Université du Québec à Trois-Rivières, Canada
- 8 **Development of Behavior Record Application, “Observations,” for Behavior Problems**  
Masahiko Inoue, Tottori University, Japan
- 9 **Metacognitive Training for Students with High Autistic Tendencies in a Vocational College: A Preliminary Study**  
Yukiko Maeda, Kwansai Gakuin University, Japan
- 10 **Keep Safe: A CBT Based Intervention for Young People with Intellectual and Developmental Disabilities**  
Aida Malovic, Canterbury Christ Church University, UK
- 11 **Efficacy of Group Cognitive Behavior Therapy Targeting Time Management for Adult with Attention Deficit / Hyperactivity Disorder: A Randomized Control Trial.**  
Misuzu Nakashima, National Hospital Organization Hizen Psychiatric Center, Japan
- 12 **The Effect of Behavioral Activation and Power-Assisted Wheelchair on Wheelchair-Using Children with Limited Mobility: A Randomized Comparative Trial**  
Jong-Woo Suh, Korea University, South Korea

### Therapeutic Processes - English Programme

- 13 **Effects of Self-Instructional Training Focused Anger Arousal**  
Tomonori Abe, University of Tsukuba, Japan
- 14 **Knowledge of and Barriers to the Use of Cognitive Behavioral Therapy in Treating Depression in Primary Care Centers and Family Medicine Clinics in Saudi Arabia**  
Ahmad Alhadi, King Saud University, Saudi Arabia
- 15 **The Effect of Stress Relief Programs on Occupational Stress Using non-Work Factors**  
Satoko Araki, J. F. Oberlin University, Japan
- 16 **Improvement of Sleep-Wake Rhythm in Patients with Schizophrenia with Long and Irregular Sleep Through Cognitive Behavioral Therapy: A Case Study**  
Naoko Ayabe, National Center of Neurology and Psychiatry, Japan
- 17 **Mindfulness as a Moderator Between Self-Criticism and External Shame**  
Julieta Azevedo, Center for Research in Neuropsychology and Cognitive and Behavioral Intervention, Portugal
- 18 **Effects of Positive Psychology Intervention on the Personal and Work Wellbeing of Psychotherapists in CBT Training**  
Merav Barkavi - Shani, Murcia University, Spain
- 19 **Rogues, Villains and Eccentrics – Constellation of Schizotypy Indicators**  
Radomir Belopavlović, University of Novi Sad, Serbia
- 20 **Characterization of the Therapeutic Process and Population Demands that Attended the School Service at the Cognitive Behavioral Institute of Psychotherapy (IPC), Brazil – SP**  
Luciana Bernardes da Rosa, Cognitive Behavioral Institute of Psychotherapy, Brazil
- 21 **Building a Good Therapeutic Relationship – What Can the Therapist Do? The Connection Between Therapist Interpersonal Style and Therapeutic Alliance.**  
Simon Bollmann, Philipps University of Marburg, Germany
- 22 **Assessing Treatment Integrity in Personalized CBT: The Inventory of Therapeutic Interventions and Skills**  
Kaitlyn Boyle, University of Trier, Germany
- 23 **Maintenance (vs. Change) of Negative Expectations Towards Psychotherapy**  
Kristina Braun-Koch, Universität Marburg, Germany
- 24 **Process Cognitive Change in Group CBT for OCD**  
Elena Cabedo, Clinical-University Hospital of Valencia, Spain
- 25 **Personality Characteristics and Psychological and Psychiatric Therapeutic Adherence in Patients with Mental Disorder**  
Àngela Cabestany-Morató, Consorci Sanitari de Terrassa, Spain
- 26 **Validation of the Immersive Virtual Reality System Advanced Therapeutic Tools for Mental Health (ATHENEA): A Pilot Study in a Mexican Sample**  
Georgina Cardenas-Lopez, Universidad Nacional Autonoma de México, Mexico
- 27 **Guided Imagery and Rescripting in Metacognitive Interpersonal Therapy**

- Francesca Cavallo, Centro Terapia Metacognitiva Interpersonale Roma, Italy
- 28 **The Effect of Mindfulness Meditation Based Group Program on Anxiety, Depressive Symptoms, and Positive Psychological Resources in Patients with Anxiety and Depressive Disorders**
- Jeong-Ho Chae, The Catholic University of Korea, South Korea
- 29 **Cognitive Behavioural Therapy Approach for Suicidal Ideation and Behaviour Across Psychiatric Disorders**
- Diya Chatterjee, Indian Institute of Science Education and Research, India
- 30 **A Comparative Study of the Face-to-Face CBT and the Online CBT in Insomnia**
- Shu Chenye, Hohai University, China
- 31 **Preliminary Study of Transdiagnostic Integrative Psychotherapy Based on the Integration of CBT, Schema Therapy and Mindfulness Approaches**
- Younghee Choi, Metta Institute and Inje University, South Korea
- 32 **Understanding Memory-Focused Cognitive-Behavioural Interventions Through a Narrative Identity Perspective**
- Soljana Čili, University of the Arts London, UK
- 33 **The Prevalence and Associated Factors of Depression and Anxiety Among Adolescents Living in Sheltered Homes in Selangor, Malaysia**
- Wai-Eng Ding, Universiti Putra Malaysia, Malaysia
- 34 **Applying Principles of CBT to Internet-Based Modular Self-Help Intervention for Adjustment Disorder: Deconstruction of User Engagement**
- Jonas Eimontas, Vilnius University, Lithuania
- 35 **Factors Affecting the Effectiveness of Metacognitive Therapy**
- Yuma Fujishima, Waseda University, Japan
- 36 **Interactive Imagery, to Comprehend Mental Imagery from the Interaction Among Multiple Sense Modalities**
- Haruna Fukui, University of Tsukuba, Japan
- 37 **“Now I’m Mindfully Driving Through Life” – Croatian Police Officers’ Satisfaction with MBCT Training**
- Dragana Markanović and Branka Bagarić, Croatian Association for Behavioral-Cognitive Therapies, Croatia
- 38 **Does Feedback in Routine Psychotherapy Improve Outcomes? - Preliminary Results of a Doctoral Thesis**
- Sebastian Gmeinwieser, University of Göttingen, Germany
- 39 **ACT Processes in Schema Therapy – Using the Hexaflex to Describe Interactions Between the Schema Modes**
- Johannes Hessler, Schoen Clinic Roseneck, Germany
- 40 **Cognitive Behavioral Therapy Outcome Prediction for Individual Patients Using Routine Data from two Berlin Outpatient Centers Using Machine Learning**
- Kevin Hilbert, Humboldt-Universität zu Berlin, Germany
- 41 **The Relationship Between Self-Discrepancies and Psychological Inflexibility**
- Yorgo Hoebeke, Psychological Sciences Research Institute (IPSY), Belgium
- 42 **Worry About Social and Interpersonal Problems Associated with Motivation for Psychotherapy Among Cancer Patients**
- Kanako Ichikura, Kitasato University, Japan
- 43 **Overuse of Analgesic Medications, Substance Abuse and Somatic Symptom Disorder**
- Damla Isik, Private Practice, Ankara, Turkey
- 44 **Application of Continuum Technique to Modify Core Beliefs**
- Damla ISIK, Private Practice, Ankara, Turkey
- 45 **Effectiveness of Role Lettering for Anger Considering the Differences in the Imaginary Other**
- Tomomi Kanetsuki, Tokyo Denki University, Japan
- 46 **The Relationship Between Disconnection and Rejection Schemas and Loneliness**
- Youngkeun Kim, Inje University, South Korea
- 47 **Clinical and Medico-Economic Assessment of Cognitive Behavioral Group Therapy for Recovery of Self-Esteem**
- Hiroko Kunikata, Kagawa Prefectural University of Health Sciences, Japan
- 48 **A Mobile Game for Improving Psychological Flexibility Skills in Elementary School Children**
- Raimo Lappalainen, University of Jyväskylä, Finland
- 49 **The Biological Mechanism of Cognitive Behavioral Therapy**
- Zhanjiang Li, Beijing Anding Hospital, China
- 50 **Suicidal and Aggressive Ideation Associated with Feelings of Embitterment. Psychopathology**
- Michael Linden, Charité University Medicine Berlin, Germany
- 51 **Sociomedical Interventions and Support of Work Participation in CBT**
- Michael Linden, Charité University Medicine Berlin, Germany
- 52 **Overcoming Academic Procrastination in Teenagers Through CBT vs REBT Group Interventions: A Pilot Study**
- Petra Lohan, Babeş-Bolyai University, Romania
- 53 **A Meta-Analysis to Investigate the Effectiveness of Cognitive-Behavioral Coaching**
- Cristina Lorint, Babeş-Bolyai University, Romania
- 54 **Values in Cognitive-Behavioural Therapy**
- Katarzyna Marchewka, Jagiellonian University, Poland
- 55 **A Case of Maladaptive Daydreaming. Possible Interventions with Behavioral Activation**
- Andrea Astolfo, Red Unitas, Argentina
- 56 **A Comparative Evaluation of a Class Wide Assertion Program for Junior High School Students**
- Risa Matasuo, Okinawa University, Japan
- 57 **Training Therapists to Keep Metaphors in Mind**
- Fiona Mathieson, University of Otago Wellington, New Zealand
- 58 **Effectiveness of Transdiagnostic Group Cognitive Behavioral Therapy for Emotional Disorders Compared with Treatment as Usual in Primary Care. The PsicAP Randomized Controlled Trial**
- Roger Muñoz-Navarro, University of Valencia, Spain
- 59 **Portuguese Version of the Leahy Emotional Schema Scale**
- Ana Nunes da Silva, University of Lisbon, Portugal
- 60 **The Transdiagnostic Model of Low Self-Esteem: Pathway Analysis in a Pilot Randomized Clinical Sample**

- Dóra Perczel-Forintos, Semmelweis University, Hungary
- 61 **Describing Core Emotional Childhood and Adult Needs as ‘Emotional Vitamins’ - The Use of a Medical Metaphor for a Key Concept in CBT and Schema Therapy**  
Florian Ruths, South London and Maudsley NHS Foundation Trust, UK
- 62 **How to Persuade a Patient with Insomnia to Sleep Less. The Therapeutic Process in the Eight-Week Cognitive Behavioural Therapy of Insomnia Programme**  
Joanna Salbert, Institute of Psychiatry and Neurology, Poland
- 63 **Vulnerability-Stress Factors in Psychological Treatment Adherence**  
Marta Sánchez-Jiménez, Consorci Sanitari de Terrassa, Spain
- 64 **Expecting Personal Costs of Changing Oneself – A Good Way to Succeed in Psychotherapy? Answers from a Longitudinal Study**  
Annette Schröder, University of Koblenz-Landau, Germany
- 65 **Computer- and App-Supported Group Therapy – Quo Vadis?**  
Raphael Schuster, University of Salzburg, Austria
- 66 **Examining Cognitive Restructuring Based on the “Total Conviction” Perspective: An Analysis of Interviews with Psychologists Practicing Cognitive Behavior Therapy in Japan**  
Jun Shigematsu, Hiroshima University, Japan
- 67 **The Effect of a Coping Repertoire, Appraisal of Coping Acceptability in the Workplace Context, and Self-Compassion on Stress Response and Job Performance of Employees**  
Hironori Shimada, Waseda University, Japan
- 68 **A Meta-Analysis of Therapeutic Alliance and Treatment Outcome in Distance-Delivered Cognitive Behavioural Therapies**  
Iris Sijercic, Ryerson University, Canada
- 69 **A Qualitative Study on Cultural Adaptation in the Application of Cognitive Behavior Therapy in China**  
Hongyan Song, Beijing Anding Hospital, China
- 70 **A Pilot Study of Internet-Based Loving-Kindness Meditation for Japanese College Students**  
Daichi Sugawara, University of Tsukuba, Japan
- 71 **Self-Compassion and “Amae”: Differences in Influences on Over-Adaptation**  
Haruka Tani, Osaka University, Japan
- 72 **Pilot Program for the Enhancement of Emotion Regulation in Children and Adolescents**  
Christiana Theodorou, University of Cyprus, Cyprus
- 73 **Resilience in Cognitive Behavioral Therapy: A Review**  
Evdoxia Tsigkaropoulou, Hellenic Society of Cognitive Psychotherapies (H.S.C.P.), Greece
- 74 **Do Words Matter? Exploring the Effect of Safety Behaviour Beliefs on Exposure Credibility, Expectancy, and Acceptability**  
Jessica S. Tutino, University of Ottawa, Canada
- 75 **The Effect of Psychological Mediators on Cognitive Behavioral Therapy for Insomnia (CBT-I): A Review**  
Ayaka Ubara, Doshisha University, Japan
- 76 **Do Cognitive Behavior Therapy-Type Stress Management Techniques Improve Workers’ Productivity?: A Study Using Meta-Analysis**  
Ai Ueda, Waseda University, Japan
- 77 **Prevention of Mental Disorders at the Workplace: A Meta-Analysis of Mindfulness-Based Interventions on Health Related Outcomes at the Work**  
Ruben Vonderlin, Central Institute of Mental Health, Germany
- 78 **Examining Changes in Cognitions and Coping Skills in an Integrated Cognitive Behaviour Therapy (CBT) Treatment Program for Co-Occurring Depression and Substance Misuse in Young People**  
Zoe Walter, The University of Queensland, Australia
- 79 **Cognitive-Behavioral Therapy for Cancer-related Fatigue in Cancer Survivors: a Case-Report**  
Eun-Seung Yu, National Cancer Center, South Korea
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## **Poster Session 5: German Language, Intellectual & Developmental Disabilities, Therapeutic Processes, and Training & Supervision**

### **German Language**

#### **Deutschsprachige Übersetzung und psychometrische Evaluation der Feedback on Physical Appearance Scale (FOPAS) an einer Stichprobe aus jugendlichen Patientinnen mit Essstörungen**

**Hannah L. Quittkat, Anika Bauer, Manuel Waldorf & Silja Vocks, Universität Osnabrück, Deutschland**

##### **Einleitung**

Körperbildstörungen sind ein relevanter Risikofaktor für die Entstehung und Aufrechterhaltung von Essstörungen und der Körperdysmorphen Störung. Sie werden als ein multidimensionales Konstrukt definiert, in dem Körperunzufriedenheit das kognitiv-affektive Kernmerkmal darstellt. Studien konnten zeigen, dass erhöhte Körperunzufriedenheit positiv mit der Frequenz und dem Ausmaß an negativem körperbezogenem Feedback, z.B. in Form von Teasing (Hänseleien), assoziiert ist. Das Tripartite Influence Model of Body Image and Body Disturbance beschreibt die Zusammenhänge zwischen Körperunzufriedenheit und dem Einfluss der Eltern, der Peers sowie der Medien. Befunde weisen auf einen Zusammenhang zwischen körperbezogenem Feedback von Eltern und Peers auf die Körperunzufriedenheit hin. So sind gewichtsbezogene Kommentare durch Mütter bei Mädchen mit dem Versuch verbunden abzunehmen, aussehensbezogene Kritik der Peers stellt bei Jugendlichen einen signifikanten Prädiktor von Körperunzufriedenheit dar.

##### **Methode**

Im deutschsprachigen Raum existieren nur wenige Instrumente zur Erfassung des körperbezogenen Feedbacks. Die Feedback on Physical Appearance Scale (FOPAS) erfasst als einziger Fragebogen mithilfe von 8 Items quantitativ verbales und nonverbales körperbezogenes Feedback. Allerdings wurde die FOPAS bisher nur an einer gesunden englischsprachigen Erwachsenenstichprobe überprüft; Studien zu klinischen Populationen oder Jugendlichen liegen nicht vor. Das Ziel dieser Studie war daher die psychometrische Überprüfung einer deutschsprachigen Version der FOPAS an einer klinischen Jugendlichen-, einer gesunden Jugendlichen- und einer gesunden Erwachsenenstichprobe.

##### **Ergebnisse**

Es wurden insgesamt N = 356 weibliche Jugendliche und Frauen untersucht, davon n = 88 Jugendliche mit Essstörungen, n = 140 Jugendliche ohne Essstörungen und n = 128 Frauen ohne Essstörungen. Konfirmatorische Faktorenanalysen zeigen einen annähernd akzeptablen Fit der eindimensionalen Struktur aus der englischsprachigen Originalstudie. Die interne Konsistenz war für alle Subgruppen akzeptabel; die Test-Retest-Reliabilität lag im guten Bereich. Der FOPAS wies eine hohe Differenzierungsfähigkeit zwischen Jugendlichen mit und ohne Essstörung sowie eine gute konvergente Validität zu den essstörungsspezifischen Fragebögen Eating Disorder Examination-Questionnaire und dem Eating Disorder Inventory 2 auf.

##### **Diskussion**

Die deutschsprachige FOPAS eignet sich somit als Instrument zur Erfassung von körperbezogenem Feedback und kann daher für den Einsatz in Forschung und Praxis empfohlen werden.

### **Agilität in der Kognitiven Verhaltenstherapie**

**Wolf-Ulrich Scholz, Goethe-Universität, Deutschland**

##### **Einleitung**

Agilität ist bisher in der Kognitiven Verhaltenstherapie noch nicht als Desiderat behandelt worden, obwohl Flexibilität von PatientInnen sich bereits mehrfach als entscheidend für die therapeutische Verbesserung gegenüber ihren Problemen erwiesen hat und Agilität in den letzten Jahren in zahlreichen Gebieten - ausgehend zunächst von der Software-Entwicklung - mit Nutzen verfolgt wurde.

##### **Methode**

Die Möglichkeiten für agiles Verhalten der TherapeutInnen in der Kognitiven Verhaltenstherapie werden in Abhängigkeit von der Verwendung von Phasen-Modellen gegenüber Feld-Modellen der relevanten psychischen Prozesse untersucht. Konkret an den Beispielen des (rational-erotischen) ABC-Modells und des PHOEBOS-Feld-Modells sowie des frühen 6-Phasen-Modells von ACT und des Hexagon-Feldmodells von ACT.

##### **Ergebnisse**

Die Feld-Modelle erlauben ein flexibleres therapeutisches Vorgehen, wie es für ein agiles Handeln in der Therapie zur Nutzung und Herbeiführung von "Kairos" im Sinne therapeutischer Veränderungen erforderlich ist.

##### **Diskussion**

Die Verwendung von Feld-Modellen statt Phasen-Modellen erleichtert zwar die Möglichkeiten agilen therapeutischen Handelns in der Kognitiven Verhaltenstherapie, kann solche jedoch allein nicht garantieren. Die Möglichkeiten eines ergänzenden Trainings von "Mindfulness" vor allem im Sinne von Ellen Langer könnten weiterhelfen.

### **Biofeedback und Neurofeedback bei depressiven Störungen – ein Update**

**Carmen Uhlmann, Zentrum für Psychiatrie Weissenau und Universität Ulm, Deutschland**

##### **Einleitung**

Biofeedback-Methoden gelten als relativ nebenwirkungsfreie zusätzliche Therapieoptionen bei psychischen Störungen. Bei Depressionen sollten Biofeedback-Ansätze zum einen durch spezifische Wirkmechanismen, zum anderen aber auch durch die Vermittlung von Kontrolle und Selbstwirksamkeit zu einer Verbesserung der Symptomatik beitragen können. In mehreren Studien wurden bei depressiver Symptomatik die Beeinflussung des Vagusnervs über den Parameter Herzratenvariabilität (HRV) sowie die Veränderung bestimmter EEG-Frequenzen über spezifischen Hirnregionen als wirksame Mechanismen angenommen. In einem ersten Review wurden für beide Biofeedback-Parameter mehrere Studien gefunden, die gute Ergebnisse erzielen konnten, wobei die Studienqualität meist eher gering war. Ziel der hier dargestellten Untersuchung ist es, diese Einschätzung zu überprüfen, indem inzwischen neu publizierte Studien über Biofeedback-Behandlung bei Depression in das Review mit eingeschlossen und deren Wirksamkeit dargestellt werden.

##### **Methode**

Die relevanten Studien wurden bis November 2018 über eine selektive Literatursuche in den Datenbanken PubMed und CINAHL identifiziert. Als Suchbegriffe wurden für Intervention „Biofeedback“ bzw. „Neurofeedback“ definiert, für die Population „Depression“. Des

Weiteren wurden die Literaturangaben der gefundenen Veröffentlichungen per Handsuche nach weiteren Artikeln durchsucht. Es wurden Studien in deutscher oder englischer Sprache eingeschlossen, bei denen die depressive Symptomatik das primary outcome war. Ausgeschlossen wurden Einzelfallstudien, Untersuchungen mit nur einer einzelnen Feedback-Sitzung, Real time fMRI-Feedback-Studien sowie pädiatrische Studien.

#### **Ergebnisse**

Insgesamt wurden nach Durchsicht 12 Studien in das Update aufgenommen, davon 8 für Biofeedback der Herzratenvariabilität und 4 für Neurofeedback. Die Effektstärken nach Cohen über alle 12 Studien für den Prä-post-Vergleich lagen bei Selbst-Ratings der Patient+Innen in einer sehr weiten Range zwischen  $d=0,31$  und  $d=3,47$ . Bei Kontrollgruppen-Designs ( $n=7$  Studien) lagen bei Selbst-Ratings die Effektstärken mit einer Range zwischen  $d=-0,77$  und  $d=2,38$ . Die Qualität der eingeschlossenen Studien war insgesamt nicht besonders hoch. So waren die Fallzahlen mit ungefähr  $n=10$  Teilnehmer\*innen meist gering. Die Objektivität bzw. Verblindung der Versuchsleitung wurde häufig in den Publikationen nicht dargestellt, ebenso wenig die Art der Rekrutierung, die Fallzahlkalkulation, Details der Randomisierung oder intent-to-treat-Analysen bzw. Berichte über Abbruchsquoten

#### **Diskussion**

Die Ergebnisse legen nahe, dass die Wirksamkeit von Biofeedback und Neurofeedback bei Depression gegeben ist. Obwohl die Studienqualität insgesamt eher gering war, sollten die positiven Ergebnisse zur Kenntnis genommen werden. Immerhin waren von den 12 eingeschlossenen Studien 6 randomisiert kontrollierte Studien, nur 4 Studien waren single group trials. Das Verfahren ist außerdem nebenwirkungsarm, so dass es als Zusatzverfahren in der Depressionsbehandlung aufgrund der multiplen Wirksamkeitsoptionen (spezifischer Faktor durch den rückgemeldeten Parameter, allgemeine Entspannungskomponenten sowie kognitive Effekte wie Erwartungsfaktoren, Selbstwirksamkeit bzw. Kontrollüberzeugung) zu empfehlen ist.

### **2008-2018: Wirksamkeit von Therapien und Patientenzufriedenheit mit Psychotherapeuten in Ausbildung (PiA)**

**Ilka Vasterling, TU Braunschweig, Deutschland**

#### **Einleitung**

An der Psychotherapieambulanz der TU Braunschweig (PTA) werden psychologische Psychotherapeuten im universitären Kontext in Verhaltenstherapie ausgebildet. Im Rahmen der Ausbildung führen die PiAs mindestens 600 Stunden ambulante Psychotherapie durch. Dabei werden sie von erfahrenen Kollegen supervidiert.

#### **Methode**

Seit über 10 Jahren erhebt die PTA die Wirksamkeit dieser Ausbildungstherapien über standardisierte Fragebögen (Symptom-Checkliste SCL-90-R, Beck-Depressions-Inventar BDI, Fragebogen zur Lebenszufriedenheit FLZ). Auch die individuelle Zufriedenheit der Patienten mit den Therapeuten, der gesamten Leistung der PTA und ob die Patienten die PTA weiterempfehlen würden wird jährlich anonym erfasst. In dieser Studie werden die Daten aus 11 Jahren (2008-2018) zusammengefasst.

#### **Ergebnisse**

Für die Wirksamkeit der Therapien wurden die Effektstärken der Prä- und Postmessungen der verschiedenen Fragebögen bestimmt. Die Ergebnisse zeigen, dass die Effektstärken über die Jahre weitgehend stabil im mittleren bis hohen Bereich (Cohens  $d$  zwischen 0,6 und 1,52) geblieben sind. Auch bei der Patientenbefragung ( $n=2230$ ) finden sich stabile Befragungsergebnisse über die gesamte Zeit. Die therapeutische Leistung wird mit einer gemittelten Schulnote von 1,66 also im guten bis sehr guten Bereich bewertet. Ähnliches gilt für die Note der Leistungen der PTA insgesamt (1,72), die neben der therapeutischen Leistung auch noch den Service des Sekretariats, die Räumlichkeiten und ähnliches beinhaltet. 92,5% der Patienten würden die PTA uneingeschränkt weiterempfehlen.

#### **Diskussion**

Die Ergebnisse zeigen, dass die therapeutische Arbeit der PiAs beständig eine hohe Wirksamkeit beibehalten hat. Die hohe Patientenzufriedenheit zeigt, dass die Behandlung neben der rein statistischen Messbarkeit positiv wahrgenommen wird.

### **Stationäre Intensivtherapie bei Zwangsstörungen: Vorstellung eines Behandlungskonzeptes und dessen Effektivität**

**Thorsten Zeidler, Luisa Zimmermann, Benedikt Klauke & Andreas Pelzer, Christoph-Dornier-Klinik für Psychotherapie, Deutschland**

#### **Einleitung**

Obwohl die S3-Leitlinien für Zwangsstörungen die störungsspezifische kognitive Verhaltenstherapie (KVT) einschließlich Exposition und Reaktionsmanagement als Psychotherapie der ersten Wahl empfehlen, kommt in der Routineversorgung Expositionstherapie nicht ausreichend zum Einsatz. Über 50% der Psychotherapeuten nutzen Expositionstherapie nie. Selbst unter Verhaltenstherapeuten findet der Einsatz häufig nur selten oder ebenfalls nie statt. Expositionen erfolgen wenn häufig ausschließlich im Behandlungsraum und über kurze Dauer sowie mit niedriger Frequenz. Als Gründe hierfür werden organisatorische Schwierigkeiten, finanzielle Aspekte, das begrenzte Stundenkontingent, Mangel an Motivation bei Patienten sowie Angst vor Nebenwirkungen auf Seiten der Therapeuten aufgeführt (Vorderholzer et al., 2011; Pittig & Hoyer, 2017; Moritz et al., 2019).

#### **Methode**

Die Christoph-Dornier-Klinik bietet eine stationäre störungsspezifische kognitive Verhaltenstherapie von Zwangserkrankungen an. Einen zentralen Baustein der Behandlung bildet die intensive Expositionstherapie. Während der Expositionsphase finden Übungen mehrmals über mehrere Stunden pro Woche statt. Expositionen erfolgen zunächst therapeutisch begleitet und - wenn notwendig - „Vor-Ort“, bspw. am Wohnort des Patienten. Weiterhin ergänzen Methoden der motivationalen Klärung, (meta-) kognitive Therapie und sonstige Techniken der sog. 3. Welle der Verhaltenstherapie das Behandlungskonzept. Die Effektivität der Behandlung wird während der Behandlung sowie in regelmäßigen Katamnese-Messungen anhand der Yale-Brown Obsessive Compulsive Scale (Y-BOCS) überprüft. Das Behandlungskonzept, dessen Effektivität und ein Patientenbeispiel werden präsentiert.

#### **Ergebnisse**

In den durchgeführten Katamnese-Untersuchungen (Aufnahme, Entlassung, 6 Wochen Follow-up) im Zeitraum 2011-2019 zeigt sich eine hoch signifikante Reduktion der Häufigkeit des Vorkommens von Denk- und Handlungszwängen als auch insgesamt des Schweregrades der Zwänge (globale Beeinträchtigung durch die Zwangserkrankung) während der stationären Behandlung sowie über die Zeit danach.

#### **Diskussion**

Patient\*innen, die an einer Zwangserkrankung leiden, können von dem intensivtherapeutischen und individuell angepassten Behandlungskonzept der Christoph-Dornier-Klinik gut und langfristig profitieren. Es zeigt sich, dass eine leitlinienorientierte stationäre Psychotherapie von Zwangsstörungen möglich und hoch effektiv ist.

## **Schützt die islamische Körperbedeckung muslimische Frauen vor dem negativen Effekt von Schlankheit betonenden Bildern auf das Körperbild?**

**Leonie Wilhelm, Andrea S. Hartmann, Julia C. Becker, Melahat Kişi, Manuel Waldorf & Silja Vocks, Osnabrück University, Germany**

### **Einleitung**

Die ständige Konfrontation mit Schlankheit betonenden Medien wie Fotos oder Videos von dünnen Fotomodells, wird als auslösender und aufrechterhaltender Faktor für ein negatives Körperbild diskutiert. Auch die Verbreitung von Essstörungen, vor allem unter jungen Frauen, wird mit dem Konsum solcher Medien in Verbindung gebracht. Nach einer Exposition gegenüber Schlankheit betonenden Medien, zeigt sich bei vielen Frauen ein negativeres State-Körperbild. Es gibt jedoch Hinweise darauf, dass Religiosität sowie das Praktizieren der islamischen Körperbedeckung als Schutzfaktoren gegen ein negatives Trait-Körperbild wirken können. Daher stellt sich die Frage, ob das Tragen der islamischen Körperbedeckung auch den häufig nachgewiesenen negativen Medieneffekt auf das State-Körperbild abschwächt. Die vorliegende Studie untersuchte diese Fragestellung mithilfe in Deutschland lebender muslimischer Frauen, die die islamische Körperbedeckung praktizieren.

### **Methode**

Vor dem Experiment im Labor beantworteten muslimische Frauen ( $n = 67$ ) sowie zwei Kontrollgruppen aus christlichen ( $n = 90$ ) und atheistischen Frauen ( $n = 74$ ) online Fragebögen zum Trait-Körperbild. Am Tag des Experiments wurden zunächst das State-Körperbild und der Affekt der Teilnehmerinnen erfasst, bevor ihnen anschließend entweder Bilder von Fotomodells (Experimentalbedingung) oder Möbeln (Kontrollbedingung) präsentiert wurden. Abschließend wurden erneut das State-Körperbild sowie der Affekt erhoben.

### **Ergebnisse**

Die Interaktion der Faktoren Zeit und Bedingung wurde signifikant, d.h. während das State-Körperbild der Kontrollgruppe konstant blieb, verschlechterte sich das der Experimentalbedingung. Die Dreifach-Interaktion mit den Faktoren Zeit, Bedingung und Gruppe wurde jedoch nicht signifikant. Demnach unterschieden sich die Auswirkungen der Konfrontation gegenüber den Schlankheit betonenden Medien auf das State-Körperbild nicht zwischen den muslimischen, christlichen und atheistischen Frauen. Allerdings berichteten die muslimischen Frauen ein positiveres Trait-Körperbild als die christlichen und atheistischen Frauen.

### **Diskussion**

Im Einklang mit bisherigen Befunden, legen die Ergebnisse dieser Studie positive Zusammenhänge zwischen der islamischen Körperbedeckung und dem Trait-Körperbild nahe. Da die Exposition gegenüber Schlankheit betonenden Medien jedoch einen negativen Effekt auf das State-Körperbild der Teilnehmerinnen hatte und die islamische Körperbedeckung nicht gegen diesen negativen Medieneffekt zu schützen scheint, sollten zukünftige Studien untersuchen, auf welche vermittelnden Mechanismen der replizierte querschnittliche Zusammenhang zwischen Körperbedeckung und einem positiveren Körperbild zurückzuführen ist. Zudem sollten weiterführende Studien auch muslimische Frauen, die die islamische Körperbedeckung nicht praktizieren, als Kontrollgruppe einschließen, was in der aktuellen Studie nicht der Fall war.

## **Intellectual & Developmental Disabilities**

### **Cognitive Flexibility and Perfectionism**

**Justine Bordeleau & Frédéric Langlois, Université du Québec à Trois-Rivières, Canada**

#### **Introduction**

A hypothesis in literature suggests that perfectionism could be associated to a lack of cognitive flexibility (Cox & al., 2002). This executive function is defined by the capacity to adapt responses with fluctuating demands of the environment (Friederich & Herzog, 2010). The possible link between perfectionism and flexibility is not studied much, even less with objective measures of cognitive flexibility. The aim of the present study is to measure relations between perfectionism and flexibility using objective and subjective measures of this construct. Perfectionism is assessed with the two factors theory of Gaudreau & Thompson, 2010: personal standards perfectionism and self-critical perfectionism.

#### **Method**

Participants were recruited at the Université du Québec à Trois-Rivières ( $n=60$ , mean age= 31,88 years, SD = 13,32). They completed French versions of subjective flexibility measures (Acceptation and Action Questionnaire, AAQ; Cognitive Flexibility Inventory, CFI; Multidimensional Psychological Flexibility Inventory, MPFI) and they completed the perfectionism questionnaire revised (QP-R). Participants also completed the Wisconsin Card Sorting Test as the objective measure of flexibility.

#### **Results**

Personal standards perfectionism and self-critical perfectionism were strongly linked. Partial correlations have been produced to control this association. Results show that personal standards perfectionism is positively linked with the AAQ questionnaire ( $r=0,409$ ,  $p=0,003$ ), the CFI ( $r=0,413$ ,  $p=0,003$ ) and the MPFI ( $r=0,455$ ,  $p=0,000$ ). Self-critical perfectionism is negatively linked with the AAQ questionnaire ( $r= -0,632$ ,  $p=0,000$ ) and the MPFI ( $r= -0,415$ ,  $p=0,003$ ). Objective flexibility (neuropsychological task) was not significantly related to perfectionism, but some tendencies arise. It is possible to notice that Perseverative errors (the incapacity to change behavior when it is not adapted to the environment anymore) reach to be positively associated with self-critical perfectionism and negatively linked with personal standards perfectionism. The Learning to Learn indices (increase of efficacy during test) tend to be positively associated with personal standards perfectionism and negatively linked with self-critical perfectionism.

#### **Discussion**

The aim of this study was to use subjective and objective measures of cognitive flexibility to notice relations between this construct and factors of perfectionism. The subjective measures were associated as expected with perfectionism but the objective measures were not. Thus, perfectionism does not seem to be strongly linked with an objective measure of cognitive flexibility in the neuropsychological conceptualization of executive functioning. The task may be less emotionally charged of preoccupations than daily life problems where judgment of others and self-esteem are implicated. Nevertheless, some tendencies have been identified; this could show the necessity to replicate the study with a wider sample.

## **Development of Behavior Record Application, “Observations,” for Behavior Problems**

**Masahiko Inoue & Keita Nakatani, Tottori University, Japan**

### **Introduction**

Evidence for a functional analysis approach on problem behaviors for people with autism spectrum disorders (ASD) or intellectual disorders has been shown in many studies. In recent years, these interventions have been increasingly implemented in communities such as homes, schools, and facilities. This type of intervention includes difficulties of data collection and evaluation by non-experts, parents, or teachers. This study aimed to develop an application to assist non-experts in recording behavior in daily settings.

### **Method**

This application can be downloaded for two OS versions of Androids and iOS. The application works by setting a target behavior, observation time, and so on, and by categorizing the behaviors according to observations. Data are converted to graphs with one tap for a convenient analysis. The entered data are stored and accumulated in each device and can be sent in .csv format as required, so that editing, processing, and analysis can be performed on a personal computer. We analyzed two types of cases to investigate the characteristics and issues that occurred when the application was operated by non-developer users. One was cases where ASD adolescent children and their parents recorded adaptive behaviors at home, and the other was when multiple staff members recorded challenging behaviors at welfare offices.

### **Results**

In the case of the home setting, we sent data by e-mail eight times every two months (to four children and four mothers). For sent records, throughout the period was entered in all time units. Semi-structured interviews with the children and their mothers gave us a good sense of the emotions and demands that were associated with the application.

In the case of the welfare office, eight staff members recorded data in the application form, and 39 staff members recorded data on paper. The staff recorded by the application was entered into this application after each staff recorded it once on a paper-based recording paper.

### **Discussion**

This application has independent data management functions for each installed device, and there is no function that allows for the aggregation or synchronization of data that have been input from multiple devices. For this reason, in welfare facilities, multiple staff members involved with a single patient need to use one device. Marcu et al. (2013) point out the superiority of technology as a recording method because of the ease of sharing, utilization, and dissemination of information. For staff who choose to record within the application, there is an advantage in that it can automatically graph and share information after it has been input, but the difficulty of cooperative input is considered to be a big problem. Many Japanese welfare offices do not have rules about the management of records using mobile devices. In order to encourage the spread of the utilization of this application in schools and facilities, it will be necessary to propose rules for appropriate information manage

## **Metacognitive Training for Students with High Autistic Tendencies in a Vocational College: A Preliminary Study**

**Yukiko Maeda & Hiroshi Sato, Kwansai Gakuin University, Japan**

### **Introduction**

Impaired social functioning is considered the core deficit of autism spectrum disorder (ASD). Thus, people with ASD need interventions that target social functioning. Metacognitive training (MCT) is an intervention developed for patients with schizophrenia (Moritz & Woodward, 2007). Both people with schizophrenia and people with ASD exhibit pronounced social cognitive deficits (Couture et al., 2005). Because of this commonality, MCT is adaptable to people with ASD (Goodman et al., 2017). The aim of this study was to examine the feasibility of MCT in students with high autistic tendencies compared with those with low autistic tendencies.

### **Method**

One-hundred and sixty-one students participated in this preliminary study of MCT. The students were divided into two groups: the MCT group and the no training control group. The MCT group was further divided into two groups: the high-autistic tendencies (ASD-H) group and the low-autistic tendencies (ASD-L) group. The no training control group was also divided in a similar manner. The MCT intervention was delivered in six sessions. To evaluate the MCT program, we used the Autism-Spectrum Quotient (AQ), ENDCOREs Scale, and Adults' Metacognition Scale. These questionnaires were administered pre-and post-MCT and at follow-up.

### **Results**

To evaluate treatment effects in each group, the variation between pretreatment and posttreatment, and the variation between pretreatment and follow-up were analyzed. In pretreatment and follow-up comparisons for ASD-H, there was improvement in ENDCOREs score in the MCT group ( $t(19) = 1.92, p < .10$ ), and no significant changes were found for AQ or metacognition. In pretreatment and posttreatment comparisons for ASD-L, there was significant improvement in metacognition in the MCT group ( $t(138) = 3.37, p < .01$ ); however, no significant changes were found in AQ or ENDCOREs score.

### **Discussion**

In pretreatment and follow-up comparisons for ASD-H, the MCT group showed significant improvement in communication skills, whereas there was no change in pretreatment and posttreatment comparisons for ASD-H. Thus, it can be interpreted that it takes a certain amount of time to observe the effect of MCT on communication skills. Also, this study found that MCT was effective for enhancing metacognition in people with ASD-L. These results support the efficacy of the intervention for students with both high and low autistic tendencies.

## **Keep Safe: A CBT Based Intervention for Young People with Intellectual and Developmental Disabilities**

**Aida Malovic, Canterbury Christ Church University, United Kingdom**

**Glynis Murphy & Rowena Rossiter, Tizard Centre, United Kingdom**

### **Introduction**

Children and young people with intellectual disabilities and developmental disabilities (IDD) are over-represented as both “perpetrators” and victims of harmful sexual behaviours (HSB) and/or sexual abuse, of which 25% - 35% is carried out by under 18 year olds (Hackett, Phillips, Masson, & Balfe, 2013). UK national reports have highlighted the need for the development of specialist programmes as there is a lack of evidence or practice-based interventions (Garrett, Doherty, & Hann, 2017).

### **Method**

This study focuses on the development and feasibility trial of Keep Safe, a manualised CBT group intervention for adolescents with IDD who display HSB (Malovic, Rossiter, & Murphy, 2018). An expert-consensus methodology based on the Delphi method was used. The

iterative process for the manual draws on the slim practice-based evidence from UK, North America and Australasia. Keep Safe can be delivered in either community, residential or secure settings. It comprises six modules distributed through 36 term-time young people's sessions, alongside 18 concurrent parental/ carer sessions (some joint).

### **Results**

Four initial sites volunteered as feasibility leads, and 2 more were added as recruitment was more difficult than foreseen. Although the number of participants in Keep Safe was smaller than anticipated, there were improvements in their sexual knowledge and attitudes, also fewer harmful sexual behaviours amongst the young people who completed the programme were recorded.

### **Discussion**

Feedback from young people, parents/carers and cofacilitators was positive. The main focus of Keep Safe is to enhance well-being and reduce harm. It appeared successful in the feasibility study and a larger trial is needed. Training in delivering the Keep Safe programme is now available through the ySOTSEC-ID collaborative. Implications for specialist provision, public health and safeguarding, along with lessons learned on effective ways of adapting CBT for this complex population, are discussed.

## **Efficacy of Group Cognitive Behavior Therapy Targeting Time Management for Adult with Attention Deficit / Hyperactivity Disorder: A Randomized Control Trial.**

**Misuzu Nakashima, National Hospital Organization Hizen Psychiatric Center, Japan**

**Naoko Inada, Teikyo University, Japan**

**Hiroyuki Yano & Hironori Kuga, Kyushu University, Japan**

**Naoya Oribe & Takefumi Ueno, National Hospital Organization Hizen Psychiatric Center, Japan**

**Toshihide Kuroki, Kyushu University, Japan**

### **Introduction**

As for treatment for adult attention deficit and hyperactivity disorders (ADHD) patient, multimodal treatment is recommended by several international treatment guidelines. Among them, group cognitive behavioral therapy (gCBT) has been reported to be preferable from a view point of cost effectiveness. However, relatively high dropout rate (up to 25%) has been one of the technical issues, which could have limited the efficacy of gCBT. It is, at least in part, because participants have to practice several skills, which inevitably requires many sessions (12.2 sessions in average). Objective of this study was to test the therapeutic effect and dropout rate of the program which we newly developed, focusing on single skill; time management, conducted as gCBT for adult ADHD.

### **Method**

A randomized controlled trial was conducted. A total of 48 participants with DSM-IV diagnosis of ADHD were randomly and equally assigned to gCBT (120 minutes/8 sessions/once a week ) or treat as usual(TAU) group (6 male and 42 female, respectively). Mean age at baseline was 39.7 years (gCBT) and 38.5 years (TAU). Inattentive/memory problem (CAARS self-reported and family-reported version), masked clinical evaluation (CGI-S) and functional impairment (SDS) were assessed after intervention, as well as 2 months and 6 months after intervention.

### **Results**

There were no significant differences in demographic characteristics and outcome score between groups. The drop-out rate was 4.16% in gCBT group. Participants attended average 7.58 sessions (SD = 1.10). gCBT group showed a significantly reduced scores on CAARS-Self reported-inattentive / memory problem ( $t=33.51$ ,  $p<0.05$ ), the effect size was 0.64 (95% CI: -0.18 to 1.45) ( $F(1, 38)=5.877$ ,  $p=.020$ ) ( $F(1, 41)=11.287$ ,  $p=.002$ ) at the post intervention, 0.84 (95% CI: 0.40 to 1.70) ( $F(1, 39)=8.838$ ,  $p=.005$ ) at the 2-month follow-up and 0.95 (95% CI: -0.53 to 1.86) ( $F(1, 39)=8.838$ ,  $p=.005$ ) at the 6-month follow-up. The CAARS-family reported- inattentive / memory problem score ( $t=17.01$ ,  $p<0.05$ ) ( $d=0.30$ , 95% CI: -0.32 to 0.92), CGI-S ( $t=20.86$ ,  $p<0.01$ ) ( $d=2.57$ , 95% CI: 1.72 to 3.40) and Sheehan disability scale ( $t=12.67$ ,  $p<0.01$ ) ( $d=1.06$ , 95% CI: 0.39 to 1.71) were also significantly reduced in gCBT relative to TAU group.

### **Discussion**

The low rate of dropout in the current study could attribute to the feature of our program where we focused only on time management, which should have lessened the burden of participants. Importantly, nonetheless the simple feature of our program, the efficacy on ADHD symptoms was still comparable to those from previous studies. The further studies need to compare single-technique interventions with regular multimodal group cognitive behavioral therapies using a cost-effectiveness analysis.

## **The Effect of Behavioral Activation and Power-Assisted Wheelchair on Wheelchair-Using Children with Limited Mobility: A Randomized Comparative Trial**

**Jong-Woo Suh, Eun-Byeol Lee, Yeo-Ul Han, Min-Goo Lee & Kee-Hong Choi, Korea University, South Korea**

### **Introduction**

Self-produced locomotion in children plays an important role in cognitive and psychosocial development (Tefft, Guerette, & Furumasa, 1999). Despite the importance of independent mobility in children, self-produced mobility, even with the aid of manual wheelchairs, is often limited in children who suffer from conditions such as cerebral palsy or spinal muscular atrophy that severely impair motor movements of the patients. To address this issue, the current study investigated whether the installment of power-assisted devices (PAD) on manual wheelchairs would have a positive effect on the distance traveled and the psychosocial as well as daily functioning of the children who were limited in self-produced mobility. Furthermore, the current study aimed to examine whether the administration of behavioral activation (BA) program, in tandem with PAD, would produce additional benefits.

### **Method**

Forty participants, who were between the age of 7 and 13 and were using a form of non-powered wheelchair device as a transportation, were selected and randomized into two groups for the randomized comparative trial process: 1) PAD only group, 2) PAD+BA group. Children assigned to the PAD+BA group received 4 weekly BA sessions in addition to the installment of PAD. Children were assessed at three different time periods (i.e., pre-treatment, 4 weeks, and 8 weeks). For measuring level of psychosocial and daily functioning of the children, the Leahy Emotional Schema Scale (LESS; Suh et al., 2018), the Behavioral Activation for Depression Scale (BADSD; Kanter, Rusch, Busch, & Sedivy, 2009), the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0; Üstün et al., 2010), the Children's Depression Inventory (CDI; Kovacs, 1982) were utilized. For measuring the distance traveled by the children, digital odometers were installed on the wheel of the children's wheelchairs.

## Results

There were significant group (i.e., PAD only vs. PAD+BA) by time (i.e., pre-treatment, 4 weeks, and 8 weeks) interactions in the BADS score ( $t = 2.05$ ,  $p = .048$ ) and the WHODAS score ( $t = -2.21$ ,  $p = .0336$ ), indicating that PAD+BA group showed greater improvements in the level of activation and the degree of difficulties experienced in daily life. For the PDA only group, there was a statistically significant decrease from pre-treatment to 8 weeks (12.316 to 7.368;  $F = 6.473$ ,  $p = .008$ ) in the CDI score. For the PAD+BA group, there were statistically significant changes from pre-treatment to 8 weeks in the CDI score (8.4 to 2.526;  $F = 5.707$ ,  $p = .013$ ), the BADS score (100.35 to 118.158;  $F = 10.194$ ,  $p = .001$ ), and the WHODAS score (20.6 to 14.632;  $F = 5.547$ ,  $p = .014$ ). For both groups, there was a statistically significant increase in the distance traveled (33.722 km to 60.156 km;  $F = 10.971$ ,  $p = .002$ ) from 4 weeks to 8 weeks.

## Discussion

The result of the current study suggests that, while the provision of power-assisted devices alone appears to increase mobility and decrease symptoms of depression of the children, further benefits, such as enhanced level of activation and decreased difficulties experienced in daily life, could be obtained by implementing behavioral activation program along with power-assisted devices to children with limited mobility. Further implications and limitations will be discussed.

## Therapeutic Processes

### Effects of Self-Instructional Training Focused Anger Arousal

Tomonori Abe, University of Tsukuba, Japan

Azumi Nakai, Meiji Gakuin University, Japan

Nedate Kaneo, Waseda University, Japan

#### Introduction

Self-instructional training (SIT) is one technique in cognitive behavioral therapy, where problems are resolved by reciting to oneself how to deal with that problem. It is a simple technique that can even be used in the home. SIT has been shown to have a certain level of effectiveness for anger (e. g., Mark & Jagdish, 1999). However, in SIT research to date, instructional phrases have been prepared in advance by those performing an experiment. In addition, there is much room to consider indicators of effect. In this study, traditional SIT was improved upon and its effect examined. The main improvements were in the following two areas. (1) Using interviews, cognition for lowering the ease with which anger is aroused was specified, and instructional phrases were created based on that cognition. (2) In order to clarify the focus of intervention, the "ease of anger arousal," which tends to be a result of the interaction between individual characteristics and environment, was made into an indicator of effect.

#### Method

##### Study 1

Eleven individuals (three men and eight women, with average age of 19.73,  $SD=1.19$ ) with average levels of anger arousal (Watanabe and Kodama, 2001) were interviewed. In the interviews, the subjects were asked to imagine a situation in which they felt anger, and then asked about what thoughts came to mind in the midst of their anger.

##### Study 2

A group of ten university students (seven males, three females, average age of 21.80,  $SD=2.10$ ) with an ease of anger arousal at least one standard deviation higher than average were used as an experimental group, and nine individuals (four males, five females, average age of 21.00,  $SD=3.24$ ) were selected at random for a control group. The experimental group performed SIT using a total of six emails over a two-week period. SIT brought to mind the circumstances that caused anger, and members of the group recited to themselves the instructional phrases.

#### Results

##### Study 1

24 cognitive items that could power the ease of anger arousal were extracted from the interviews. A cognition questionnaire was made from these items, and a survey conducted. As a result of the factor analysis and covariance structure analysis, six instructional phrases were made, such as "I was perhaps more to blame" or "The other party perhaps had extenuating circumstances."

##### Study 2

As a result of SIG over a two-week period, improvements were seen in expressions of anger ( $F(1,12)=5.47$ ,  $p < .05$ ,  $\eta^2=.03$ ) and the ease of anger arousal ( $F(1,13)=3.26$ ,  $p < .10$ ,  $\eta^2=.04$ ).

#### Discussion

##### Study 1

Those that are quick to anger tend to think that the other party is responsible for their anger, and have little cognition for examining their own responsibility in detail. Thus, it is hoped that the use of the instructional phrases used in this study will show an effect.

##### Study 2

By practicing SIT, subjects learned to recognize the level of their personal responsibility, and to recognize how they examine possible behaviors. This resulted in possibly lowering the ease of anger arousal among subjects.

### Knowledge of and Barriers to the Use of Cognitive Behavioral Therapy in Treating Depression in Primary Care Centers and Family Medicine Clinics in Saudi Arabia

Ahmad Alhadi, Hesham Alghofili, Nasser Almujaivel, Helmi Alsweirky, Mohammed Albeshr & Gassan Almogbel, King Saud University, Saudi Arabia

#### Introduction

We aim to determine the extent of knowledge and attitude in general practitioners and family medicine physicians regarding CBT for depression in Saudi Arabia.

#### Method

A cross-sectional study where all physicians working in primary care centers and family medicine clinics in Saudi Arabia were targeted and asked to participate in the study. With a sample size of 496 (Males= 230, Female= 239). Using Simple random technique. No exact number of practicing years nor specific age or gender is required. Self-administered online survey was conducted using Survey Monkey platform with questions on demographics and a standardized scale (five-point Likert scale). SPSS version 22.0 was used for analysis.

## **Results**

A total of 469 surveys were completed. With a mean age of 37.99 years, the respondents practice specialty was primarily Family Medicine Physicians and Primary Care Practitioners. The percentage of knowledge score of the FMP and PCP about Cognitive Behavioral Therapy was 59%. Most participants 91.9% are willing to use CBT if they have adequate education and training. More than half of the participants 59.5% think it is time-consuming, in contrast, 39% of the participants think that the CBT training is a very time-intensive process.

## **Discussion**

Majority of the physicians recognize the efficacy of CBT in primary care settings. The level of knowledge was slightly deficient in elders, giving the youngsters a better score. This should stimulate efforts to educate and train the providers to enhance the utilization.

## **The Effect of Stress Relief Programs on Occupational Stress Using Non-Work Factors**

**Satoko Araki, Takuya Ikegame & Miki Ikeda, J. F. Oberlin University, Japan**

### **Introduction**

Initiatives for work factors and stress checks have been carried out primarily as measures to fight labour-related mental disorders in Japan. However, it is still difficult to say that preventive measures for mental health disorders are sufficient, as workers experiencing extreme stress due to work and occupational life are an increasing trend. In this study, we aim to create an intervention program for occupational stress through leisure activities, and to examine the influence of the stress relief effect and of intervention variables.

### **Method**

In this study, 24 adult, currently employed workers were studied in randomized controlled trials (12 intervention groups and 12 control groups). Once a week on the Internet, a total of four times, they undertook a program consisting of five components: recovery training, stress management, cognitive behavioural therapy techniques, relaxation, and sleep psychology education, created by Hahn, Binnewies, Sonntag & Mojza (2011), and the outcomes were measured before intervention (T1), after each session, eight weeks after the intervention (T2), and three months after the intervention (T3).

### **Results**

Covariance analysis was performed with the T1 score of both groups as covariates, and the variation of T1 and T2 scores as the dependent variable. The T1 and T3 scores of the intervention group were used for the effect maintenance study. As a result of the one-factor analysis of variance analysis, 'Stress Response' in the intervention group was significantly reduced after intervention (at T2, T3;  $p = 0.03$ ). The subscales of 'Stress Response' and 'Recovery Experience', also 'Recovery-related self-efficacy' (at T3;  $p = 0.02$ ) and 'Work-related rumination' (at T2;  $p = 0.01$ ) were observed to have significant effects.

### **Discussion**

The intervention program of this study was found to have a reduction effect on occupational stress. Also, 'Recovery Experience' was not promoted immediately after intervention, as compared to the intervention effect of previous studies. However, at T3, since a significant effect was recognized for the lower three factors of 'Recovery Experience', it is presumed that it takes time to promote the Recovery Experience through the intervention program developed in this study.

## **Improvement of Sleep-Wake Rhythm in Patients with Schizophrenia with Long and Irregular Sleep Through Cognitive Behavioral Therapy: A Case Study**

**Naoko Ayabe, National Center of Neurology and Psychiatry, Japan**

**Kazuo Mishima, Akita University Graduate School of Medicine and National Center of Neurology and Psychiatry, Japan**

**Kenichi Kuriyama, National Center of Neurology and Psychiatry and Shiga University of Medical Science, Japan**

### **Introduction**

Patients with schizophrenia suffer from various sleep abnormalities such as increased sleep onset, decreased total sleep time, increased awakenings after sleep onset, and decreased sleep efficacy (Chan, Chung, Yung, & Yeung, 2017). Owing to circadian sleep-wake rhythm misalignments including phase-advance/delay and non-24hr types, highly irregular and fragmented sleep periods are also common in such patients (Wulff, Dijk, Middleton, Foster, & Joyce, 2012). This case study reports the adjustment of sleep-wake rhythm in one patient with schizophrenia who presents long and irregular sleep pattern.

### **Method**

The patient is a male in his thirties with schizophrenia who suffered from long and irregular sleep, complaining about difficulty in both staying asleep and waking up. Our clinical assessment showed that his major way of coping with stress was sleeping, which caused a vicious insufficient sleep-wake pattern involving sleeping for overly long periods. Additionally, his irregular wake-up time, ranging from 8:00 am to 6:00 pm, hindered his social activities during the day. The goal for the patient's therapy was to improve his sleep-wake rhythm that would contribute to returning to society. The cognitive behavioral therapy (CBT) approach to Circadian rhythm sleep-wake disorders (CRSWD) gradually advances sleep phases (Jansson-Frojmark, Danielsson, Markstrom, & Broman, 2016). Our intervention program involved coordinating his sleep-wake rhythm with a combination of CBT for CRSWD and for poor stress coping strategies. Patient consent had already been obtained.

### **Results**

We drew up schedules for reaching his therapeutic goals as follows. Short term: we monitor his physical condition, mood, cognition, behavior, and note the vicious association between these factors and his sleep problems. Medium term: we assist development of his stress coping capabilities. Long term: we help him stabilizing his sleep-wake rhythm and return to daytime social activities. The intervention program was provided by a psychotherapist about once a month, along with a consultation by an attending physician. Each intervention session lasted about 40 to 50 minutes. We spend 2-4 weeks for advancing his sleep-wake phase 30 to 60 minutes, gradually. In order to expand the patient's repertoire of stress coping strategies, he recorded his self-assessments on stressful situations, cognition, and coping behaviors.

### **Discussion**

His repertoire of stress coping strategies also gradually expanded and he became more capable of controlling irritable situations effectively. The patient became more aware of his sleep problems, reporting, for instance, "I understood that I could not sleep due to pressure from my work in the second half of the week." As the patient's sleep-wake rhythm and wake-up time stabilized, he was able to go to the employment transfer support and community activity support center every day. As the therapeutic consequence, his depression scores decreased and his

quality of life increased. This suggests that the combination of CBT for CRSWD and for poor stress coping strategies can be useful for adjusting sleep-wake rhythm and improving quality of life in patients with schizophrenia.

### **Mindfulness as a Moderator Between Self-Criticism and External Shame**

**Julieta Azevedo, Center for Research in Neuropsychology and Cognitive and Behavioral Intervention, Portugal**

**Joana Rodrigues & Paula Castilho, CINEICC - Center for Research in Neuropsychology and Cognitive and Behavioral Intervention, Portugal**

**Michaela Swales, University of Bangor, United Kingdom**

**António Macedo, University of Coimbra, Portugal**

#### **Introduction**

Early shameful experiences within family and peer groups constitute an interactional experience (e.g., ridiculed, ostracized or rejected by significant others) and can become the substrate for negative self-experience and negative self-evaluation (Gilbert and Irons 2009). Seeing the self in a negative way in the minds of others results in an internal shaming response, which entails an internal hostile self-to-self relationship, with self-directed anger, disgust or even conducting to a hated self (Gilbert 2000). Mindfulness training and compassion have been shown to be effective in reducing self-criticism. However the mechanism by which that happens is still not well understood. Our aim was to investigate if mindfulness moderates the relationship between external shame and self-criticism (Hated Self).

#### **Method**

The sample consisted of 310 participants from the general population, with a mean age of 34.16 ( $\pm 12,292$ ), 181 females (58.4%) and 129 males (41.6%). This was a convenience sample collected in social networks, university classes and other informal contexts in the community. The sample was mainly single (52.6%), with 38.4% unmarried partnership.

#### **Results**

Overall, the moderation model was statistically significant, with a significant interaction between Mindfulness and External Shame in predicting Self-Criticism – Hated Self ( $F(3,306) = 104.417, p < .001$ ). The moderation effect of mindfulness accounted for 50.6% of the variance of the model. Examining the interaction plot, it was possible to understand that High level of external shame for low levels of mindfulness was associated with increasingly higher Self-Criticism – Hated Self.

#### **Discussion**

Mindfulness seems to be an important moderator in the relationship between External Shame and Self-criticism (Hated Self), contributing to a more positive view of the self.

### **Effects of Positive Psychology Intervention on the Personal and Work Wellbeing of Psychotherapists in CBT Training**

**Merav Barkavi-Shani, Rosa María Bermejo & Óscar Sánchez-Hernández, Murcia University, Spain**

#### **Introduction**

The core premise of the field of counselling is that to provide clients with the best treatment, therapists need to take care of themselves (Coleman, Martensen, & Indelicato, 2016). However, many therapists do not give enough emphasis to self-care in their daily practice, aside from attending supervision. Therefore, they often experience high psychological, emotional, and physical stress that might lead to burnout. This might have negative effects on clinical decision-making and a therapist's effectiveness (Wise, Hersh, & Gibson, 2012). The few interventions that do exist for therapists aim to mitigate, minimize, or prevent the negative effects of the counselling profession (Sciavone, 2017). The main drawback of these methods is that they focus on the negative, not permitting therapists to construct a supportive positive environment at work. The current study implemented a positive psychology intervention with active psychotherapists, during therapists' continuing CBT training. The aim of this study is to test whether, with inclusion of such intervention during CBT training, therapists can acquire valuable and necessary skills that will help them in their work. The goals of the intervention are to improve the personal and professional wellbeing of therapists, both in the short and long term.

#### **Method**

250 psychotherapists were included in the study – 150 of whom participated in the intervention and 100 in the control. They were chosen by their regular curriculum and learning groups (7 groups for the intervention and 4 for the control) of 18-30 participants. Those in the control group are to participate in the intervention after completion of the study. The data for this research are collected at three time points – at the beginning of the research (t0), and then 30 (t1) and 180 days later (t2). The questionnaires included are: The Satisfaction With Life Scale (Diener et al. 1985); Positive and Negative Affect Scales (PANAS) (Watson et al., 1988); Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983); Life Orientation Scale (Scheier & Carver, 1985); Self Compassion Scale (Neff, 2003); Utrecht Work Engagement Scale (UWES-9) (Schaufeli & Bakker, 2003); Multi-dimensional Perceived Social Support Scale (Zimet & Fanley, 1988); and the Gratitude Questionnaire (GQ6, McCullough, Emmons & Tsang, 2002).

#### **Results**

The study is still ongoing; results to be presented are 30-days along, with initial results of the 6-month follow-up. At the conference, I will present results about the efficacy of the intervention, as manifested from comparisons between data collected at t0 and t1, and between the experimental and control groups at t1. I will also demonstrate the implementation of the programme with excerpts from gratitude statements made by participants throughout the programme, as well as their feedback at the end of the intervention.

#### **Discussion**

This is an important issue for therapist training and supervision, as well to any therapist personally. I therefore believe it should be presented at the conference..

### **Rogues, Villains and Eccentrics – Constellation of Schizotypy Indicators**

**Radomir Belopavlović, University of Novi Sad, Serbia**

**Ivana Novakov, Oncology Institute of Vojvodina, Serbia**

**Zdenka Novović, University of Novi Sad, Serbia**

#### **Introduction**

As the conceptualization of schizotypy shifted from a prodrome of psychosis, to a dimensional, non-clinical trait, which does correlate in part with some disorders, factor models of this construct have grown in popularity. However, one assumption of factor models is that indicators

correlate because they have a shared latent construct (e.g., Schmittmann et al., 2007). Examining the indicators of schizotypy (across theoretical models), it does not seem parsimonious to limit the possibility of indicators having, unconditional, direct relations (for example suspiciousness towards acquaintances -> few close friends). Network theory and network analysis in psychology see constructs as systems of mutually reinforcing indicators. From this perspective indicators can, indeed, correlate directly, and they can form meaningful clusters or patterns. With that in mind, the aim of this study is to examine the structure of schizotypy indicators.

#### **Method**

775, (Mage= 20.49, SDage= 2.35, 125 male) students from the University of Serbia have filled out, as a part of a larger questionnaire battery, the Schizotypal Personality Questionnaire – Brief Revised (SPQ-BR: Cohen, Matthews, Najolia, & Brown, 2010), a frequently used questionnaire validated on a Serbian sample (Novakov, 2017). A Graphical Gaussian Model was fitted, and the EBICglasso estimator was used to estimate the network of 32 indicators or nodes. All the relevant network estimates were analyzed.

#### **Results**

The network estimators returned a network where 61/496 connections between nodes were non-spurious. It seems that the network model fits several factor solutions proposed by the authors, with the exception of one item. Interestingly, mediational effects between clusters, which form higher-order factors, were registered (for example, “Odd beliefs” are connected to “Ideas of Reference” via “Suspiciousness within the high-order “Cognitive- Perceptive” factor). Additionally, stability indices show satisfactory values, 0.62 for correlations, and 0.36 for strength, indicating a stable structure.

#### **Discussion**

Results suggest a stable, parsimonious network model which both validates the factor structure of the SPQ in principle, but also elucidates a more detailed dynamic in the relations of both the factors and items. As studies suggest, various facets of schizotypy can be, and are associated with different psychological clusters (making rogues, villains, eccentrics and others examples from the famed reference book). From a clinical perspective, it seems highly useful considering tailor-made treatments – targeting specific factors with different interventions, expecting a cascading effect on adjacent clusters. For example, odd beliefs– suspiciousness–ideas of reference, or, no close friends– constricted affect–social anxiety can be potential targets of treatments following this rationale.

### **Characterization of the Therapeutic Process and Population Demands that Attended the School Service at the Cognitive Behavioral Institute of Psychotherapy (IPC), Brazil**

**Luciana Bernardes Da Rosa, Giedre Costa, Cintia Martins, Lara Miquelin & Anne Porto, Cognitive Behavioral Institute of Psychotherapy, Brazil**

#### **Introduction**

Some authors among them Ancona-Lopez (1981), Romaro e Capitão (2003), Melo e Perfeito (2006), through the characterization of the studied population in school—clinics as well as analyzing the service offered by these clinics has been arousing important questions in the last decades related to the need and the characteristics of this studied population which has produced the need of thinking about specific actions related to the reality of each context in which the school-clinic is part of. Thinking about the importance of knowing this reality in order to evaluate the service offered and the needs of the population, it was the goal of this study to characterize the therapeutic process and population demands of psychology clinical attendance made at the school service at the Cognitive Behavioral Institute of Psychotherapy (IPC – Brazil) during 07 years (2011-2018).

#### **Method**

A retrospective documental methodology was used. It was elaborated an identification sheet with the information proposed by the study for collecting data. The variables were gender, marital status, age range, schooling, symptomatology, therapeutic process results and outcome of the process. It has been used 850 therapeutic client’s records of which 77 were excluded from these ones for missing data, totalizing 773 complete records.

#### **Results**

As results the sample was most represented by women (67,9%), single (68,8%) that looked for treatment, aging between 20 to 36 years old (mean age 26 years old), school level varying from complete high school to complete graduation. The initial and final average of depressive symptoms evaluated through Beck Depression Inventory were 22,6 and 14,1 points respectively. Whereas the initial and final symptoms of anxiety measured by the Beck Anxiety Inventory were 18,7 and 9,9 points respectively. Among the most complains reported were anxiety disorders (33,9%), depressive disorders (23,7%), distress in the interpersonal relationships (17,8%) aggressive and disrupted behavior and distress in family relationships (12,9% for both). About 15% of the population that attended the psychotherapy concluded the process whereas 57,6% withdrew the process.

#### **Discussion**

Considering the results despite the high level of withdraw we considered that results of the therapeutic process were positive, since most of them completed at least 15 weekly sessions which is compatible to the brief treatment proposed by CBT.

### **Building a Good Therapeutic Relationship – What Can the Therapist Do? The Connection Between Therapist Interpersonal Style and Therapeutic Alliance.**

**Simon Bollmann, Isabel Schamong, Nele Struck, Tobias Kube, Lisa D’Adolfo & Eva-Lotta Brakemeier, Philipps University of Marburg, Germany**

#### **Introduction**

The therapeutic relationship is central for any psychotherapy. Specific therapeutic relationship techniques have been explicitly developed, for example in the Cognitive Behavioral Analysis System of Psychotherapy (McCullough 2000) or the Dialectical Behavior Therapy (Linehan 1996). A number of empirical studies have also investigated several elements (e.g. self-disclosure) of the therapeutic relationship (for an overview see Norcross & Lambert 2018). Nevertheless, there is still no answer to the question which style of relationship is helpful for which patient, is lacking. We therefore need to develop experimental approaches that examine the effects of different therapeutic relationship styles under realistic conditions. So far, the relationship has not yet been experimentally varied and investigated under realistic conditions. In this pilot project we have defined two interpersonal relationship styles for our experiment, which can be classified and verified according to the interpersonal Circumplex (Kiesler 1983). The two interpersonal relationship styles (relationship-focused vs. problem-focused) are examined in a one-time psychological counselling session on interpersonal conflicts related to different variables (perceived therapeutic alliance, personality traits, childhood maltreatment, interpersonal problems, expectations).

## **Method**

In our two-group design, 64 students were randomized either to the relationship-focused style group or the problem-focused style group to investigate the impact on the therapeutic alliance of the variation of interpersonal style by the counsellor. In a single counselling session on interpersonal problems, four trainee psychotherapists with different training levels conducted 16 clients each. The random assignment of conditions was designed in such a way that all four consultants could conduct eight interviews in each condition.

## **Results**

Adherence analyses show that the experimental variation of the relationship within the framework of a one-off counselling session can be implemented and that the experimental approach is well feasible. Initial analyses also indicate that the clients and the counsellor rating of the therapeutic relationship is overall high across both conditions. In addition, there are no direct significant differences in the client assessment of the therapeutic alliance between the two groups. Furthermore, other variables as positive expectations of the clients and the client assessment of the perceived change through the counselling session show overall positive correlations with the client's assessment of the therapeutic alliance.

## **Discussion**

The further statistical evaluation (e.g. dyadic analyses considering the trait variables of the client and the counsellor) is currently in progress and will be discussed in connection with the current state of data and existing theoretical models on the therapeutic relationship.

An experimental variation of the relationship style realized by the counsellor under realistic conditions is feasible. Our results so far indicate the possibility that variables like client expectations and client perceived changes may be more decisive for the assessment of the therapeutic relationship in a first session than a specific interpersonal style by the counsellor.

## **Assessing Treatment Integrity in Personalized CBT: The Inventory of Therapeutic Interventions and Skills**

**Kaitlyn Boyle, University of Trier, Germany**

**Wolfgang Lutz, University of Trier, Germany**

### **Introduction**

The third wave of cognitive behavioral therapy (CBT) has increased the heterogeneity of today's CBT practice, while developments in patient-focused research are paving the road to the empirical personalization of CBT. This paper presents the development and psychometric properties of a therapy video rating instrument, which was designed to adequately assess the treatment integrity (adherence and competence) of modern, personalized CBT.

### **Method**

The Inventory of Therapeutic Interventions and Skills (ITIS) was developed based on two existing CBT adherence and competence scales and augmented with third wave content and overarching therapeutic strategies. The instrument was then applied by graduate students and post-graduate clinicians to rate  $N = 185$  therapy videos from  $N = 70$  patients treated with personalized CBT at a university outpatient clinic. Descriptive results, inter-rater reliability, and item/factor structure were examined. Further, associations with session outcome and alliance were examined using bivariate correlations, multiple regression and multilevel modelling.

### **Results**

Therapists employed a variety of CBT and third wave interventions/ strategies with varying frequency and an average competence level of "good". Average inter-rater reliability was excellent for Interventions items and good for Skills items, regardless of clinical experience. Intercorrelations were low between Interventions items, but higher and significant between Skills items, which loaded on a single factor. Both overall adherence and competence were significantly correlated with session outcome. Several ITIS items were shown to be predictive of session outcome and alliance, even after controlling for the nested data structure: treatment difficulty, therapeutic relationship/collaboration, and guided discovery.

### **Discussion**

Initial results suggest that the ITIS may be able to adequately assess the heterogeneity and flexibility that characterizes today's personalized CBT practice. However, further research is needed to replicate these findings in larger samples and other settings and further explore the inventories potential for process-outcome research and feedback in clinical training.

## **Maintenance (vs. Change) of Negative Expectations Towards Psychotherapy**

**Kristina Braun-Koch & Winfried Rief, Universität Marburg, Germany**

### **Introduction**

Therapy expectations contribute substantially to the outcome, process and duration of psychotherapy. In contrast to this findings, psychotherapy expectations are rarely addressed and optimized via interventions in studies.

### **Method**

On the basis of existing literature and a theoretical framework we created videos with patients (actors), which were intended to lead to an expectation change in the subjects.

Therefore, 142 subjects with critical attitudes towards psychotherapy were recruited and randomized to two groups: (1) a control group that was watching a video with patients who were giving information about their symptoms or (2) an experimental group that was watching a video with the same patients giving information about their symptoms and the mostly positive therapy outcome. The primary outcome was the Milwaukee Psychotherapy Expectation Questionnaire (MPEQ) collected before and after the video.

### **Results**

Subjects in the experimental group changed their therapy expectation after watching the video in a higher amount than the control group. Both groups showed a significant improvement of their attitudes towards psychotherapy and a higher intention to seek psychotherapy in case of a mental disease.

### **Discussion**

A video intervention with patients talking about positive therapy changes therapy expectation. This implies that making use of expectation-optimizing videos has a potential to improve therapy expectation and thereby therapy outcome. Further studies are warranted to examine the underlying mechanisms of expectation violation.

### **Process Cognitive Change in Group CBT for OCD**

**Elena Cabedo, Maria Roncero, Belen Terres, Carlos González, Gemma García-Soriano, Laura Quiles & Mario Rodríguez, Clinical-University Hospital of Valencia, Spain**

#### **Introduction**

Outcome research indicates that cognitive-behaviour therapy (CBT) is effective treating obsessive-compulsive disorder (OCD), both delivered individually or in group. Additionally, cognitive change in patients' beliefs relevant for obsessions has been consistently reported after CBT, supporting cognitive models of the disorder. But process of change has scarcely been studied in this field, and it could be specially interesting to better known mechanisms of change, and facilitate treatment improvement. We will attend this issue, considering also obsession content, as it is known to be related to beliefs.

AIM: To examine the process of cognitive change in a group of OCD patients who completed group CBT

#### **Method**

Participants: Six patients started the group and four completed. Completers were 3 males and 1 female, aged between 22 and 50 years, their disorders were severe, duration ranged between 2 and 13 years, and two of them presented secondary comorbidities

Instruments: Yale-Brown Obsessive-Compulsive Scale (Y-BOCS). This is a brief interview to assess OCD severity, ranging from 0 to 40

Process evaluation scale: We used a survey specific for this study. It has 11 items, rated by patients before each session, in a 7-point Likert scale. Nine items evaluate the degree of adscription to dysfunctional beliefs about obsessions. The other two assess symptom severity, from the point of view of the patient and the therapist respectively.

Procedure: Patients referred for treatment to the outpatient clinics of the Clinical Hospital in Valencia, if meeting inclusion criteria, and giving consent, were included in the group. Therapy was conducted following a protocol manual, in 12 weekly sessions

#### **Results**

The severity of patients' symptoms as a group decreased from YBOCS  $M = 27,75$  to  $M = 17,75$  at post-treatment. For three patients, symptoms reduced approximately 40% ( $P1 = 42\%$ ,  $P2 = 48\%$ ,  $P3 = 38\%$ ), for  $P4$  only 12%. Regarding process change, we observed good concordance between patient and therapist symptoms variability among sessions, and slight discordance for  $P4$ . For cognitive change, we examined the process individually. But in general, we observed decreases in adscription to beliefs after psychoeducative sessions, and reactivation of beliefs when they started exposure. The beliefs that were reactivated seemed to be related to the content of the obsessions. In addition, we observed cognitive changes specifically related to the cognitive questioning of each specific session

#### **Discussion**

The main limitation of this pilot study is the scarce number of subjects, but results are promising. Data illustrate cognitive process of change, showing general patterns concurrent with the introduction of each technic, and particular expressions of them that appear more individually driven and related to personal obsessive content. It is necessary to increase sample for future research in order to confirm these trends.

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### **Personality Characteristics and Psychological and Psychiatric Therapeutic Adherence in Patients with Mental Disorder**

**Àngela Cabestany-Morató, Marta Sánchez-Jiménez, Júlia Grau-Prim, Laia Pijuan-Gonzalez & Irene Ramos-Grille, Consorci Sanitari de Terrassa, Spain**

#### **Introduction**

Recent research has established that exist personality characteristics related to the psychological and psychiatric therapeutic adherence. The specific aim of our study was to identify which personality characteristics are related to a better therapeutic adherence over five years of treatment and identify whether exist differences in them in psychological and psychiatric therapeutic adherence.

#### **Method**

Thirty-one patients with a diagnosis of mood disorder, anxiety disorder, adjustment disorder, psychotic disorder and personality disorder according to DSM-IV-TR, who were within acute psychiatric hospitalization unit between 2010 and 2013 agreed to take part in the study. All participants completed the temperament and character inventory-revised (TCI-R) during hospitalization. Two groups are created according to the therapeutic monitoring by patients (group with therapeutic adherence and group without therapeutic adherence) in psychological therapy and in psychiatric therapy, respectively. A nonparametric test was used to study the comparison of means between both groups and the logistic regression analysis to predict the influence on the dependent variable. Statistical analysis was performed using the Statistical Package of Social Science (SPSS 24.0).

#### **Results**

Our results suggest higher Self-directedness (SD) in patients with psychological ( $p=0.01$ ) or psychiatric therapeutic adherence ( $p=0.01$ ) versus patient that dropout. Specifically, we found higher Responsibility trait (SD1) ( $p=0.02$ ) and higher Enlightened second nature (SD5) ( $p=0.01$ ) in patients with psychological therapeutic adherence. In the same way, we found higher Responsibility trait (SD1) ( $p=0.01$ ) and higher Enlightened second nature (SD5) ( $p=0.05$ ) in patients with psychiatric therapeutic adherence. Furthermore, we found significant differences in Self-transcendence (ST) between patients with psychiatric therapeutic adherence ( $p=0.02$ ) versus the dropout group. Logistic regression analysis suggested that specifically only Responsibility trait (SD1) ( $p=0.02$ ) predicted therapeutic adherence to psychological treatment, while Enlightened second nature trait (SD5) ( $p=0.02$ ) predicted therapeutic adherence to psychiatric treatment.

#### **Discussion**

Different and specific traits of the Self-directedness dimension predicted psychological and psychiatric therapeutic adherence: Responsibility and Enlightened second nature respectively. Consider these individual differences during the therapeutic plan when we explore patients with mental disorder could help us to improve their therapeutic adherence. However, more research in this direction will be necessary.

## **Validation of the Immersive Virtual Reality System Advanced Therapeutic Tools for Mental Health (ATHENEA): A Pilot Study in a Mexican Sample**

**Georgina Cardenas-Lopez, Universidad Nacional Autonoma de México, Mexico**

**Alice , Universidad Politécnica de Valencia, Spain**

**Fabiola Reyes-Torres, Gaspar Ayora, Universidad Nacional Autonoma de México, Mexico**

**Mariano Alcañiz, Universidad Politécnica de Valencia, Spain**

### **Introduction**

Current trends within the scientific community in the field of mental health are moving away from a symptom-based, disorder-specific approach, which prescribes various treatment interventions to address each disorder separately subsequently. The growing interest in supporting an approach that focuses on the common psychological processes that underlie the topographic descriptions of different disorders; is helping to synthesize common aspects through the theoretical constructs that underlie models of diagnosis and treatment. Creating a coherent, integrative and parsimonious system. The need for a clinically relevant understanding of trans diagnostic processes that can be used in practice to inform clinical decision making is unambiguously clear. Clinical practice would benefit from the practical guidelines from a collaborative and empirical approach to understand the problems presented in an integral context.

### **Method**

Through the performance of a pilot trial, we expected to achieve results that imply the efficacy and efficiency of this system comparing with traditional and scientifically validated measuring tools. The study sample consisted of 60 healthy Mexican participants, balancing sample, in terms of gender and ages between 18 and 55 years. Participants will attend 5 sessions in ATHENEA virtual environment. The assessment will be performed to evaluate the same cognitive/psychological functions that are required for the exercises on the virtual platform. Traditional and empirical validated psychological assessment will be performed to evaluate the same cognitive functions that are required for the exercises on the virtual platform, developed by the designers. Four psychological constructs are evaluating: attachment, self-esteem, orientation/control and maximization of pleasure/minimization of pain derived from the consistency theory of Grawe (2003).

### **Results**

Effectiveness will be determined by the differential scores in the validated assessment instruments and in the behavioral assessment results of the virtual environment ATHENEA. Preliminary results will be informing.

### **Discussion**

Preliminary results will be informing. We expect to join our efforts toward a trans diagnostic system incorporating the observed participant behavior in the virtual reality system may lead this line of research to translate psychological mechanisms of diagnosis into a practical guide for the clinicians offering an integral and individualized approach to understand the present patient problems from a trans diagnostic perspective.

## **Guided Imagery and Rescripting in Metacognitive Interpersonal Therapy**

**Francesca Cavallo, Giancarlo Dimaggio, Antonella Centonze & Raffaele Popolo, Centro Terapia Metacognitiva Interpersonale Roma, Italy**

### **Introduction**

To change interpersonal patterns it is necessary both to change the knowledge about oneself and others in relationships, and to change the habits rooted in the body, in the form of motor patterns. Leading patients to create patterns of different actions, including the motor component, together with cognitive restructuring, produces truly effective changes. A patient, for example, with avoidant disorder, is driven by the desire for appreciation, against which the other critical expects. The criticism received leads him to think that he is right, confirming the image of himself as worthless. At this point he is ashamed, lowers his eyes, speaks with a hesitant voice, closes. These elements are part of the scheme and root it.

### **Method**

The setting of the exercise must be clear and well defined, in time and manner. The therapist must make a good evaluation of the solidity of the therapeutic alliance. The starting point is a clear and detailed narrative episode. Once collected, therapist and patient will try to identify the characters to be staged: 1) selection of the pattern on which to interact; 2) preparation of the scene; 3) development and rewriting; 4) reflections to consolidate what has emerged.

### **Results**

The objectives: 1) Access to the internal world. As arousal increases, patients have greater access to emotions and cognitions. 2) Recovery of the agency on the internal world: in the work of rewriting, patients discover that they have the ability to react to characters from the internal world source of pain and have the ability to regulate their emotions; 3) Enlargement of differentiation and access to healthy parts: patients realize that with the change of perspective, their way of seeing and feeling relationships changes; 4) Integration, at the moment of the conclusion of the exercise, during the reflection, patients acquire a more complete and coherent vision of themselves and of their own representations of themselves with the other. They become aware of how their state of mind evolves in a way that is consistent with the new actions.

### **Discussion**

Guided Imagery it is important what the patient thinks and feels in the here and now, to access the way to attribute meaning to his relationships. By inviting the patient to respond differently, to imagine doing so, to raise his head, to look the interlocutor in the eyes, to speak with a firm and determined voice, to stretch his muscles, he will experience a different sense of himself than the other (which can be critical, disabling, etc.). In this way, patients acquire, at the same time, the critical distance from their own and others' opinions and the ability to give voice and space to healthy parts of themselves.

## **The Effect of Mindfulness Meditation Based Group Program on Anxiety, Depressive Symptoms, and Positive Psychological Resources in Patients with Anxiety and Depressive Disorders**

**Jeong-Ho Chae & Yena Park, The Catholic University of Korea, South Korea**

### **Introduction**

Mindfulness meditation has recently become a major component of the mainstream of 3rd wave cognitive behavioral therapy. The purpose of this study was to examine the effects of a Mindfulness Meditation based Group Program (MMGP) on anxiety, depression, positive resources, and positive affects in outpatients with anxiety disorder and depressive disorders.

## **Method**

Participants were 46 psychiatric outpatients at a university hospital, Seoul, Korea. All the participants received 8 weekly sessions in MMGP sessions with each lasting about 90 minutes. Each session included face mindfulness meditation, body mindfulness meditation, breath mindfulness meditation, action mindfulness meditation, choiceless-awareness mindfulness meditation, loving-kindness and compassion meditation, and monitoring mindfulness meditation. Psychometric measures included Positive resources test(POREST), State-trait anxiety inventory(STAI), Center for Epidemiologic Studies Depression Scale (CES-D), Acceptance and Action Questionnaire-16 (AAQ-16), Life Satisfaction Expectancy scales (LSES), Subjective Happiness Scale (SHS), and Experience Questionnaire(EQ). All the variables were measured at two time points: pre- and post-implementation of the MMGP (8 weeks later).

## **Results**

The paired t-test results of the participants before and after the mindfulness meditation program showed statistically significant improvement in their state anxiety ( $t=4.324, p<.001$ ), trait anxiety ( $t=4.566, p<.001$ ), depression ( $t=4.986, p<.001$ ), acceptance( $t=-4.621, p<.001$ ), life satisfaction( $t=-3.435, p<.001$ ), subjective happiness( $t=-5.348, p<.001$ ), and experience( $t=-5.543, p<.001$ ). In addition, in order to verify the mediated effects of acceptance, we conducted a hierarchical regression analysis proposed by Barron and Kenny in order to confirm the effects of life satisfaction, subjective happiness and decentralization on depression and anxiety.

Results of the significance verification of the regression coefficients, In the first stage, the higher the decentralization( $\beta=.602, p<.001$ ) was shown the higher the acceptance. In the second stage, subjective happiness( $\beta=-.577, p<.001$ ) was shown to have a significant effect on lowering depression.

## **Discussion**

These results suggest that MMGP would be effective to enhance acceptance, life satisfaction, subjective happiness, experience, and to reduce anxiety, depression in outpatients with anxiety and depressive disorders. Increasing acceptance by the MMGP played a partial mediating role in reducing anxiety and depressive symptoms.

## **Cognitive Behavioural Therapy Approach for Suicidal Ideation and Behaviour Across Psychiatric Disorders**

**Diya Chatterjee, Indian Institute of Science Education and Research, India**

**Sampurna Chakraborty, Central Institute of Psychiatry, India**

### **Introduction**

Suicide is the 15th leading cause of death worldwide (WHO, 2015) and mental illness has been found to be a risk factor for suicide (Mewton & Andrews, 2017). However, evidence suggests that treating suicidal cognitions and behaviours as a secondary phenomenon while focussing treatment on the primary mental illness shows poorer treatment outcomes (Forkmann et al., 2013). According to Beck, depressed suicidal patients view themselves as defective, inadequate or deprived and thus worthless; they view others as rejecting and unsupportive; and view their future as hopeless since they do not believe that they have the internal and external resources to solve their problems (Beck, 1979). Therefore, there is a need indicated by previous research to address the cognition that impacts the problem solving ability of the individuals with high suicidal risk. D'Zurilla et al. (2004) conceptualized the problem solving deficits seen in suicidal patients into two categories, namely, deficits in the skill of rational problem solving and deficits in motivation to engage in problem solving. Cognitive Behaviour Therapy has been indicated as effective in reducing suicidal risk when the treatment has been tailored to focus on suicidal cognitions and behaviours separate from management of the mental illness (Tarrier et al., 2008).

### **Method**

The current paper focusses on nine cases diagnosed with a diverse range of psychiatric disorders where CBT was systematically used to target the suicidal cognitions specifically for better treatment outcome. The cases covered a wide age range with etiologically unique presentations of suicidal cognitions and behaviours in geriatric, recurrent and unipolar depression; dissociative disorder; adolescent with school related problems; multiple substance abuse; borderline and obsessive compulsive personality disorders; obsessive compulsive disorder with prominently sexual and aggressive obsessions resulting in excessive guilt. Patients reported high suicidal ideation, measured on the Beck Scale for Suicide Ideation (BSS), arising from situational stress or predisposition that shaped their cognition. CBT on the patients focussed on identifying the perceived unsolvable problems which varied across the disorders and course of illness; reduce cognitive distortions and errors in logic with regards to their views of self, others, and future; improve problem solving skills; increase motivation to problem solve using hope kit; reduce perceived emotional pain; and encourage acceptance of emotional pain as part of everyday life with mindfulness, improve communication skills (social skills, assertiveness training, conflict resolution skills); reduce environmental stress; and develop support system for the patient.

### **Results**

Therapy was found effective in reducing suicidal ideation on patients' post management BSS scores. Improvement was noted in their problem solving behaviour over follow up sessions.

### **Discussion**

Findings may be helpful in understanding the need for identifying the socio-demographic factors along with triggers and motivating components that are precipitating and maintaining suicidal ideation and thereafter targeting the belief system and problem solving skills by conceptualising and modifying CBT accordingly for better treatment outcome.

## **A Comparative Study of the Face-to-Face CBT and the Online CBT in Insomnia**

**Shu Chenye, Hohai University, China**

**Zhao Yuan, Suzhou University, China**

### **Introduction**

Insomnia negatively impacts the modern people's mental and physical health. While Cognitive behavioral therapy of insomnia (CBT-I) is regarded as first line treatment (Lukas, Christoph, Dieter, & Kai, 2018). Since the development of the Internet, there has been an increased focus on studying online cognitive behavioral therapy for insomnia disorder. But there is no systematic discussion that compares the traditional face-to-face CBT-I to the online CBT-I.

### **Method**

Literature review (based on hundreds of papers until the January of 2019)

### **Results**

There are unanswered effects and different latent mechanisms for CBT treatments on different insomnia patients.

## **Discussion**

we conclude: 1) both the CBT treatments are more effective than the wait-list way, but it remains unanswered which one is better; 2) It mainly reduce adolescents' emotion of anxiety and depression to decrease insomnia symptoms (Kazuki et al., 2018). Meanwhile it works well for adults by mediating the pre-arousal, sleep-related worry and dysfunctional beliefs (Lancee et al., 2018) and for the old man by changing the accuracy of sleep and wake perceptions, and the suicide ideation (Joseph et al., 2019; Ruth et al., 2018); 3) In the intervention of adolescents, both the CBT result in linking impairment in executive functions (Liat & Avi, 2012); for treatment of insomnia adults, they contribute to the normalization of the medial and inferior prefrontal cortical areas and enhance connectivity within the default network, the salience network, the cognitive control network and the negative affect network (Cynthia et al., 2008). The face-to-face CBT-I focus on the suprachiasmatic nucleus in the hypothalamus to improve the insomnia symptom of the old man (Lukas et al., 2018). Given the database above, CBT is a promising method to treat the insomnia.

## **Preliminary Study of Transdiagnostic Integrative Psychotherapy Based on the Integration of CBT, Schema Therapy and Mindfulness Approaches**

**Younghee Choi, Sangyoo Choi & Miri Han, Metta Institute and Inje University, South Korea**

### **Introduction**

Emerging literatures on transdiagnostic approaches has illustrated the benefits of targeting the common psychological processes that underlie clinical symptoms rather than focusing on each separate diagnostic entity. Transdiagnostic treatments apply the same underlying treatment principles across various mental disorders, without tailoring the protocol to specific diagnoses (McEvoy, Nathan, & Norton, 2009). The authors examined the effectiveness of transdiagnostic approached psychotherapy called the CASH (Change and Acceptance Self Healing) program which is based on the integration of CBT, Schema therapy, and Mindfulness-based approaches. Since 2016, the authors started to investigate the symptoms of depression and anxiety along with the changeability of negative thoughts and dysfunctional attitudes after completion of 6-sessions of CASH program among several of mental disorders.

### **Method**

Patients (N=66) who met DSM-IV criteria for Major Depressive Disorder (N=19), Panic Disorder (N=32), Social Anxiety Disorder (N=12), Obsessive Compulsive Disorder (N=9) were treated by 6-session CASH program. The authors measured anxiety and depression levels using Beck Depression Inventory (BDI-II) and Beck Anxiety Inventory (BAI) and also measured the levels of cognitive distortion by using Automatic thoughts Questionnaire (ATQ) and Dysfunctional Attitude Scale (DAS). The authors are still in progress of adding more participants who will be treated by until 2019 July.

### **Results**

CASH-treated patients showed significant improvements in score of BDI ( $t=5.042, p<.001$ ), BAI ( $t=4.103, p<.001$ ), ATQ ( $t=6.360, p<.001$ ) and DAS ( $t=4.296, p<.001$ ). These results are the analysis of the participants until 2016 and the recent added data will be analyzed and be presented in WCBCT 2019.

### **Discussion**

The results suggest that 6-session CASH program can significantly improve depression and anxiety levels equally in patients with various diagnoses. Especially, the reduction of anxiety and depression is related with the correction of cognitive distortion and negative attitudes may prove the effectiveness of trans-diagnostic integrated psychotherapy based on CBT, schema therapy and mindfulness based approaches. Further follow-up study will be needed in order to investigate the maintaining effect of the CASH program.

## **Understanding Memory-Focused Cognitive-Behavioural Interventions Through a Narrative Identity Perspective**

**Soljana Çili, University of the Arts London, United Kingdom**

**Luisa Stopa, University of Southampton, United Kingdom**

A growing body of research suggests that individuals suffering from various psychological disorders experience recurrent intrusive mental images which are often related to adverse autobiographical memories. They contribute to disorder onset and maintenance, mainly through their association with negative beliefs and through the intense negative affect and maladaptive behaviours they elicit when activated. They are usually addressed through cognitive-behavioural techniques such as imagery rescripting, which modify the meanings attached to adverse memories and intrusive images and reduce the distress associated with them. Despite the growing use of memory-focused techniques and some evidence suggesting that changes in self content and in the processing of self-related information can predict or mediate cognitive-behavioural therapy (CBT) outcomes, to date CBT research has primarily focused on symptoms. It has not investigated potential self changes as a mechanism of change in interventions targeting adverse memories by drawing on the memory-self relationship literature. The present paper has two main aims: 1) Discuss the clinical relevance of the memory-self relationship by reviewing the relevant literature, and 2) Present an innovative model which utilises this literature in order to understand some of the mechanisms of change in memory-focused cognitive-behavioural interventions. The paper will start with a review of the narrative identity literature, identifying the relevance of adverse memories for the self, psychological well-being, and the development of psychological disorders. Next, the paper will present Çili and Stopa's (2018) model for understanding memory-focused cognitive-behavioural interventions. Drawing from the existing narrative identity and CBT research, this model argues that interventions such as imagery rescripting may facilitate autobiographical reasoning and promote changes in all three personality levels proposed by McAdams (e.g., 2013): the life story, characteristic adaptations, and dispositional traits. First, they may modify individuals' life story as they enhance the sense of mastery and agency associated with the targeted memories, which are reappraised and often acquire a more positive emotional tone. Second, they can help patients develop more positive goals, which in turn can lead to more adaptive behaviours. Finally, by modifying goals and giving memories a more positive emotional tone, these interventions may produce a change in personality traits which are strongly associated with motivation and emotion: neuroticism and extraversion. The paper will conclude by identifying directions for experimental research which can help us understand the mechanisms of change in memory-focused interventions and identify ways of refining these interventions.

## **The Prevalence and Associated Factors of Depression and Anxiety Among Adolescents Living in Sheltered Homes in Selangor, Malaysia**

**Wai-Eng Ding, Firdaus Mukhtar, Hamidin Awang & Munn-Sann Lye, Universiti Putra Malaysia, Malaysia**

### **Introduction**

Literature on adolescent with depression and anxiety in sheltered homes in Malaysia was scanty. We investigated the prevalence of depression and anxiety and identified their factors associated for this population.

## Method

This was a clustered sampling, cross-sectional study that involving 582 adolescents with depression and anxiety symptoms from 15 randomized nongovernment-run sheltered homes and non-government-run religious sheltered homes in Selangor district. They completed a set of self-reports: Beck Anxiety Inventory, Malay version (BAI-Malay), Beck Depression Inventory, Malay version (BDI-Malay), Automatic Thoughts Questionnaire, Malay version (ATQ-Malay), and Rosenberg Self-Esteem Scale, Malay version (RSES-Malay). Descriptive statistics, Pearson correlation and generalized linear mixed model were used to gather the statistical findings about the prevalence of depression and anxiety, and their associated factors.

## Results

Using the recommended BDI-Malay criteria, the prevalence of participants who reported anxiety symptoms were 30.1% (minimal), 38.0% (mild), 22.6% (moderate) and 9.3% (severe). Using the recommended BAI-Malay criteria, the prevalence of participants who reported anxiety symptoms were 18.4% (minimal), 28.8% (mild), 32.2% (moderate) and 20.6% (severe). Depression was significantly associated with age, gender, anxiety, negative automatic thought and self-esteem. Anxiety was significantly associated with age, depression and negative automatic thought. Female adolescents were more depressed and anxious than male adolescents. Depression between younger and older adolescents were not significantly different; older adolescents were more anxious than younger adolescents. As severity of depression and anxiety increased, more negative automatic thoughts were reported by the adolescents. Adolescents who had lower self-esteem were more depressed and anxious than of those who had high self-esteem. Variables including ethnicity, type of education, orphan status, and history of attendance at counselling did not significantly associate with depression and anxiety.

## Discussion

Our findings demonstrated that the prevalence of depression and anxiety among adolescents living in sheltered homes were relatively higher than normative population in Malaysia and some prevalence rates reported worldwide. Our findings shed an urgent need for improving the screening for anxiety and surveillance on inhabitants in the sheltered homes, family foster care, school and community mental health programmes, management of psychiatric services, and research directions for evidence-based treatments for pediatric anxiety disorders.

## Applying Principles of CBT to Internet-Based Modular Self-Help Intervention for Adjustment Disorder: Deconstruction of User Engagement

Jonas Eimontas & Evaldas Kazlauskas, Vilnius University, Lithuania

### Introduction

Internet-based interventions based on CBT (iCBT) are among the most studied online interventions. Studies show promising iCBT effects for treatment of various mental and somatic disorders (Carlbring et al., 2018). Also self-help iCBT could arguably help reduce the treatment gap and be offered as stand-alone or as an adjunct to face-to-face therapy. However, internet-based self-help interventions face high dropout rates and low user engagement. These issues compromise the validity of research results and raise questions on what factors determine engagement in iCBT. We aimed to analyze engagement in an internet-based CBT self-help program for adjustment disorder (AjD).

### Method

Data of two randomized controlled trials testing the effectiveness of an internet-based CBT self-help intervention for adjustment disorder were used to analyze user engagement. 156 self-referred help-seeking individuals in the first study met the inclusion criteria and were randomized either to intervention group or a waiting list. In the second study 1077 participants were randomized to either intervention group or intervention group with therapist support on demand. The intervention was modular in a sense that participants could freely choose between the 12 available exercises for one month. Engagement was calculated by the number of completed exercises during the study. To measure ICD-11 adjustment disorder symptoms we used a short version of the Adjustment Disorder New Module (Glaesmer et al., 2015) – the ADN-8.

### Results

Almost half (47%,  $n = 74$ ) of participants in the intervention group completed  $\geq 1$  intervention exercises ( $M = 6.46$ ,  $SD = 10.24$ ) and were considered engaged into the intervention. Significant differences were found in AjD symptom levels between engaged participants ( $n = 74$ ) and those who did not complete any of the exercises ( $n = 82$ ),  $t(143.708) = -2.24$ ,  $p = .027$ . Participants who did not complete any of the intervention exercises had statistically significantly higher levels of AjD symptoms at baseline ( $M = 28.39$ ,  $SD = 2.59$ ) in comparison to the engaged participants ( $M = 27.36$ ,  $SD = 3.07$ ). Engagement data analysis of the second study revealed some differences between engaged participants ( $n = 366$ ) and those who did not complete any of the exercises ( $n = 711$ ). Engaged participants were significantly older ( $M = 37.58$ ,  $SD = 12.62$  vs.  $M = 34.05$ ,  $SD = 11.01$ ),  $t(1075) = -4.57$ ,  $p < .001$ ,  $d = .30$ . Women were more likely to use the program (36%) than men (27%) ( $\chi^2(1) = 4.87$ ,  $p = .027$ ).

### Discussion

Our findings demonstrate the importance of individual differences for engagement in internet-based modular CBT self-help interventions for adjustment disorder. Internet-based modular self-help program might need to be adjusted to fit the needs of individuals with severe adjustment difficulties. We further discuss the need for clear criteria for defining, measuring and comparing user engagement across various interventions and research designs.

## Factors Affecting the Effectiveness of Metacognitive Therapy

Yuma Fujishima, Ayumi Umeda, Hiroto Ikeda, Eriko Takahashi & Kaneo Nedate, Waseda University, Japan

### Introduction

Conventionally, it has been reported that the effectiveness of attention training techniques (ATT) can be compromised by the belief that “ATT can block internal experiences such as undesirable thought and emotion” (Wells, 2009). However, the nature and impact of beliefs that could affect the effectiveness of ATT have not been clarified. In this study, such beliefs were estimated as “metacognitive beliefs about coping with internal experiences.” For example, “If you distract yourself from uncomfortable feelings or do not think about unpleasant things, you will feel better.” We tested the hypothesis that “the strength of metacognitive beliefs about coping with internal experiences hinders the effect of ATT.”

### Method

Participants in this study consisted of 147 undergraduate students (67 males and 80 females) with a mean age of 20.07 years ( $SD = 1.28$ ). The composition of the questionnaire was as follows: (1) the Metacognitive Beliefs about Coping with Inner Experience Scale (MBCS); (2) the Voluntary Attention Control Scale (VACS; Imai, Kumano, Imai, & Nedate, 2015); and (3) the Detached Mindfulness Mode Questionnaire (DMMQ; Imai, Imai, & Kumano, 2012). MBCS is composed of three factors: “usefulness of coping,” “difficulty in quitting

coping,” “non-functionality of coping.” VACS can measure the active attention control function by three factors: “selective attention,” “switching attention,” and “divided attention.” DMMQ measures the degree of detached mindfulness (DM) aimed at by metacognitive therapy.

### **Results**

Hierarchical multiple regression analysis was conducted by entering the active attention control function in Step 1, each factor of metacognitive beliefs in Step 2, interaction term in Step 3 as explanatory variables, and DM as an objective variable. As a result, when introducing “usefulness of coping” as a metacognitive belief, the interaction was significant ( $\Delta R^2 = .04, p < .01$ ;  $\beta = -.23, p < .01$ ). As a result of simple slope analysis, it was shown that active attention control function is less likely to promote DM when beliefs about “usefulness of coping” are strong (+1SD:  $\beta = .41, b = .19, p < .01$ ; -1SD:  $\beta = .78, b = .36, p < .01$ ).

### **Discussion**

According to the research results, it was shown that the effect of ATT may decrease when the belief about “usefulness of coping” is strong. Therefore, prior to implementing ATT, it is necessary to intervene in beliefs like, “If you cope with unpleasant things, you will feel better.” If the conviction concerning the “usefulness of countermeasures” is strong, ATT may be used as a means of emotional adjustment and avoidance. In the future, the accumulation of empirical knowledge through experimental research and intervention research is required.

## **Interactive Imagery, to Comprehend Mental Imagery from the Interaction Among Multiple Sense Modalities**

**Haruna Fukui, University of Tsukuba, Japan**

**Satoshi Mochizuki, Hosei University, Japan**

### **Introduction**

In cognitive psychology, mental imagery has been investigated from the aspect of only one sense modality, especially visual imagery, or measured by several modalities separately. On the other hand, in the many therapeutic imagery techniques, several sense modalities are reported empirically to be involved during imaging, and these modalities are thought to interact with each other. We named such mental imagery, in which multiple sense modalities are involved simultaneously and interact with each other dynamically, as “interactive imagery”. In this study, we examined what kind of sense modalities play an important role and how modalities interact with each other during imaging. In addition, we tried to characterize the participants by their patterns how each sense modality contributed to imaging.

### **Method**

Thirty-two healthy participants were instructed to image according to a recorded description of ‘farm scene’ used by hypnosis and behavior therapy. After imaging, they were asked to speak freely what kinds of images they had, and then, they are instructed to rate the vividness of their modality imagery respectively with a 5-point scale. The kinds of sense modality obtained through participants’ free answer were following; field perspective visual imagery (image through their own eyes), observer perspective visual imagery (see themselves as actors), non-reality visual imagery (images like photos, anime), other visual imagery, auditory, gustatory, olfactory, thermal sense, tactile, kinesthetic, organic, and other sense imageries. The number of appearances and the extent of vividness (the mean of 5-point scales) of each modality that occurred during imaging was measured. Furthermore, the interactions of sense modalities were analyzed with the correlation analysis and the cluster analysis.

### **Results**

The correlation analysis showed that there were positive correlations in the appearance number of modalities among field perspective visual, auditory, gustatory, olfactory, thermal sense, tactile, kinesthetic, organic imageries. Non-reality visual imagery was on the other hand, negatively correlated with many other modalities. In addition, in the extent of imagery vividness, many of modalities except observer perspective visual imagery, non-reality visual imagery, and other visual imagery were closely related. The cluster analysis showed that five clusters among the participants were characterized by the involvement of many modalities or not, and the extent of the contribution of field perspective visual imagery and non-reality visual imagery.

### **Discussion**

The present study demonstrated that multiple sense modalities interacted closely with each other during imaging. Previous studies investigated mental imagery by single sense modality or by several modalities separately, however, this approach could not cover mental imagery enough. Our interactive imagery may be a useful concept to comprehend mental imagery totally and offer a new approach for imagery therapy. Moreover, our study suggested that it is important to distinguish field perspective visual imagery from non-reality one, in considering the interaction of sense modalities. Further study is necessary to elucidate the interactive imagery in more detail.

## **“Now I’m Mindfully Driving Through Life” – Croatian Police Officers’ Satisfaction with MBCT Training**

**Dragana Markanović Branka Bagarić, Croatian Association for Behavioral-Cognitive Therapies, Croatia**

**Ivana Glavina Jelaš, Police College, Croatia**

**Jurica Pačelat, Police College, Croatia**

**Branka Bagarić & Dragana Markanović, Croatian Association for Behavioral-Cognitive Therapies, Croatia**

### **Introduction**

Police work is one of the most stressful occupations in the world, which has negative effects on officers’ mental and physical health. There are different treatments for improving officers’ health, such as mindfulness training, which is increasingly used in the police force (Christopher et al., 2015; Chopko & Schwartz, 2013; Kelley & Lambert, 2012). Mindfulness-Based Cognitive Therapy (MBCT), among others, shows promise for helping this population. It might be especially useful as a stress prevention and mental resilience enhancement program. Stress prevention and management is critical for police officers considering the frequent exposure to brutal operative stressors. The aim of this study was to assess the perceived usefulness of and satisfaction with the MBCT training program in the Croatian police force.

### **Method**

For the first time in Croatia an 8-week MBCT training program was conducted with police officers (N=20) in two separate groups. All registered officers filled out several questionnaires used for the assessment of mental and physical health before and after the training. At the end of the training participants also filled out an evaluation questionnaire constructed for the purpose of this study. This questionnaire consisted of 11 questions regarding their satisfaction with different aspects of training as well as the perceived usefulness of the training.

### **Results**

Results show that all of the officers, without exception, were more than satisfied with the conducted program. They were most satisfied with the teachers and training in general. The training was evaluated somewhat less effective in improving physical health, but it has been

evaluated as very effective in all other domains. In the open-ended questions officers emphasized the usefulness of mindfulness techniques in stress reduction.

#### **Discussion**

MBCT training seems to be an acceptable program for police officers. The acceptability of psychological interventions is a very important aspect when working with police officers, due to their fear of stigma when discussing mental health.

### **Does Feedback in Routine Psychotherapy Improve Outcomes? - Preliminary Results of a Doctoral Thesis**

**Sebastian Gmeinwieser & York Hagemayer, University of Göttingen, Germany**

#### **Introduction**

Theoretical Background: Previous research showed that monitoring and feedback of patient variables every treatment session improves outcomes for patients at risk of deterioration. Mixed results were found whether feedback improves patient outcomes overall. Previous research mostly neglected non-US samples, outpatient treatment, therapists' challenges using feedback and how feedback is utilized by therapists during treatment.

#### **Method**

Sample: Patients treated since April 2017 (n = 246) are compared to patients previously treated at the therapy and counseling center (an outpatient clinic at the university of Göttingen, n = 1514).

Measures: Outcome: Symptom distress (BSI), Life satisfaction (QLSM). Monitoring: Symptom distress (BSI), Therapeutic alliance (HAQ).

Procedure: Monitoring sessions every fourth treatment session with feedback at two times during treatment (16th and 28th session).

#### **Results**

Mid-project evaluation among therapists: Therapists considered the perceived ease of use of the measures collected and the feedback provided as moderate to high.

Utilization of monitoring and feedback: On a descriptive level, there are no differences in feedback use over time and no differences between monitoring measures.

Effect of Feedback on treatment outcome: Patients in both groups improve from pre- to posttreatment in symptom severity and life satisfaction outcome ratings. Control group patients seem to improve more in general life satisfaction and less in symptom severity compared to the treatment group. This could be due to selection effects at posttreatment.

#### **Discussion**

Preliminary results indicate that feedback and monitoring may not improve outcome significantly. However, if monitoring and feedback account for overall improvement in treatment outcome is still to be discussed. The current state of data collection does not allow a final conclusion.

### **ACT Processes in Schema Therapy – Using the Hexaflex to Describe Interactions Between the Schema Modes**

**Johannes Hessler, Schoen Clinic Roseneck, Germany**

#### **Introduction**

Both Acceptance and Commitment Therapy (ACT) and Schema Therapy (ST) are based on a contextual understanding of cognitions, emotions, and behaviors. That is, the therapeutic focus moves away from the content of these phenomena and is placed on the contexts, in which they occur, as well as how we relate to them. While being conceptually related, ACT and ST view mental disorders from different angles and, hence, coined their respective vocabulary. ACT postulates psychological inflexibility to be at the core of mental disorders. The interaction of six mental and behavioral processes, which together constitute the hexaflex, is thought to develop and maintain this inflexibility. Reversing these processes, e.g., by replacing experiential avoidance with acceptance for all inner phenomena, should increase psychological flexibility and ameliorate or remedy the disorder. ST, in turn, postulates that an interplay of inner entities that each represent different cognitive, behavioral, or emotional states (modes: inner child, inner critic, coping, and healthy adult) leads to emotional suffering and functional impairment. The mode model maps the dynamic between the modes. Coming from an ST-perspective, the talk aims to adopt the language of the ACT hexaflex to describe the processes occurring between the modes defined by ST. This approach serves multiple purposes by 1) emphasizing the contextual and integrative nature of ST, 2) adding to the explanatory power of the mode model, and 3) opening windows for integrating ACT-interventions into ST. The talk will give a theoretical overview of the similarities and differences between ACT and ST in the understanding of mental disorders. By emphasizing the importance of the healthy adult mode in reaching therapeutic progress, the ACT hexaflex will then be matched to the relationships between the modes in the mode model. Eventually, examples for practical interventions that draw on this theoretical integration will be given.

### **Cognitive Behavioral Therapy Outcome Prediction for Individual Patients Using Routine Data from Two Berlin Outpatient Centers Using Machine Learning**

**Kevin Hilbert, Tanja Schuhmann, Stefanie Kunas, Ulrike Lueken, Norbert Kathmann, Thomas Fydrich & Lydia Fehm, Humboldt-Universität zu Berlin, Germany**

#### **Introduction**

Identifying patient at risk for insufficient therapy outcomes already at pre-treatment is an important prerequisite for subsequently individualizing treatments in order to maximize therapeutic efficacy. Previous research investigated many potential predictor variables, but clinical application is limited as these findings overwhelmingly stem from group investigations that cannot be applied to the individual patient. Machine learning approaches have the potential to remedy this shortcoming. Here, we used routinely available, easy to collect and inexpensive sociodemographic and clinical data to predict cognitive behavioral therapy (CBT) outcomes across two large, naturalistic and longitudinal dataset of patients.

#### **Method**

Data from two Berlin outpatient centers with n = 1.813 (sample 1) and n = 533 (sample 2) subjects were included in the analyses. Sample 1 was very heterogeneous with a large variety of disorders, sample 2 only included patients suffering from obsessive-compulsive disorder (OCD) as primary diagnosis. Routinely collected baseline data including sociodemographics, symptom measures and functional impairment ratings was subjected to classification (remission) and regression (dimensional change) machine learning models, separately for both samples. Competing models were trained and tested on independent subsamples. The best models were evaluated on held-out validation data.

## Results

Within both datasets, the best models for classification and regression performed significantly better than chance on the validation sets (sample 1, remission: 59% balanced accuracy,  $p < 0.001$ ; dimensional change:  $r = 0.27$ ,  $p < 0.001$ ; sample 2, remission: 64% balanced accuracy,  $p < 0.001$ ; dimensional change:  $r = 0.18$ ,  $p = 0.018$ ). Sociodemographics, functional impairment and comorbid personality disorders were among the most important features for sample 1, while OCD symptoms, age of onset and socioeconomic status emerged as important predictor variables in sample 2. Symptom severity indices were among the most important features in both samples.

## Discussion

The studies' unparalleled ecological validity provides an unbiased estimate of CBT outcome prediction performance under naturalistic conditions. However, while all predictions with the selected best models were significantly better than chance, none provided accuracies high enough for actual clinical utility. Comparing accuracies between datasets suggests only a minor influence of sample homogeneity. Adding clinical constructs specifically related to disorder etiology, maintenance and mechanisms of change, as well as adding further data modalities from deep (e.g. neural systems) to digital (e.g. electronic momentary assessment) phenotypes might path the way for better predictions and improved therapeutic outcomes.

## The Relationship Between Self-Discrepancies and Psychological Inflexibility

Yorgo Hoebeke & Pierre Philippot, Psychological Sciences Research Institute (IPSY), Belgium

### Introduction

This study focused on the relationship between, on one hand, self-discrepancies, on the other end, psychological inflexibility, and how they relate to levels of depression and general anxiety. Psychological inflexibility (PI) refers to rigidity, lack of contextual sensitivity, and avoidance of aversive emotions; Self-discrepancy Theory (Higgins, 1989) aims to explain how self-guides (representations about the self) are associated with emotional vulnerabilities. This theory only comprised two self-guides: the ideal-self, the attributes people would very much like to possess, and the ought-self, the attributes people believe they should possess according to close relatives. Other authors studied the effect of additional self-guides: the undesired-self, the attributes people would not like to possess, and the un-ought-self, the attributes people believe they should not possess according to close relatives.

### Method

A cross-sectional study was conducted with 410 French-speaking participants (309 females, Mage = 28.4 years, SD = 11.9). Using an adapted version of the Self-Discrepancies Scale (S-DS), participants were asked to report the perceived gap between their actual self and all four self-guides. They also reported their distress regarding each self-guide and their belief in their ability to positively improve the situation regarding each self-guide. Moreover, one item measuring to what extent their ideal-self and ought-self were in conflict was added. Finally, they completed questionnaires of depression (CES-D), anxiety (GAD-7, and psychological inflexibility (AAQ-II).

### Results

PI moderated the relationship between the perceived self-discrepancies and distress. That is, the more people have PI, the more perceived discrepancies are associated with distress (there were no moderation effects between the distress scores and depression or anxiety). PI also mediated the effect of the distress regarding the self-discrepancies on depression and anxiety. This means that, when people have distress regarding their self-discrepancies, this distress is associated with higher scores in PI, and these scores are associated with higher scores of depression and anxiety. Last, when entering all the variables in two multiple regression models predicting depression and anxiety, the models explained 59% of the variance of the scores of depression,  $R^2 = .59$ ,  $F(14,392) = 40.21$ ,  $p < .001$ , and 47.6% of anxiety,  $R^2 = .47$ ,  $F(14,393) = 25.44$ ,  $p < .001$ , respectively. Removing psychological inflexibility of the models results in a loss of 17.9% and 18.1% of the explained variances.

### Discussion

We discussed that PI might be a central mechanism involved in a positive feedback loop. Namely, this hypothesized positive feedback loop entails that the further away people are from their ideal-self and the more they are psychologically inflexible, the more this gap is associated with distress; this distress is associated with higher psychological inflexibility which is in turn associated with higher depression and anxiety scores. Thus, breaking this positive feedback loop by improving the psychological flexibility of patients could improve their mental health. However, due to the cross-sectional nature of this study, those conclusions warrant further experimental research.

## Worry About Social and Interpersonal Problems Associated with Motivation for Psychotherapy Among Cancer Patients

Kanako Ichikura, Kitasato University, Japan

Wakana Takeshita, Waseda University, Japan

Yuko Fukase, Kitasato University, Japan

Norio Murayama, Juntendo University, Japan

Taehee Kim & Hirokuni Tagaya, Kitasato University, Japan

Eisuke Matsushima, Tokyo Medical and Dental University, Japan

### Introduction

Introduction: Cognitive behavioral therapy (CBT) is typically an effective treatment for the improvement of psychosocial distress and quality of life in cancer patients. However, cancer patients frequently drop out early from high-intensity psychological interventions including CBT. Motivation for psychotherapy is the most important factor in the introduction of psychological interventions. The aim of this study was to examine the association between the quantity or quality of worry and the motivation for psychotherapy.

### Method

Method: We conducted a single-center, cross-sectional study using a self-reported questionnaire. The data were collected from outpatients or inpatients at the departments of respiratory medicine, gynecology, digestive surgery, and head and neck surgery, Medical Hospital of Tokyo Medical and Dental University between March 2018 and January 2019. The questionnaire included the Brief Cancer-Related Worry Inventory (BCWI), Hospital Anxiety and Depression Scale (HADS), and motivation for psychotherapy. The BCWI consists of three subscales: (1) future prospects, (2) physical and symptomatic problems, and (3) social and interpersonal problems. We estimated the odds ratios (ORs) and 95% confidence intervals (CIs) of worry and anxiety for motivation for psychotherapy using logistic regression models.

### Results

Results: One hundred and sixty-two cancer patients were considered potentially eligible. Seventy-three (45.0%) patients were over 70 years old, 83 (51.2%) were men, and 78 (48.1%) had advanced cancer. We sequentially introduced groups of variables into the logistic regression

model: first demographic and clinical variables (sex, age, cancer stage, and history of psychiatric visits), and then BCWI and HADS scores. The logistic regression analysis indicated that the BCWI score for social and interpersonal problems was related to motivation for psychotherapy, with an OR of 1.03 (95% CI: 1.00-1.07). No other variables were associated with motivation for psychotherapy.

#### **Discussion**

Conclusions: Our results demonstrated that cancer patients who worry about social and interpersonal problems hope to receive psychotherapy. However, there was no relationship between anxiety or depression and motivation for psychotherapy. Cancer patients with high psychological distress scores are often referred to clinical psychology specialists in practice. Therefore, in future, we should discuss the application of CBT or any other psychotherapy focused on patients' needs as well as on the level of psychological distress.

### **Overuse of Analgesic Medications, Substance Abuse and Somatic Symptom Disorder**

**Selcuk Aslan, Gazi University, Turkey**

**Damla Isik\*, Private Practice, Turkey**

#### **Introduction**

Somatic Symptom Disorder is a mental disorder that is persistent and resistant to change. In CBT, the predisposing, precipitating and perpetuating factors are evaluated and elaborated. Among perpetuating factors, the advantages that are gained have an important role in the reflections of somatic symptoms. The attribution to the pain is discussed with the clients. Most of the cases are complicated with substance use (such as marijuana) or heavily use of pain killers. Two different cases and the application of CBT technique with 10 structured sessions are discussed in the report.

#### **Method**

The first case is an 17-year-old boy senior high school student. He experiences headache, dizziness and dissociative seizures. He also has anger management problems, self-harm, using pain killers daily and smoking. The second case is a 21-year-old boy who studies in a university. He has a neck pain and marijuana use for anxiety reduce, pain killing and socializing. Inventories are given (Beck's Depression, Beck's Anxiety, RCADS) to clients. Somatic symptom monitoring form is assigned for the functional analyses of the pain. The catastrophic beliefs and the attribution towards pain are discussed. In addition to this, exposure technique is used to tolerate the somatic symptoms, the pain feeling. By using the body scanning technique and attention training, the focus on pain is shifted on other issues. Afterwards the advantages and disadvantages of the pain and ways to manage pain are discussed. Activity plans are set with the clients for motivation and to avoid procrastination.

#### **Results**

The attention of the family, the avoidance of the failures and disappointments, a way of tolerating the anxiety and avoiding the burden of the responsibilities can be categorized as secondary benefits for the current clients.

Through guided discovery, body scanning and the somatic symptom monitoring the clients understand that their pain is decreased or not experienced when they shift their attention to another mission. The times they were relaxed and do not have any negative expectations they do not feel the pain. The number of daily activities and the number of school days they attended are increased.

#### **Discussion**

After the structured sessions are ended, the following sessions were done with the clients. With the 17-year-old boy case, it is seen that after he started living in another city to attend college his symptoms are ended. The attitudes of his parents had a positive reinforcement and the high anxiety environment he had during senior high school had an effect on his symptoms.

With the 21-year-old boy case; it is seen that the marijuana smoking and the analgesic misuse attempts were more frequent than before.

Within the 10 sessions, the client seems to be able to open himself up more and reported the reality of his pain killer misuse and marijuana use in a detailed way. It is seen that his substance abuse was avoiding him in his treatment. It is decided to continue his treatment by using a CBT technique on Substance Abuse.

### **Application of Continuum Technique to Modify Core Beliefs**

**Selcuk Aslan, Gazi University, Turkey**

**Damla Isik\*, Private Practice, Turkey**

#### **Introduction**

Core beliefs about the self and others are crucial for understanding human behaviour. In CBT practice, studying on core beliefs may be helpful for solving difficult, chronic and persistent dysfunctional behavioural problems, such as procrastination, self-destructive behaviour etc. In the first place, the CBT therapist works with the basic cognitive intervention for the cognitive restructuring. The therapist teaches the client how to follow his/her own assumptions, automatic thoughts and intermediate beliefs and their results in different situations. However, if the persistent dysfunctional behaviours or beliefs such as "worthlessness" still continue and this way of cognitive restructuring is not enough, then working on the core beliefs by using the continuum technique is essential.

#### **Method**

In this report, 3 clients (18 year old girl: Depression and Anxiety Disorder, 40 year old woman: Borderline Personality Disorder, 35 year old woman: Eating Disorder), whom have common type of schemas (worthlessness, failure, not being enough, low self-esteem, being ugly et.c) are discussed.

With guided discovery and downward arrow technique and assigning inventories (Young Schema, Beck Depression, Beck Anxiety, Eating Disorder Inventories) the core beliefs of the clients are elaborated.

The degree of commitment to the core belief of the clients and the validation of them are evaluated through historical evidence and current evidence by grading in a continuum.

After this, the new alternative and functional core belief is studied in the session and the new evidence is asked to be collected with a daily log by the clients.

#### **Results**

When they are faced with difficult situations instead of choosing disruptive way of behaviour styles, the clients are able to become better at problem solving skills and decision-making processes. They are able to set new goals and make a plan and take a step to achieve them. In addition to this, they are able to analyse their situations in a more balanced way.

## Discussion

However, in new complex situations they have a tendency to choose a disruptive way of behaviour. It is seen that even though they are able to detect their dysfunctional schemas and set a new plan to achieve their goals, they are unable to adapt the new functional schema permanently. Even though it is observed that their emotional break downs are experienced in a longer time gaps, it is assumed that further therapeutical work is essential to internalize the new functional schema.

## Effectiveness of Role Lettering for Anger Considering the Differences in the Imaginary Other

Tomomi Kanetsuki, Tokyo Denki University, Japan

Masaru Kanetsuki, Hosei University, Japan

### Introduction

Anger is a negative feeling that could damage interpersonal relationships when exhibited strongly, i.e. high trait-anger. Recently, a writing technique (Pennebaker & Beall, 1986), based on a cognitive approach, has found an application to modify anger (Endo, 2009); however, it has not been considered regarding the interpersonal aspect along with anger arousal. Perhaps, a different type of writing approach, known as role lettering (RL; Haruguchi, 1987), could be suitable for alleviating anger. Inspired by the empty chair technique (Perls, 1969), RL is a cognitive technique where the self and an imaginary other person write imaginary letters to each other. Notably, RL is the relationship between the self who is writing the letter and the imaginary other. This study examines the effects of three long-term RL interventions focusing on the differences in the imaginary other—RL targeting the angry other; RL targeting the receptive other and RL targeting those two—on alleviating anger.

### Method

Participants in the present study were 36 undergraduate students who scored the mean or higher on the Trait-Anger (T-Anger) Scales; they were categorised into four groups as follows: the angry other RL (ARL,  $n = 8$ ); the receptive other RL (RRL,  $n = 9$ ); the mixed other RL (MRL,  $n = 8$ ) and the control group (NC,  $n = 11$ ). RL comprised sending a letter and replying to it (10 min each), focusing on a situation involving anger—ARL (the other who felt anger), RRL (the other who supported participants' feelings) and MRL (comprising both). Three RL groups received four interventions, and no intervention was provided to NC. Participants completed the same questionnaire during the pre- and post-treatment and the 3-week follow-up. Furthermore, a two-way ANOVA was performed for each measure.

### Results

In all RL groups, the anger self-statements, as a cognitive element, exhibited significantly lower scores than NC at the post-treatment ( $P < 0.05$ ). Regarding T-Anger, the correlations were significant ( $F_{6,64} = 2.15, P < 0.01$ ), and RRL exhibited significantly lower scores than ARL and MRL in the post-treatment ( $P < 0.05$ ). Meanwhile, two RL groups, excluding MRL, exhibited a significant reduction compared with NC during the follow-up ( $P < 0.05$ ).

### Discussion

In this study, anger self-statements decreased in each RL group, especially after the fourth session. Long-term RL with an angry other and the receptive other effectively decreased trait-anger at the 3-week follow-up. Thus, this study establishes that two types of RL effectively modify the cognitive aspect of anger. However, continuing a single RL is recommended to sufficiently alleviate trait-anger as an emotional aspect of anger.

## The Relationship Between Disconnection and Rejection Schemas and Loneliness

Youngkeun Kim, Joo Hee Lee, Inje University, South Korea

### Introduction

College student's significant task is the formation of intimacy and mature relationship (Erikson, 1963). According to investigation of health conditions, 73.7% Korean college students have difficulty in interpersonal relationship and loneliness. Thus, this study is based on Young's early maladaptive schema theory and tried to find out the disconnection and rejection schema that is developed by the unsatisfied experience early in life and bring out psychological problem consistently. This study is also aimed to examine the mediating effects of rejection sensitivity, ambivalence over emotional expressiveness and fear of intimacy.

### Method

The adapted version of Young Schema Questionnaire Short Form that includes only the disconnection and rejection schemas (YSQ-SF; Young, 1998; Lee et al., 2006), the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996; Lee, 2000), the Korean version of Ambivalence over Emotional Expressiveness Questionnaire (AEQ-K; King & Emmons 1990; Choi, 2006), Fear of Intimacy Scale (FIS; Descutner & Thelen, 1991; Jun, 2013), UCLA Loneliness Scale (RULS; Russell, Peplau, & Ferguson, 1978; Kim et al., 1989) were administered to 414 college students (142 men and 272 women). This study verified research models and competition models through structure equation modeling (SEM). Also, for testing the significance of indirect effects, bootstrapping procedures were applied.

### Results

There was a significant positive correlation between disconnection and rejection schemas and loneliness. Disconnection and rejection schemas had both indirect and direct effects on rejection sensitivity, ambivalence over emotional expressiveness and fear of Intimacy, and loneliness. Rejection sensitivity was positively correlated with loneliness but there was indirect effect between rejection sensitivity and loneliness. Ambivalence over emotional expressiveness and fear of Intimacy had significantly mediating effects on relationship between disconnection and rejection schemas and loneliness. Especially, rejection sensitivity showed significantly mediating effect in the path from ambivalence over emotional expressiveness and fear of Intimacy to loneliness.

### Discussion

Through this study, the findings verified the cognitive-affective mechanism according to previous studies. Disconnection and rejection schemas lead to loneliness through the fear of rejection, emotional expression, and intimacy in interpersonal relationship. Thus, this study implicated that counseling intervention dealing with cognitive treatments and emotionally focused therapy is significant to help college student who often experience loneliness.

## **Clinical and Medico-Economic Assessment of Cognitive Behavioral Group Therapy for Recovery of Self-Esteem**

**Hiroko Kunikata, Kagawa Prefectural University of Health Sciences, Japan**

**Naoki Yoshinaga, University of Miyazaki, Japan**

**Kensuke Yoshimura, Chiba University Hospital, Japan**

**Yuko Shiraishi, International University of Health and Welfare, Japan**

### **Introduction**

Introduction: This study aimed to investigate whether participation in a Cognitive Behavioral Group Therapy for Recovery of Self-esteem (CBGTRS) program was linked to improvement in clinical assessment indices and a decrease in medico-economic costs over a 9-month post-program observation period.

### **Method**

Method: This study adopted a one-group pre- and post-test design. The participants were 28 individuals with mental illness living in region in Japan (4 with Sc4, 4 with MDP, 8 with stress-related disorders, 7 with depression, 3 with anxiety disorder, and 2 with obsessive-compulsive disorder). Intervention was based on Teaching Materials for Cognitive Behavioral Group Therapy for Recovery of Self-esteem, and conducted over 12 weekly sessions with 5-6 patients in each group. The outcome indices were the scores on the Rosenberg Self-esteem Scale (Rosenberg), Cognitive Bias Scale (Tajima), GAF, and EQ5D5L. The medico-economic costs were the actual medical costs incurred by the patients. Total medical costs were calculated for every 3-month period and compared. Specifically, costs were summed up for the 3-month pre-intervention period (A0), 3-

### **Results**

Results: With respect to clinical assessment indices, EQ4D5L at T2 was significantly higher than that at T0, demonstrating medium efficacy ( $p < .05$ , ES.51). Efficacy at T1 and T3 were minor (ES.37,.47). Self-esteem at T2 and T3 was significantly high, demonstrating medium efficacy ( $p < .05$ , ES.64;  $p < .01$ , ES.71). "Fortune teller error," "should thinking," "jumping to conclusions," "personalization," and "all-or-nothing thinking" in cognition significantly declined during T3, demonstrating medium efficacy ( $p < .05$ , ES.5-.7). As for GAF, efficacy was observed at T2 and T3 ( $p < .01$ , ES-.70;  $p < .001$ , ES-1.1). Medical costs during A2 and A3 were significantly lower than that at A0, demonstrating medium efficacy ( $p < .01$ , ES.63;  $p < .05$ , ES.55).

### **Discussion**

Conclusions: Intervention via a CBGTRS program was linked to improvement in clinical assessment indices and a decrease in medical costs incurred by patients.

## **A Mobile Game for Improving Psychological Flexibility Skills in Elementary School Children**

**Raimo Lappalainen, University of Jyväskylä, Finland**

**Katariina Keinonen, University of Jyväskylä**

**Anna-Lotta Lappalainen, Solent NHS Trust**

### **Introduction**

Children with aggressive behavioural patterns have been found to have deficiencies in problem solving strategies and empathy while interacting with others. Classroom-level interventions are needed for prevention of psychological problems among children. To our knowledge there are few studies investigating the impact of mobile games as tool in delivering process-based CBT interventions at schools. The project was set to develop a mobile game for anti-bullying.

### **Method**

The game was based on principles of Relational Frame Theory (RFT). The game was designed for 10-13 years-old school children. The gameplay aims to increase children's psychological flexibility skills through the use of dialogues and problem-solving approach. It teaches skills related to perspective taking, values, emotion and thought management through gamification.

### **Results**

The user-experiences and acceptability of the game have been positive. The paper will report preliminary results of effectiveness and acceptability.

### **Discussion**

Using a mobile game to deliver psychological interventions for children in the school context can be an interesting alternative for increasing psychological well-being among children.

## **The Biological Mechanism of Cognitive Behavioral Therapy**

**Jian Gao, Pengchong Wang & Zhanjiang Li\*, Beijing Anding Hospital, China**

### **Introduction**

At present the biological mechanisms of cognitive behavioral therapy (CBT) are not clear and need to explore. This review aimed to investigate biological mechanism of CBT and establish a foundation for promoting the development of CBT.

### **Method**

A systematic search was performed following Preferred Reporting Items for Systematic Reviews and randomized controlled trials, including four aspects of brain function, neuroelectrophysiology, neuroendocrine system and immunity, heredity and epigenetics, involving multiple biological mechanisms of CBT.

### **Results**

CBT is efficacious for various psychiatric diseases. The changes of brain function in patients with anxiety disorder, obsessive-compulsive disorder and depressive disorder are mainly reflected in the regulation of abnormal neural circuits after CBT, and these results has been supported by the most scientific evidence. The efficacy of CBT may be mediated by regulating the disordered neuroendocrine function and lowering the level of pro-inflammatory cytokines. The changes of neuropsychological function improved after CBT can also be reflected by the components of ERP. The biological effects of CBT probably begin in the process of gene transcription.

### **Discussion**

This paper proposes that the biological integration mechanism of cognitive behavioral therapy is a multi-disciplinary integration model which develops from micro, middle and macro levels.

## **Suicidal and Aggressive Ideation Associated with Feelings of Embitterment. Psychopathology**

**Michael Linden & Isabell Noack, Charité University Medicine Berlin, Germany**

### **Introduction**

Mental disorders can be associated with suicidal or aggressive ideation and behavior, especially in the context of embitterment. Aim of the present study is to investigate the type, prevalence and dangerousness of aggressive and suicidal ideation associated with embitterment.

### **Method**

Whenever therapists from a department of behavioral medicine saw signs of embitterment, aggression or suicidal thoughts in their patients, they routinely had to fill in a questionnaire on aggressive ideation, assess embitterment and contact a senior psychiatrist. Additionally, patients answered an embitterment scale.

### **Results**

There were 127 patients or 3.84% of all patients with suicidal and/or aggressive ideation. They had an increased score of 2.93 (s.d.=0.74) on the embitterment scale, associated with personal vilification (62.7%), breach of trust (30.2%), public humiliation (25.4%), death/loss (5.6%), or attacks by another person (14.3%). In 83.5% harbored aggressive ideation was found, of which 94.1% were directed against the person who had caused the problem, 88.3% wanted to inflict severe damage, and 38.8% to harm another person, 31.5% showed suicidal ideation, and 3.2% fantasies of murder suicide. Only 34.3% of the patients reported spontaneously about their current aggressive ideation. Limitations of the study are that the data come from an inpatient sample and patients were identified according to clinical judgement.

### **Discussion**

Aggressive ideation is regularly associated to embitterment. This should get the attention of therapists in the prevention of aggressive acts.

## **Sociomedical Interventions and Support of Work Participation in CBT**

**Michael Linden, Charité University Medicine Berlin, Germany**

### **Introduction**

Many mental disorders take a chronic course and are associated with capacity impairments and participation restrictions in work, family, or leisure times. Psychotherapy is the core mode to help patients to cope with daily demands. This includes improvement of symptoms, but also training of capacities and support of participation. Participation oriented treatment includes sociomedical interventions (e.g. work disability certificates, job training, family help).

### **Method**

In a first step 134 case reports of outpatient CBT were analyzed for problems at work and participation oriented interventions. In the next step we compiled a list of potential participation oriented interventions, which could be used in CBT.

### **Results**

In one third of outpatient CBT problems of work were reported. In one quarter was this part of the reason to ask for CBT. In 6% work problems were described as treatment targets. Treatment goals were in 3.7% a reduction of work demands, in 1.5% a change of the work place, in 1.5% changes in work related behavior, and in 0.7% a return to work. Sociomedical treatment options were no topic. Therefore a compilation of such potential support was made. This included 35 different possibilities of sociomedical help.

### **Discussion**

Participation restrictions and disability are regular facets of mental disorders. Therapists must be aware of these problems and apply specific treatments. This so far not sufficiently recognized by therapists. The checklist of potential sociomedical interventions can help to guide treatment.

## **Overcoming Academic Procrastination in Teenagers Through CBT vs REBT Group Interventions: A Pilot Study**

**Petra Lohan & Anca Dobrea, Babeş-Bolyai University, Romania**

### **Introduction**

Procrastination is an important problem, both in daily life and in the academic setting, being defined by putting off until tomorrow what is in our interest to do today. Thus procrastination has three major features: a task that it is in our interest to do, a time frame in which it is important for us to take action and a postponement of this action until another time. In addition, procrastination involves one or more additional postponements until action is taken: at the very last minute, after the deadline or action is not taken at all (Dryden, 2000). The theoretical frameworks of our research are the Cognitive Behavioral Theory (CBT) and the Rational Emotive Behavior Theory (REBT). Existing intervention research on academic procrastination primarily employed the CBT approach, which worked on irrational beliefs and maladaptive behaviors (e.g. poor time management, inability to make reasonable plans) that were assumed to be responsible for procrastination (Ferrari, Johnson, & McCown, 1995). Ellis and Knaus (1977) formulated the first REBT explanations of procrastination, contending that self-criticism and irrational fears have significant impact on procrastination. The irrational beliefs are one of the most important causes of procrastination (Ellis & Knaus, 1977). Dryden (2012) states that people procrastinate since they hold irrational beliefs about anticipated „A's". This pilot study aims to investigate the efficacy of CBT vs REBT time management intervention/optimization programme implemented in a school setting. The objective of these group interventions is to reduce the frequency of academic procrastination behaviors among high school students.

### **Method**

Our randomized clinical trial will be conducted on a sample of 56 teenagers from a high school from Cluj-Napoca (age 14 – 18). Participants will be randomized into two numerically equal groups: a CBT group (the active control group) and a REBT group (the experimental group). Both groups will be divided into four subgroups of 7 participants each to facilitate the implementation of CBT and REBT interventions. The adolescents will complete the assessments three times: pre-intervention (baseline – T1), post-intervention (T2) and 1 month follow up (T3). We will measure the following: academic procrastination behaviors using Academic Procrastination Scale (APS; Çakıcı, 2003), the frequency of procrastinatory cognitions using Procrastinatory Cognitions Inventory (PCI; Stainton et al., 2000) and rational beliefs about studying using Academic Rational Beliefs Scale (Egan, Canale, Del Rosario, & White, 2007). Results will be analyzed using Multivariate Analysis of Variance (MANOVA).

### **Results**

We expect that after the CBT and REBT group interventions, (1) the frequency of academic procrastination behaviors will decrease and (2) the effect of CBT and REBT group interventions over the reduction of academic procrastination behaviors will be mediated by cognitive restructuring.

## **Discussion**

Our research could indicate if the relation between the CBT and REBT group interventions and the frequency of academic procrastination behaviors is a causal one and if this relation is mediated by cognitive modifications. The practical implications of our study involves refining the therapeutic interventions aimed to alleviating academic procrastination around high school students, which could most probably have a strong impact on their school performance.

## **A Meta-Analysis to Investigate the Effectiveness of Cognitive-Behavioral Coaching**

**Cristina Lorint & Oana David, Babes-Bolyai University, Romania**

### **Introduction**

Nowadays, coaching is becoming more and more popular, and the number of people accessing it is steadily rising. Empirical research in this area has started to document the effectiveness of coaching. There are two meta-analysis that aimed to study the effectiveness of organizational coaching, and they documented positive results for cognitive-behavioral coaching (CBC). CBC is an integrative approach to coaching derived from cognitive-behavioral therapy, which underlines the importance of evidence-based practices. The purpose of this meta-analysis is to investigate the existing literature on the effectiveness of CBC.

### **Method**

We will conduct a quantitative meta-analysis, using as key words: coaching, cognitive, behavioral and cognitive-behavioral. We will search in the relevant databases, having as inclusion criteria studies in English, investigating cognitive-behavioral coaching, published in peer review journals, offering enough data to calculate the effect sizes

### **Results**

We will employ specific analyses related to instruments that were used, models that were used, the elements of the coaching relationship and the environment of coaching process.

### **Discussion**

Results of this meta-analysis have important implications one establishing how the cognitive-behavioral theory can be transported from therapy to coaching.

## **Values in Cognitive-Behavioural Therapy**

**Katarzyna Marchewka, Jagiellonian University, Poland**

### **Introduction**

Despite a large number of studies related to the role and significance of values in the psychotherapeutic process (e.g. Tjeltveit, 1999), the changes taking place in the patient's system of values during the therapeutic process (e.g. Kelly, Strup, 1992; Williams, Levitt, 2007), as well as to the values cherished by psychotherapists (e.g. Gius, Coin, 2000; Katz, Juni, Matz, 2002; Jensen, Bergin, 1988, 1990), there are still very few studies related to the values characteristic of specific schools of psychotherapy. Still, theoretical and empirical deliberations on the ethical aspects of cognitive-behavioural therapy (CBT) may encourage therapists to reflect upon the ethical principles of a given school of psychotherapy as well as how values manifest in the ethos and therapeutic practice of that school.

### **Method**

The theoretical framework of this study consisted of the theory of cognitive-behavioural therapy (e.g. Beck, 2011) and Shalom Schwartz's classical theory of values (1992). The aim of the study was to perform an analysis of values within a quantitative research methodology. I sought to answer the question which values appear in systematically collected literature on culturally sensitive cognitive-behavioural therapy. In my research I limited myself to perceiving cultural issues in therapy only from the cultural background of each patient. I studied the incidence of values in selected papers and books on culturally sensitive CBT. The way of understanding and recognition of values, and their characterisation, were based Schwartz's circular model of values. The results were subjected to qualitative content analysis (Schreier, 2012) with CAQDAS software.

### **Results**

The findings indicate that the values most frequently found in the analysed material were Universalism and Benevolence. These were followed by Tradition and Self-Direction. The following remaining values, which do not show high incidence rates, are: Conformity, Stimulation, Achievement, Security, Hedonism, and Power. Having presented the results, I will showcase the areas within culturally sensitive cognitive-behavioural therapy where specific values are present. For instance, the value of Universalism can be found in the passages on culturally sensitive CBT which discuss: (1) counteracting the stereotypes and prejudices of therapists towards members of different cultures, (2) knowledge of the peculiarities of psychopathologies characteristic of other ethnic groups, (3) knowledge with regard to the values characteristic of members of a given culture, or when discussing (4) an approach based on the patient's strengths due to her/his belonging to a given culture (the so-called strength-based approach in multicultural therapy).

### **Discussion**

In the discussion, I develop the implications of these results for running cognitive-behavioural therapy with persons who do not belong to the Euro-American culture, in particular with members of the so-called collectivist cultures. The formation of a therapeutic relationship based on the identified values will be emphasised. In the conclusion I stress that identifying the values appearing in culturally sensitive CBT and analysing the areas where these values are present contribute to broadening of the knowledge about the values characteristic for the cognitive-behavioural school of psychotherapy in the area of adaptating CBT to the culturally sensitive therapy model, in particular regarding the question of culturally sensitive therapeutic relationship.

## **A Case of Maladaptive Daydreaming. Possible Interventions with Behavioral Activation**

**Andrea Astolfo & Jimena Matacin\*, Red Unitas, Argentina**

### **Introduction**

This poster describes the psychological and psychiatric therapy led in a case of maladaptive daydreaming (MD), an excessive form of unwanted daydreaming that produces a rewarding experience based on a created fantasy of a parallel reality associated with a profound sense of presence.

The patient is 44 years old and began with this activity when she was 15.

Behavioral activation protocol was used as a main tool to stop her MD and CAS.

## **Method**

The patient consulted two years ago when she was almost deadly hit by a car and robbed twice in a few weeks due to her MD. She began with this MD when she was 15 but can recall daydreaming when she was a little girl. MD began as a resource for avoiding extreme painful traumatic events at home and at school, one of them being her mother dying when she was with her. Her mother was a schizophrenic patient and her father a gambler, who never worked. They all lived thanks to her mother's sister, who had no children and supported the family.

When starting therapy, the patient complained of negative symptoms and had very little engagement in real life. MD had taken most of her time, leading her to complete isolation, abandonment of herself, weight problems, etc. She had tried several psychological treatments, most of them psychoanalytically oriented.

She lived with her aunt, who acted at the moment as a maintaining factor. She had no job and no need to have one. She had scarce social life, and spent most time with her aunt at home. She began dating a man, but he had become an interference for her MD, which she preferred. She is systems analyst and spent most of her time on the internet, which also contributed to her MD.

The treatment was both psychological and psychiatric, with difficulties in adherence only at the beginning.

Medication: Quetiapine xr 200

Planned interventions:

- 1) Identifying other sources of life meaning and pleasure in real life/decrease anhedonia
- 2) Behavioral activation plan to stop MD seen as a rumination and increase empowerment and positive reinforcement of activities in real life, as well as approaching the CAS.
- 3) stop self isolation
- 4) decrease dysfunctional thinking
- 5) improve social and interpersonal skills as well as problem solving skills
- 6) relapse prevention

This was carried on with one session/week of psychotherapy during the first and half year and one or two psychiatry sessions/month.

Currently she has two or one sessions/month for relapse prevention with no psychiatry.

## **Results**

Nowadays, the patient no longer has MD episodes. In very few moments of greater stress, she appealed to MD, having full control of the situation. She is no longer under medication since July 2018. She has one or two control sessions per month. She is looking for a job and living with her boyfriend.

## **Discussion**

MD is not sufficiently studied yet and secretly affects a large number of people. Future research should continue to focus its efforts to allow for more targeted interventions. Behavioral activation protocols may be a great tool to work with this kind of patients. Psychological and psychiatric interventions are needed.

## **A Comparative Evaluation of a Class Wide Assertion Program for Junior High School Students**

**Risa Matasuo, Okinawa University, Japan**

**Shinya Takeda, Tottori University, Japan**

### **Introduction**

In this study, we developed an assertion program that nurtures a caring heart for oneself and others. This assertion program was divided into two groups, one is the intervention group and the other the control group falling under the homeroom class teacher at the junior high school. In this study we examined results before and after intervention and followed-up after one month.

### **Method**

The survey consisted of 80 junior high school students (41 males and 37 females, 2 uncompleted forms), ranging in age from 12 to 13 years (averaging  $12.85 \pm 0.36$ ) who were assigned to either a control group or an intervention group. The control group was evaluated before the program was implemented, after which the regular classes were conducted for 50 minutes, and then the evaluations were carried out. The intervention group was evaluated before the program was implemented and after the program of 50 minutes was executed. These evaluations were also carried out after one month for both the control group and the intervention group. This program was carried out by the homeroom class teacher at the junior high school. The effect of the program was evaluated from two perspectives, "the impact evaluation" and "the result evaluation". The result evaluation was evaluated using the Children's Stress Response Test (CSR). In addition, we asked free description what kind of self-assertion in relat

### **Results**

This study used a two-way ANOVA analysis, (2 groups: intervention group, control group, 3 times: before intervention, after intervention, after one month), with the evaluation time point as the independent variable and the evaluation index as the dependent variable. The result showed that there was not a significant difference among the before intervention, after intervention, and after one month test scores on CSR. From the result of the free description of the intervention group, it seems they realized the position of the other person and used more caring words toward them, and the effect was maintained even after one month.

### **Discussion**

It was clear even in the free description that an assertive way of speaking was created, but no significant effect in the stress response of the program intervention group was found in the results evaluation. It was also so after one month of the program. It was thought that we can relieve stress reaction such as anger by an assertive coping skill, but this study could not recognize such an effect after one month. Although the stress response was measured in the result evaluation and the effect on the assertion in the influence evaluation was measured, it may be necessary to introduce an evaluation scale specialized for this assertion or to create a new one.

## **Training Therapists to Keep Metaphors in Mind**

**Fiona Mathieson, University of Otago Wellington, New Zealand**

**Jennifer Jordan, University of Otago Christchurch, New Zealand**

**Maria Stubbe, University of Otago Wellington, New Zealand**

### **Introduction**

Contemporary CBT has a growing emphasis on therapy process, with a growing interest in the use of metaphors to enhance CBT. This paper reports on a study looking at the effect of training therapists to attend to and work collaboratively with client metaphors in CBT sessions.

## **Method**

Twelve therapists attended two half-day training workshops. Details of the content of the training workshop will be provided. The therapists rated the workshop quality and provided structured self-report ratings and reflections on their ongoing application of learning over a three month period which were compared to pre-training ratings.

## **Results**

Therapists reported significantly increased awareness of metaphors, with increased confidence in responding intentionally to client metaphors and bringing them into shared conceptualisations. In addition, there were significant increases in reported time spent elaborating on client metaphors, and use of metaphors when conceptualising with clients.

## **Discussion**

Therapists can be trained to keep metaphors in mind during CBT. Barriers and solutions to application of learning will be discussed.

## **Effectiveness of Transdiagnostic Group Cognitive Behavioral Therapy for Emotional Disorders Compared with Treatment as Usual in Primary Care. The PsicAP Randomized Controlled Trial**

**Roger Muñoz-Navarro, University of Valencia, Spain**

**César González-Blanch, University Hospital “Marqués de Valdecilla” and IDIVAL, Spain**

**Leonardo A. Medrano, University Siglo 21, Argentina**

**Luciana Moretti, National University of Córdoba, Argentina**

**Paloma Ruiz-Rodríguez, Castilla La Nueva Primary Care Centre, Health Service of Madrid, Spain**

**Juan A. Moriana, University of Córdoba, Spain**

**Antonio Cano-Vindel, Complutense University of Madrid, Spain**

## **Introduction**

Emotional disorders such as depression, anxiety and somatoform disorders are highly prevalent in the primary care setting. They are the most disabling disorders and their giant economic output situates mental health as the major priority for all public health systems. Cognitive-Behavioural treatments (CBT) are effective to treat emotional disorders when they are deployed in primary care settings. More recently, transdiagnostic CBT (TD-CBT) show also good results in the treatment of emotional disorders. Unfortunately, few studies have been conducted in the setting of primary care to test this TD-CBT or their group versions (TD-GCBT). In this work, we conducted the PsicAP study, an clinical trial in the field of primary care where a TD-GCBT of 7 sessions scattered in 12-14 weeks was compared to treatment as usual (TAU) for the treatment of emotional disorders.

## **Method**

We did a randomised, controlled, single-blind trial in 20 primary care centres of the Spanish National Health System distributed in 9 different regions in Spain. Patients aged between 18 and 65 years who visited their general practitioners (GP) at any of these centres and presented a diagnosis or suspected diagnosis of an emotional disorder (anxiety, depression, or somatization disorder) were invited to participate. 1759 patients agreed to participate and completed the PHQ and other measures. 1.187 (67,5%) reached criteria for mild-moderate emotional disorders and were randomized blindly to a TAU condition, delivered by GPs, or a TD-GCBT, delivered by clinical psychologists.

## **Results**

At this point, 719 patients have completed post-treatment measures (TAU: 343 vs TD-GCBT: 376). The main results of the trial show a greater reduction of symptoms of anxiety, depression and somatization in the TD-GCBT than in the TAU group. The effect size achieved for anxiety symptoms is three times higher in the psychological treatment group than in the usual treatment group (0.43 vs. 1.36). In turn, the effect size for depression is four times greater (0.32 vs. 1.34). In the TD-GCBT, recovery rates are obtained around 70% for anxiety and depression, while in the TAU group they are around 25%. In addition, the experimental group reduces disability and increases the quality of life more than in the TAU group. These results have been maintained in the follow-up at 3, 6 and 12 months.

## **Discussion**

This is an ongoing study that attempts to demonstrate if a TD-GCBT delivered by clinical psychologists in the field of primary care was more effective than TAU delivered by GPs for patients suffering of emotional disorders. The results demonstrate that with only 7 sessions scattered in 12-14 weeks, a substantial amount (3 of 4) of these patients can recover. This may help to reduce the massive cost of these disorders as transdiagnostic groups in the primary care setting may help treating more patients suffering from different emotional disorders in few sessions. These results suggest that clinical psychologists in the primary care can be useful to treat these disorders with TD-GCBT.

## **Portuguese Version of the Leahy Emotional Schema Scale**

**Ana Nunes da Silva, University of Lisbon, Portugal**

**Marta Matos, ISCTE-IUL, Portugal**

**Bruno Faustino, University of Lisbon, Portugal**

**David Dias Neto, ISPA - Instituto universitário, Portugal**

## **Introduction**

Both in clinical practice and research, relevance has been given to the evaluation of cognitive schemas and beliefs. However, many of the client complaints also have an emotional dimension. The construct of emotional schemas adds this component in evaluation and intervention. An emotional schema is understood as an instance of modes of responses and feelings that are determined in relation to a person or event that can be transferred to analogous situations and similar persons. Emotional schemas are distinct from other cognitive schemas, since they derive primarily from personal interactions and are dominated by the affective core, consisting of somatic, sensory, and motor experiences. In this sense it seems relevant as well as the evaluation of the cognitive schemas to have an evaluation of emotional schemas, in order to facilitate the conceptualization and integration of these different components, both at research and clinical intervention. This study aims to adapt to the Portuguese population the Leahy emotional schema scale (Leahy, 2002).

## **Method**

The present study aims to translate this measure and study its psychometric properties of precision and validity for a sample of the Portuguese population.

The author, Robert Leahy, was asked to authorize the Portuguese adaptation of the measure.

The emotional schema scale (Leahy, 2002) was translated into Portuguese and then submitted to agreement between authors. Subsequently, a Portuguese version was translated by a Portuguese psychologist with more than 10 years of experience in English-speaking countries, namely USA and England (where she currently resides).

Data was collected through the Qualtrics platform online. Sociodemographic data was collected, such as age, gender, schooling, professional status, psychological and psychiatric accompaniments and medication.

In addition to the measure to be adapted, the protocol included three other measures:

- Difficulties in Emotion regulation Scale (DERS, Gratz & Roemer, 2004, adapted for the Portuguese Population by Vaz, Vasco & Greenberg, 2010)

- Emotional Processing Difficulties Scale - revised version (Barreira & Vasco, 2015; revised by Faustino, Vasco & Silva, 2017)

- BSI (Derogatis, 1993, adapted for the Portuguese population by Canavarro, 1995)

## **Results**

The study is still ongoing.

## **The Transdiagnostic Model of Low Self-Esteem: Pathway Analysis in a Pilot Randomized Clinical Sample**

**Dóra Perczel-Forintos, Semmelweis University, Hungary**

**Szylvia Kresznerits, Semmelweis University, Hungary**

### **Introduction**

Introduction: Low self-esteem (LSE) is associated with a whole range of psychiatric problems. One of the most significant models of LSE was created by Fennell in 1998 and yet there almost no research had been conducted to prove its validity. The vulnerability, scar and reciprocal models of LSE based on longitudinal studies have demonstrated correlations between depressive symptomatology and low self-esteem mainly in non-clinical sample. However, the role of mediator factors such as dysfunctional attitudes or emotion regulation strategies did not get enough attention. Since LSE can be considered as a transdiagnostic phenomenon it is extremely important to investigate the possible mediator factors to have a refined view about the relationship of different psychopathology and LSE.

### **Method**

Aims: to investigate the validity of the LSE model of Fennell using a pilot randomized clinical sample. We hypothesized that: 1) self-esteem can be interpreted as a transdiagnostic construct. 2) The activation of dysfunctional attitudes and maladaptive cognitive emotion regulation strategies can lead to increased depressive, anxiety symptoms as well as to LSE by increased perfectionism, negative predictions and self-criticism, rumination.

Method: participants were N=151 outpatients of a clinical psychology service. Based on the Structured Clinical Interview for ICD-10 three diagnostic groups were created: depressive episode; neurotic, stress-related and somatoform disorders; other adjustment disorders. Self-report questionnaires were administered: BDI, DAS, BHS, STAI, Rosenberg Self-esteem scale, cognitive emotion regulation questionnaire (CERQ). Statistical analysis: to test the cognitive model of LSE structural equation modelling path analysis was used.

### **Results**

Results: the depressed, the neurotic, stress-related and adjustment disorder patient groups did not show significant differences in the level of self-esteem. In the final cognitive model the role of dysfunctional attitudes, maladaptive emotion regulation, depressive symptomatology, perfectionism, self-blame and negative predictions had been confirmed in affecting LSE. The model produced moderate fit to the data [ $\chi^2(10, N=151) = 19.518, p = 0,034; RMSEA = 0.079, CFI = 0.972, TLI = 0.940$ ]. The variables in the model accounted for the 36% of the variance in self-esteem level.

### **Discussion**

Conclusions: our findings confirm that LSE can be considered a transdiagnostic phenomenon manifested not only in depression but in several psychiatric conditions. Dysfunctional attitudes such as perfectionism and negative predictions as well as maladaptive emotion regulation strategies (e.a. self-blame) had been identified as mediating factors

## **Describing Core Emotional Childhood and Adult Needs as 'Emotional Vitamins' - The Use of a Medical Metaphor for a Key Concept in CBT and Schema Therapy**

**Florian Ruths, SLAM, United Kingdom**

### **Introduction**

Cognitive Behavioural therapy (CBT) and the model underlying CBT takes its strengths from its flexibility to adopt concepts from other models.

Equally, through its ethos of collaborative empiricism and heuristic flexibility, CBT offers a language for complex scientific concepts that is easy to understand for therapists and patients alike. CBT is not traditionally very strong to conceptualise emotional experiences, needs and emotional change directly; it rather promotes an indirect access to emotions via behaviours, cognitions and body sensations.

Schema therapy, as one of the more recent additions to CBT, has opened new avenues to working with CBT patients in an emotion-focused way. Schema therapy offers a developmental model of emotional distress through the concept of unmet childhood core emotional needs.

Jeffrey Young (2004) summarises the five domains of what he considers essential to the healthy emotional development of children: Secure attachment to others, skill-building & sense of identity, expression of valid needs and emotions, play and Spontaneity, and Realistic limits to self and others.

### **Method**

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## Results

A core need is similar to a vitamin. The author suggests the following metaphors, which offers a language to emphasise the key importance of all five areas of needs in the development of emotional balance. It also serves as a mnemonic:

- Secure attachment (“Vitamin @”) to others with e.g. attention, attunement, acceptance safety, stability, nurture, predictability, consistency, validation, respect, warmth, love, affection, protection, empathy, trust, connection, friendship building and more.
- skill-building & sense of identity and Self (Vitamin S”), including e.g. guidance, educational support, manual skill building, good role modelling, spirituality and support for free exploration and curiosity, safe resolution of conflict leading to Autonomy.
- Freedom to express (Vitamin X”) valid needs, preferences (wishes) and emotions.
- play (“Vitamin P”) and Spontaneity, including fun, sport, artistic and aesthetic development.
- Realistic setting of limits (“Vitamin L”) to self and others, and setting of limits by others and self-control.

## Discussion

The author will present the “Vitamin model” of core needs to remind practitioners and their patients of their importance. He will present clinical examples how the model can help the patients and practitioner alike to move from understanding of the importance for emotional well-being to planning structured interventions around meeting needs (“indulging in the vitamins”) in a playful and fun (Vitamin P) way.

## How to Persuade a Patient with Insomnia to Sleep Less. The Therapeutic Process in the Eight-Week Cognitive Behavioural Therapy of Insomnia Programme

**Joanna Salbert, Maria Kłosińska-Rogacka, Ewa Poradowska & Adam Wichniak, Institute of Psychiatry and Neurology, Poland**

### Introduction

Cognitive Behavioral Therapy of Insomnia (CBTI) is a structured programme, which includes several therapeutic strategies such as sleep education, stimulus control, sleep restriction, sleep hygiene, cognitive thoughts restructuring and relaxation training. CBTI group is a well described, research based intervention. Findings indicate that, alone or in combination with pharmacotherapy, CBTI is a highly effective intervention (Jacobs et al. 2004). Nevertheless, while running the group, professionals may come across difficulties that can lead to a low improvement rate or dropouts. Our work focuses on the challenges that professionals may face while running a CBTI group. Among others, these challenges include lack of reduction in insomnia-related worry (Sunnhed et al. 2014), low reduction of dysfunctional beliefs about sleep (Edinger et al. 2001) as well as general lack of interest in the therapy (Jacobs et al. 2004).

### Method

In this poster we present the results of our therapy work by describing three case studies in which patients and therapists faced difficulties with the CBTI interventions due to patient’s a) dual diagnosis (anxiety disorders symptoms), b) passive – aggressive behaviours and c) previous negative experiences with interventions similar to CBTI. To overpass these challenges we have tried to integrate into the regular CBTI protocol elements of motivational interviewing, ACT and schema therapy.

### Results

While running the groups we observed what interventions going beyond the regular CBTI protocol could help to sustain therapeutic relationship with the patients and reinforce the change. During the eight week CBTI programme, we followed the regular CBTI protocol and supported it by motivational interviewing as well as ACT and schema therapy interventions.

### Discussion

We argue that while running the CBTI group it is important to keep a balance between strictly following the protocol and gently adjusting the interventions to the individual needs of the patients. Adding motivational interviewing, ACT and schema therapy interventions into the CBTI helps maintain the therapeutic relationship and reinforces the therapeutic process. To support this statement further research is needed.

## Vulnerability-Stress Factors in Psychological Treatment Adherence

**Marta Sánchez-Jiménez, Àngela Cabestany-Morató, Júlia Grau-Prim, Laia Pijuan-González & Irene Ramos-Grille, Consorci Sanitari de Terrassa, Spain**

### Introduction

Recent research has established that exist vulnerability-stress factors related to the psychological therapeutic adherence. The specific aim of our study was to identify whether familiar antecedents of mental disorders, social support and consumption of toxic substances are associated with adherence over five years to psychological treatment.

### Method

Thirty-four patients who were within acute psychiatric hospitalization unit between 2010 and 2013 agreed to take part in the study. Patients with a diagnosis of mood disorder, anxiety disorder, adjustment disorder, psychotic disorder and personality disorder have been included according to DSM-IV-TR. Existence of family antecedents of mental disorders, presence of social support and consumption of toxic substances were recorded by clinical interview. The statistical procedures used were the contingency table analysis and Chi-squared correlation coefficient. Statistical analysis was performed using the Statistical Package of Social Science (SPSS 24.0).

### Results

Our results reveal negative association between consumption of toxic substances ( $p < 0.01$ ) and psychological therapeutic adherence. There is not found statistically significant association between family antecedents of mental disorders ( $p > 0.05$ ) neither social support ( $p > 0.05$ ) with the therapeutic monitoring over five years.

### Discussion

These results indicate the importance of increasing motivational strategies and early prevention of dropout in those inpatients with substances abuse and other mental illness, with the aim of improving the longitudinal psychological treatment results beyond the cessation of consumption.

## Expecting Personal Costs of Changing Oneself – A Good Way to Succeed in Psychotherapy? Answers from a Longitudinal Study

**Annette Schröder, Martin Klimitsch, Matthias Sehlbrede & Jens Heider, University of Koblenz-Landau, Germany**

### Introduction

The importance of patients’ outcome expectations for the outcome of a therapy is well documented. However, motivation to change not only depends on the expected benefits but also on what is perceived as the costs of this behavioral change. Based on this idea, McEnvoy and

Nathan (2007) studied whether ambivalent individuals, defined as those acknowledging both costs and benefits, would experience more symptom changes, or whether ambivalence is associated with the persistence of problem behaviors. In contrast, patients expecting more benefits than costs were assumed to show either better or smaller outcomes. The aim of our study was to replicate and expand this study.

#### **Method**

The study took place in the outpatient clinic for psychotherapy at the University of Landau, Germany. Ninety-two patients participated in the study (age M 39.38 / SD 12.51; range 20 – 73; 81.5 % females). The participants were diagnosed with various disorders, mainly anxiety or affective disorders. All patients were assessed at baseline (t0), after the probatory sessions (t1), after the 10th session (t2), and after the 20th session (t3), respectively. The costs and benefits of change were assessed in accordance with the study by McEnvoy and Nathan (2007). Positive outcome expectations and role expectations were assessed using the relevant subscales of the Patient Questionnaire on Therapy Expectation and Evaluation (PATHEV, Schulte, 2005). Moreover, the Working Alliance Questionnaire (WAI-S; short version) was used (Hatcher & Gillaspay, 2006). As outcome measure, the German version of the Symptom-Checklist-90-Revised (SCL-90-R; Derogatis, 1992) was administered, together with a questionn

#### **Results**

The results of the original study were only partially replicated. Ambivalent patients did not show better symptom improvement but felt better based on their own perception. Moreover, although they reported more symptoms than approachers at the beginning, they expressed more hopeful expectations, took a more active part in their therapeutic sessions, and reported a better working alliance. These results could also be found in patients who moved from an approach position into an ambivalent position.

#### **Discussion**

Participants that are aware of both the costs and benefits of behavior change seem to be more motivated to participate actively than subjects that point out only the benefits of treatment. The findings imply that systematically fostering a cost-benefit balance in the early beginning of therapy would help participants to successfully complete these treatments.

### **Computer- and App-Supported Group Therapy – Quo Vadis?**

#### **Raphael Schuster & Anton Laireiter, University of Salzburg, Austria**

New media have an increasing impact on psychological health services. While the empirical foundation of internet-based interventions for frequently occurring mental disorders proliferates at high pace (currently over 200 published randomized controlled trials; Hautzinger, 2017), efforts exist to transfer the gained knowledge to face-to-face therapy. The resulting format of “blended therapy” is currently being tested in several multinational research projects (eg. eCOMPARED; Kleiboer et al., 2016). Besides feasibility and efficiency research (eg. reducing face-to-face sessions by as much as 50%; Thase et al., 2018), ongoing evidence also indicates additional effects for formats which use online interventions as adjunctive therapy tools during or after treatment (cf. Berger et al., 2018; Ebert et al., 2013; Zwerenz et al., 2017). As blended learning originates from the group setting, and has various applications and a long tradition, for example in the private sector or in university teaching (Zumbach, 2010), blended group interventions can offer versatile functionalities to improve current group therapy practices (Schuster et al., 2018). In preparation for a narrative review on the topic, we present a synopsis from the (scattered) fields of blended group therapy, tele-group therapy (Banbury et al., 2018), and monitoring in group psychotherapy (Burlingame et al., 2018) with a focus on potential applications, selected study findings, and methodological limitations in these areas of research.

### **Examining Cognitive Restructuring Based on the “Total Conviction” Perspective: An Analysis of Interviews with Psychologists Practicing Cognitive Behavior Therapy in Japan**

#### **Jun Shigematsu & Akiko Ogata, Hiroshima University, Japan**

#### **Introduction**

Introduction: The effectiveness of Cognitive Behavior Therapy (CBT) has been confirmed worldwide. However, negative effects of cognitive approaches have been reported in Japanese patients (e.g., the therapist-patient relationship becomes worse and patients become anxious or depressed during therapy). Preceding studies have proposed the use of the “total conviction” perspective to solve this problem ( e.g., Shigematsu et al., 2017) . Total conviction is characterized by a high level of conviction, like that perceived in the “aha experience” and is a cognitive concept connected directly with behavior change. Therefore, previous studies have proposed that total conviction is important in cognitive restructuring. However, it is unclear which reaction of the client is determined by the therapist as indicative of the former’s total conviction in the clinical setting.

#### **Method**

Accordingly, the primary aim of the present study was to examine qualitative interviews with clinical psychologists specializing in CBT to identify how they recognize the presence of total conviction in clients.

Method: Participants included 20 CBT psychologists (4 females) recruited from universities and mental hospitals in Japan. These psychologists had an average of 10.35 years (SD=2.86 years) of clinical experience. Semi-structured interviews were conducted.

Results: Responses were examined using content analysis, and the following 17 attributes were extracted:

#### **Results**

(1) “the client’s report of his/her automatic thought or schema,” (2) “report of a flexible thought,” (3) “increase in the repertory of disproof,” (4) “report of information that had been understood,” (5) “facial expressions,” (6) “expression of surprise,” (7) “affect display,” (8) “change in the way of talking (volume, tempo, and intonation),” (9) “the client him/herself adds information to the words of the therapist,” (10) “the therapist’s agreement with the information,” (11) “report of the client’s understanding of the cognition him/herself,” (12) “report of the client’s understanding of one’s characteristics,” (13) “report of understanding the cause of the problem,” (14) “perceiving accompanying emotions,” (15) “the client and therapist experience a feeling of clarity,” (16) “perception of an accompanying good result,” and (17) “perceiving the occurrence of a concrete behavior.”

#### **Discussion**

The concordance rate and Kappa coefficient of the categories, as determined by two independent coders, were 85.2% and 0.85, respectively.

Discussion : This study revealed the characteristics of clients’ total conviction perceived by therapists in the clinical setting. The results showed that total conviction is expressed verbally and nonverbally. Thus, these findings suggest that cognitive restructuring involves a nonverbal component, which need to be examined to identify the occurrence of cognitive restructuring in clients. Total conviction may explain clients’ “sudden gain” (Tang and DeRubeis, 1999) and cognitive insights (e.g., Van Camp, Sabbe, and Oldenburg, 2017) . Future research on total conviction may help develop a tool to predict the outcome of a clinical case using cognitive restructuring.

## **The Effect of a Coping Repertoire, Appraisal of Coping Acceptability in the Workplace Context, and Self-Compassion on Stress Response and Job Performance of Employees**

**Hironori Shimada, Katsuji Fukasawa, Yuki Tanaka, Raena Kang & Junya Furukawa, Waseda University, Japan**

### **Introduction**

Morimoto and Shimada (2015) suggest that it is important to expand a coping repertoire and appraisal of coping acceptability in the workplace context in implementing cognitive behavior stress management therapy. Those who have low self-compassion (SC), which is being kind and considerate to one's self, can lean on coping time and again, which can lower their job performance and activate their stress response. Therefore, the purpose of this study was to examine the effect of a coping repertoire, extent to which workplace context is taken into account, and SC on employees' stress response and job performance.

### **Method**

Six hundred full-time employees (466 men and 134 women with mean age  $\pm$  SD of  $46.5 \pm 10.4$ ) participated in the survey. Questions were posed to participants using the following surveys: (a) SC (Japanese version of the Self-Compassion Scale-short form: SCS-J-SF); (b) coping repertoire (Brief Scale for Coping Profile: BSCP); (c) the work performance (contextual performance scale: CPS); (d) stress response (Stress Response Scale-18: SRS-18); and (e) appraisal of coping acceptability in workplace context (Appraisal of Coping Acceptability Scale: ACAS). The method was approved by the local ethical committee.

### **Results**

A hierarchical multiple regression analysis was performed with scores of SRS-18 and subscales of CPS ("Cooperation with colleagues" and "Cooperation with workplace") as objective variables. We used SCS-J-SF, BSCP, and ACAS as the explanatory variables in Step 1, one-way interactions in Step 2, and two-way interaction in Step 3. As a result, it was indicated that those with higher SCS-J-SF (SC) and higher ACAS (appraisal of coping acceptability in workplace context) had relatively low stress responses. Additionally, it was also indicated that regardless of SCS-J-SF, both higher BSCP (coping repertoire) and higher ACAS positively contribute to job performance.

### **Discussion**

This study shows that selecting a coping strategy appropriate to the workplace context can improve job performance and lower the stress response for those with higher SC. Therefore, based on these two results, this study indicates that employees' stress management, stress response and job performance can be improved by not only encouraging the selection of a coping strategy that is appropriate to the workplace context, but also by raising self-compassion.

## **A Meta-Analysis of Therapeutic Alliance and Treatment Outcome in Distance-Delivered Cognitive Behavioural Therapies**

**Iris Sijercic, Naomi Ennis & Fiona Thomas, Ryerson University, Canada**

### **Introduction**

A significant proportion of individuals with mental health problems do not have access to evidence-based treatments. To overcome barriers associated with accessing face-to-face interventions, distance-delivered interventions such as telephone, videoconferencing, email, and Internet, are increasingly emerging. There is a need to understand whether therapeutic alliance, a mechanism robustly associated with outcome in face-to-face treatments, is associated with outcome in distance-delivered interventions. Moreover, understanding moderators of the alliance-outcome association is needed to optimize distance-delivered interventions. This meta-analysis investigated the association between therapeutic alliance and treatment outcome in distance-delivered interventions with a major cognitive or behavioural component that targeted psychological functioning. Length of treatment was examined as a potential moderator.

### **Method**

Systematic literature searches were conducted in PsycINFO, PubMed, and SCOPUS in including all relevant articles up until February 2018. Data were analyzed using Comprehensive Meta-Analysis (CMA) software, version 3 (CMA, 2016), using random-effects meta-analytic procedures.

### **Results**

A total of 3134 studies were identified through a systematic literature search, resulting in 12 studies that provided data on 16 unique samples included in the meta-analysis. The majority of interventions targeted symptoms of depression and/or anxiety. All studies were cognitive behavioural treatments, and one was an acceptance based behaviour therapy. A significant overall weighted alliance-outcome correlation was found ( $r = -0.22$ ,  $p < .001$ ). Length of treatment was not found to be a significant moderator of the alliance-outcome correlation ( $B = 0.02$ ,  $p = 0.22$ , 95% CI [-0.01, 0.05],  $R^2 = 0.02$ ,  $Q = 1.46$   $df = 1$ ).

### **Discussion**

The strength of the alliance-outcome association was similar to those reported in past meta-analyses of face-to-face interventions (e.g., Flückiger et al., 2012) suggesting that alliance is also important in distance-delivered interventions. Although previous work has suggested that treatment length is a moderator in face-to-face interventions (Zilcha-Mano & Errazuriz, 2015) and that distance-delivered interventions with longer treatments demonstrate better outcomes (Sijbrandij, Kunovski, & Cuijpers, 2016), the present study's results did not support this. Similarities in treatment lengths across studies and the small sample size of this meta-analysis may be an explanation for the non-significant moderation findings. Clinical implications of this study will be presented.

## **A Qualitative Study on Cultural Adaptation in the Application of Cognitive Behavior Therapy in China**

**Hongyan Song, Zhihua Guo & Zhanjing Li, Beijing Anding Hospital, China**

### **Introduction**

CBT originated from Western culture. Studies have shown that the individual perception, understanding and problem solving are influenced by culture. Therefore, when CBT is applied to Chinese cultural background, its clinical efficacy is questioned. Although a number of RCT trials and meta-analysis indicate the clinical effectiveness of the culture adaptation in CBT and many scholars have advocated the integration of Chinese traditional cultural resources into the CBT treatment process, but most of them are empirical summaries, lacking of credibility. Even in randomized controlled trials, few studies systematically explore the CBT culture's adaptation from the whole process. Therefore, the research explores the attitudes and opinions about the cultural adaptation of cognitive behavioral therapy from the CBT therapist in China to find which aspects of Chinese culture should apply in CBT.

### **Method**

This study adopts the behavioral event interviews in qualitative research. On the basis of the purpose of this study and the relevant literature of previous research of cognitive behavioral therapy on Cultural Adaptation, a semi-structured interview outline was constructed through

expert discussions. We use the semi-structured interview outline to interview the twenty-five Chinese therapists who meet the inclusion criteria about how they understand the cultural adaptation of cognitive behavioral therapy in Chinese culture and which specific cultural factors should be adjusted. We use the grounded theory to analysis data, forming the coding categories and induction. At the same time, the article performed a culturally adapted cbt treatment for a patient with a somatoform disorder to verify the clinical efficacy of cultural adaptation.

### **Results**

1. Chinese therapists' attitudes and perceptions towards the cultural adaptation

In Twenty-five cognitive behavioral therapists, Twenty-four of them are aware of cultural adaptation and think that cognitive behavioral therapy need cultural adaptation in the context of Chinese culture. Another cognitive behavioral therapists is not aware of cultural adaptation and there is no need for cultural adjustment. Considering that cognitive behavioral therapy has a good fit with Chinese culture, there is not much cultural difference between China and the West in CBT, so there is no need for adjustment.

Twenty-five CBT therapists reported several cultural adaptations of CBT in clinical practice, and CBT therapists who realized that they were culturally adapted reported more cultural adaptation than unconscious CBT therapists.

2. Analysis of Chinese cultural factors involved in cultural adaptation of cognitive behavioral therapy

24 CBT therapists who are conscious of cultural adaptation were mainly focus on the establishment of the relationship, mental health education, case conceptualization, distorted cognition correction, the socrate's questioning, behavioral training, therapeutic effect assessment and other stages. In the process, the involved Chinese cultural factors are stigma, the favor, respect for authority, family culture, holistic thinking mode, male chauvinist, harmony, somatization, exam-oriented education, filial piety.

Another CBT therapist who did not realize cultural adaptation also adapted CBT in the clinical practice of CBT, which focusing on the conceptualization of the case and the establishment of therapeutic relationships.

3. The symptoms of the patient were reduced by about 60%, and the adaptive cognition and behavior patterns were established. The internal pain was relieved and the social function gradually recovered. At the same time, the CBT of cultural adaptation was more accepted by the patient. The results further validated the effect of culturally adapted CBT on somatoform disorders.

### **Discussion**

Under the background of Chinese culture, cognitive behavioral therapists in China conduct cultural adaptation more or less based on the typical cultural characteristics of China. However, although cognitive behavioral therapists have adjusted their cultural adaptation, they have less awareness of the cultural factors in practice.

## **A Pilot Study of Internet-Based Loving-Kindness Meditation for Japanese College Students**

**Daichi Sugawara, University of Tsukuba, Japan**

**Kohki Arimitsu, Kwansai Gakuin University, Japan**

### **Introduction**

Loving-kindness meditation (LKM) is a traditional meditation practice directly oriented toward enhancing unconditional kindness toward oneself and others (Hoffman et al., 2015). Some meta-analyses show that LKM is an effective practice for promoting mental health. Some studies on the effectiveness of online intervention using the Internet have also been conducted (e.g., Glante et al., 2016); these show that such interventions increase well-being. Recently, there has been increased attention in not only comparing pre-post of treatment, but also in examining the process and the changes during the program (Hayes & Hofmann, 2018). There may be a change in the psychological variables accompanying this kind of meditative practice because meditators repeat a compassionate phrase in their mind about different subjects (e.g., a beloved person). In this study, we examined variations in the effectiveness of self-compassion in a short-term online LKM program when a fixed number of practices was used.

### **Method**

Twenty healthy college and graduate students participated in this research. All of them could use the program via the Internet through some device. In order to obtain their consent for participating in the experiment and to teach them how to use the website, they came to the laboratory. After that, they practiced LKM for several weeks through the online program: mindfulness blessing meditation in the first week, LKM meditation focusing on a recipient in the second week, then LKM meditation as before with an added focus on oneself (Hoffman et al., 2015). They administered the Japanese version of the Self-Compassion Scale (Arimitsu, 2014) as a main outcome, plus the Beck Depression Inventory II (Kojima et al., 2002), the Mindful Attention Awareness Scale (Fujino et al., 2015), the Subjective Happiness Scale (Ito, 2003), the Caregiving System Scale (Okubo, 2018), and the System Usability Scale (Yamauchi, 2015) as sub-outcomes.

### **Results**

As a result, changes were observed for each sub-factor of self-compassion depending on the contents of the meditation. Moreover, several other indicators of mental health improved.

### **Discussion**

The usability score also revealed that there is room for improvement on the website. In the future, we plan to increase the sample size and apply this program to patient psychiatric disorders.

## **Self-Compassion and "Amae": Differences in Influences on Over-Adaptation**

**Haruka Tani & Jun Sasaki, Osaka University, Japan**

### **Introduction**

Studies have suggested that mental health is enhanced by self-compassion. However, some people are hesitant to engage in self-compassion, because, especially in Japan, self-compassion could be confused with "amae," which refers to the interpersonal tendency to rely on others; such a thought could make individuals criticize themselves because of their other-oriented concern. It is important to empirically distinguish self-compassion from amae so that self-compassion can be introduced to patients in Japan to works of self-compassion through psychoeducation. The purpose of the present study was to investigate whether self-compassion and amae are different psychological concepts in terms of their influences on over-adaptation.

### **Method**

The Japanese version of the Self-Compassion Scale (SCS-J; Arimitsu, 2014) and The Amae-Type Scale (Kobayashi and Kato, 2015) and Over-Adaptation Tendency Scale for Adults (OATSAS; Mizusawa, 2014) were administered to 227 university students (139 males and 88 females with a mean age  $\pm$  SD of 20.72  $\pm$  1.65). SCS-J consists of 26 items, including Self-Kindness, Self-Judgment, Isolation, Mindfulness and Over-Identification. The Amae-Type Scale evaluates participants' amae into four types (Type A: adaptive, Type B: suppressed, Type C:

hesitant, and Type D; confused type). OATSAS consists of 20 items, including the need for positive feedback, hesitation in requesting assistance, and obsessive-compulsive personality.

### **Results**

An ANOVA showed that there was no significant interaction between self-compassion and amae on over-adaptation, and that self-compassion affected the level of over-adaptation; on the other hand, amae did not affect over-adaptation. The correlation between self-compassion and over-adaptation suggested a significant negative association ( $r = -.507, p < 0.01$ ). There is no significant correlation between amae type A and over-adaptation. However, positive weak correlations were seen in types C and D (C:  $r = .348, p < 0.01$ , D:  $r = .239, p < 0.01$ ).

### **Discussion**

Results of the ANOVA suggest that self-compassion and amae might be a different concepts in terms of their influence on over-adaptation. Therefore, it can be said that it is more effective to control self-compassion, rather than amae, to treat over-adaptation.

## **Pilot Program for the Enhancement of Emotion Regulation in Children and Adolescents**

**Christiana Theodorou & Georgia Panayiotou, University of Cyprus, Cyprus**

### **Introduction**

Emotion regulation refers to the processes through which people, consciously or unconsciously, elaborate or manage their emotions (Gross & Thompson, 2007). Individuals facing emotional dysregulation use maladaptive strategies in response to emotional distress (Fletcher, Parker, Bayes et al., 2014). Emotional dysregulation can involve reduced awareness, understanding, and acceptance of emotions (Gratz & Roemer, 2004). This prevention program had as a main purpose to enhance young people's personal skills, focusing especially on those who were more vulnerable in developing addictions and/or psychopathology due to their family history. Participants were taught emotion regulation skills and practiced those skills. The hypothesis of this program was that participants' results for emotion regulation skills and symptoms of psychopathology will improve significantly after the application of the program.

### **Method**

In this pilot program, 24 children and adolescents (12 male, 12 female) between the ages of 10 and 18 years ( $M=15.46, SD= 2.22$ ) participated voluntarily. All participants answered the following questionnaires before and after the program: Alcohol Use Disorders Identification Test (Babor, de la Fuente, Saunders, & Grant, 1992), Fagerstrom Test for Nicotine Dependence (Heatherton, Kozlowski, & Frecker, 1991), Short Form Smoking Consequences Questionnaire (Myers, McCarthy, MacPherson & Brown, 2003), Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004), Cognitive Emotion Regulation Questionnaire (Garnefski, Kraaij, et al., 2002) and Youth Self-Report (Achenbach, 1991). Also, this pilot program included 6 sessions for developing emotion regulation skills.

### **Results**

The findings showed that participants decreased smoking and alcohol consumption significantly ( $F(1, 14)=6.669, p=.022$ ). Regarding emotion regulation, it was found that participants developed some skills after the program, such as acceptance of their emotions, confidence in that they can find multiple ways to manage negative emotions, reduced self-blame and reduced catastrophizing ( $F(1, 18)= 5.59, p=.03, F(1, 19)= 11.63, p=.003, F(1, 18)= 15.20, p=.001, F(1, 19)= 3.94, p=.062$ , respectively). In addition, there was significant reduction in emotional problems, attention deficit hyperactivity disorder and conduct problems ( $F(1, 19)= 4.67, p=.044, F(1, 19)= 5.135, p=.035, F(1, 19)= 5.64, p=.028$ , respectively).

### **Discussion**

Children and adolescents showed inclination in using dysfunctional ways for managing negative and difficult emotions before the program. This program contributed in reducing the need for consuming alcohol or smoking in difficult situations and offered functional strategies for managing negative emotions.

## **Resilience in Cognitive Behavioral Therapy: A Review**

**Evdoxia Tsigkaropoulou, Christina Golemati, Georgios Georgantopoulos, Anastasia Soureti & Ioannis Michopoulos, Hellenic Society of Cognitive Psychotherapies (H.S.C.P.), Greece**

### **Introduction**

Resilience is a concept with psychological, social and biological dimensions which is described as a dynamic and adaptive process that uses the preservation or immediate recovery of homeostasis under stress conditions. High resilience is associated with personality traits and psychological processes such as high self-esteem, self-care, a highly perceived self-efficacy, flexibility, optimism, spirituality, persistence and self-directedness. On the other hand, hostility, harm avoidance, intolerance of uncertainty and learned helplessness are some factors associated with reduced resilience. Resilience, as a dynamic developmental process that starts from childhood, can be seen as the set of 'protective' beliefs and schemas of the individual who maintain a satisfactory level of mental health under stress conditions (Luthar, S. S., Cicchetti, D., & Becker, B, 2000). Cognitive psychotherapy aims at modifying the person's belief system. The aim of this review was to explore the in

### **Method**

The literature search was conducted in PubMed, based on the items: "resilience and CBT, resilience and cognitive psychotherapy, resilience and therapeutic models". Any additional literature information provided by the retrieved articles, were used properly. The date of the last search was set at 22 December 2018.

### **Results**

Resilience-enhancing models aim either at preventing psychiatric disorders, or at treating and preventing relapse. Resilience programs based on CBT are presented. A 4-step model based on CBT is proposed by Padesky, incorporating resilience factors, among with negative predisposing factors in case conceptualization (CC). Including resilience factors into CC, healthy and functional mechanisms can be recorded and empowered (Kuyken et al., 2016).

The Relaxation Response Resiliency Program is an 8-week structured intervention that aims to deal with chronic daily stress to clinical populations. The Stress Management and Resilience Training (SMART) program teaches participants to focus on the present moment, to cultivate and lead their interpretations through gratitude, sympathy, acceptance, meaning and forgiveness together with a brief structured relaxation intervention. Life-balance is a mindfulness-based prevention program which works through cultivation of metacognitive awareness,

## Discussion

CBT-based techniques or a combination of CBT and mindfulness have a positive effect on enhancing resilience (Joyce, Shand, & Tighe, 2018). CBT-based resilience enhancement models focus on cognitive flexibility, stress management, and mindfulness. In conclusion, the concept of resilience within the frame of cognitive models of psychotherapy could serve as a tool for deeper, individualized understanding of the patient that in turn could lead to a better therapeutic outcome.

## Do Words Matter? Exploring the Effect of Safety Behaviour Beliefs on Exposure Credibility, Expectancy, and Acceptability Jessica S. Tutino & Allison J. Ouimet, University of Ottawa, Canada

### Introduction

One of the greatest predictors of treatment success is client expectations of treatment efficacy. During psychoeducation for CBT, the words clinicians use may be important for client expectations about treatment success. Given the theoretical and empirical debate about the degree to which incorporating judicious safety behaviours (SBs) into exposure may impact clients' beliefs about therapy and their ability to tolerate anxiety-provoking situations, client psychoeducation is a particularly important area to examine. The goal of this study is to assess whether participants' beliefs about the efficacy of SBs (manipulated experimentally) during a speech exposure task influence their beliefs about exposure success.

### Method

Speech anxious participants ( $n = 80$ ,  $N = 150$  anticipated by May 2019) were randomly assigned to one of three conditions. They were told that using SBs during a speech either increases anxiety (Unhelpful), decreases anxiety (Helpful), or were provided with no information on SB efficacy (Control). Participants received psychoeducation on exposure therapy, and then delivered a 5-minute speech. Participants across conditions were permitted to use any SBs they wanted (e.g., sitting down, avoiding eye contact). Prior to the speech, participants rated exposure credibility and success expectancy. One week later, participants rated their willingness to participate in additional exposure exercises.

### Results

There were no differences between the conditions on exposure credibility,  $F(2, 80) = 1.28$ ,  $p = .28$ ,  $\eta^2 = .03$ . There were significant differences between conditions on exposure expectancy,  $F(2, 80) = 4.50$ ,  $p = .01$ ,  $\eta^2 = 1.03$ ; participants in the helpful condition reported greater expectancy of treatment success than participants in the unhelpful,  $t(55) = 2.10$ ,  $p = .01$ ,  $d = .56$ , or control,  $t(51) = 2.62$ ,  $p = .01$ ,  $d = .73$ , conditions. Moreover, there were no differences between conditions on willingness to participate in an additional exposure exercise,  $F(2, 60) = 1.32$ ,  $p = .28$ ,  $\eta^2 = .04$ .

### Discussion

Following analyses of the complete sample, we will discuss the implications of beliefs about SBs on exposure credibility, expectancy, and acceptability. Our preliminary results suggest that whereas beliefs about SBs may produce different expectancies of exposure success, they may have no impact on outcomes once individuals have participated in the exposure task. This is the first study to assess the impact of beliefs about SBs on exposure. Recommendations will be provided to assist clinicians in describing SBs and exposure therapy to their clients during psychoeducation.

## The Effect of Psychological Mediators on Cognitive Behavioral Therapy for Insomnia (CBT-I): A Review

Ayaka Ubara & Shin-ichi Ishikawa, Doshisha University, Japan

### Introduction

Insomnia symptoms, including initiating or maintaining sleep, are common problem in the modern society. Prevalence studies have reported that 20-35% of the general population suffer insomnia symptoms (Kim et al., 2000; Mellinger et al., 1985). Insomnia symptoms lead several life impairments, such as fatigue, cognitive function, academic performance, mood, or economic loss.

Although efficacy of cognitive behavioral therapy for insomnia (CBT-I) has been supported (Society of Clinical Psychology, 1998), few studies have examined the therapeutic mechanism. To identify a therapeutic mechanism of CBT-I which consists multiple treatment techniques could promote understandings how the treatment works, and as result, contribute augmentation of its efficacy through sophistication of the treatment techniques. Thus, this study reviewed the previous trials of CBT-I to identify cognitive behavioral factor which mediate improvement of insomnia.

### Method

A thorough search by use of PsycINFO, Pubmed, Cinii, and medical online was conducted during September 15, 2018 to November 30, 2018. Keywords were "insomnia", "CBT-I", "mechanism", and "mediator" for the search. As a result, 1805 studies were extracted. Then, we selected the research for the review based on the inclusion criteria: a) written by English or Japanese, b) 18 years of age or older, c) presence of insomnia disorder or insomnia symptoms, d) absence of main disease other than insomnia, such as PTSD, pain, cancer, e) conducted CBT-I intervention, f) conducted analysis to indicate contribution to cognitive behavioral factor, and g) published 10 years within. Finally, seven studies were selected for the present study.

### Results

Seven cognitive behavioral factors for mediation were extracted, specifically 1) dysfunctional beliefs about sleep, 2) safety behavior, pre-sleep arousal (cognitive and somatic), 3) worry about sleep and health, 4) anxiety and anticipate about sleep, 5) sleep-related attention bias, 6) bedtime variability, and 7) rise time variability. In the four studies which conducted mediator analysis, one study did not support mediation of dysfunctional beliefs about sleep, but the other three studies supported independent mediation effects on , on insomnia symptoms for dysfunctional beliefs about sleep, bedtime variability, pre-sleep arousal and safety behavior,  $b = 0.45$ , 95%CI [0.27, 0.77],  $b = -0.14$ , 95%CI [-0.35, -0.01],  $b = -1.37$ , 95%CI [-0.42, -2.40],  $b = 3.06$ , 95%CI [1.18, 5.80], respectively.

### Discussion

The current review indicated that not only dysfunctional beliefs about sleep, pre-sleep arousal, and bedtime variability but also safety behavior could mediate improvement of insomnia symptoms during CBT-I. CBT-I focuses on dysfunctional beliefs, pre-sleep arousal, and bedtime variability rather than safety behavior about sleep. However, this review indicated that safety behavior also mediate improvement of insomnia symptoms. For clinical implication, an adjunctive treatment focusing on sleep-related safety behavior (e.g. psychological education, or exposure) would enhance treatment gains of CBT-I for insomnia symptoms.

## **Do Cognitive Behavior Therapy-Type Stress Management Techniques Improve Workers' Productivity?: A Study Using Meta-Analysis**

**Ai Ueda, Reiko Nakayama, Midori Takesawa, Hiroyoshi Ogishima, Yuki Tanaka & Hironori Shimada, Waseda University, Japan**

### **Introduction**

It is implicitly assumed that stress reduction in the workplace directly leads to performance improvement, and eventually to productivity improvement. However, it is difficult to show that stress reduction necessarily leads to direct performance improvement by workers. Therefore, in this study, a meta-analysis was conducted in order to examine the effect of cognitive behavior therapy (CBT)-type stress management techniques for workers on their productivity improvement.

### **Method**

Online databases such as "Pubmed," "PsycINFO," and "Scopus" were used to search for literature for the purpose of retrieving papers related to stress management in the workplace using CBT. Specifically, the search was conducted by combining three keywords: "stress management," "workplace," and "cognitive behavioral therapy." In addition, in this research, as a qualification criterion, an academic paper was required to have an experimental and control group targeting workers and to verify the effect of CBT. As a result of analyzing the literature that satisfied the criteria, 13 effect amounts were detected.

### **Results**

Of the 13 effect amounts detected by meta-analysis, nine were related to stress reduction and four were related to productivity improvement. The meta-analysis showed that the effect on stress reduction was  $d = 0.682$  (95% CI 0.363 - 1.000). This indicated that the effect on stress reduction obtained an approximately medium to high degree. On the other hand, the effect on productivity improvement was  $d = 0.112$  (95% CI - 0.131 - 0.355), and little effect was observed.

### **Discussion**

Results of this study revealed that CBT-type stress management produces certain effects on stress, in accordance with researchers' theoretical objectives. However, little effect on productivity improvement was shown. The above results suggest that application of CBT-type stress management for workers reduces stress responses, but does not necessarily result in the improvement of job performance, which was assumed to be a direct effect of the stress reduction.

## **Prevention of Mental Disorders at the Workplace: A Meta-Analysis of Mindfulness-Based Interventions on Health Related Outcomes at the Work**

**Ruben Vonderlin, Miriam Ostermann, Martin Bohus & Lisa Lyssenko, Central Institute of Mental Health, Germany**

### **Introduction**

Prevention research has shown, that Mindfulness-based interventions (MBIs) can effectively reduce mental health problems and enhance wellbeing and quality of life, which in turn are considered as protective factors for mental disorders (e.g. Khoury, Sharma, Rush & Fournier, 2015). In order to establish prevention programs, it may be useful for some reasons to offer them at work: Firstly, it can facilitate access to prevention offers and break down barriers; secondly work stress can be reduced, which is assumed to contribute to poor mental health and increases the incidence of depression, anxiety, burnout, alcohol-related problems, cardiovascular illness and suicidal behavior (Saxena, Llopis, & Hosman, 2006). However, to consider the needs of employees and organizations, a variety of modifications have been made to MBIs. Consequently, it has been questioned whether effectiveness of MBIs can be transferred on a one-to-one basis to the workplace setting (Jamieson & Tuckey, 2017).

### **Method**

Aim of our meta-analysis was to systematically synthesize the effectiveness of randomized controlled MBIs offered at the workplace. To identify relevant literature, we conducted a systematic literature search up to November 2018 with the following inclusion criteria: (1) healthy adults (age 18-65 years) with close to full-time employment (> 30 hrs/week), (2) any type of mindfulness/meditation based intervention with at least two hours of training and with mindfulness constituting at least 50% of the program, (3) interventions offered at the workplace or initiated by the employer, (4) randomized control trials. Publication bias was assessed using Egger's regression test and the risk of bias within studies was assessed using the Cochrane Risk of Bias Tool for Randomized Controlled Trials.

### **Results**

In total, we included 56 studies ( $n = 2,689$  participants) of mindfulness interventions compared to control groups ( $n = 2,472$  people). Random-effects models revealed significantly lower levels of perceived stress, lower subsyndromal symptoms and less burnout as well as higher levels of mindfulness, work engagement, wellbeing, compassion, positive affect, job satisfaction and resilience among the MBI participants, all with small to large effect sizes ranging from  $g = |0.32|$  to  $|1.07|$ . Only marginal significant changes were found for negative affect ( $g = -1.07$ ). In the moderator analyses neither the participant nor intervention characteristics consistently influenced the outcomes.

### **Discussion**

Overall, our meta-analysis provides evidence that MBIs can be implemented with positive effects on a variety of different outcomes, mainly on personal health indicators, across a wide range of professions and organizational structures with small to large effect sizes ranging from  $g = |0.29|$  to  $|1.07|$ . The limitations and future research topics primarily concern the long-term effects as well as a consideration of the contextual factors and possible effects on health costs and health effects from a societal perspective.

## **Examining Changes in Cognitions and Coping Skills in an Integrated Cognitive Behaviour Therapy (CBT) Treatment Program for Co-Occurring Depression and Substance Misuse in Young People**

**Zoe Walter & Hides Leanne, The University of Queensland, Australia**

### **Introduction**

Comorbidity between depression and substance use among young people is common. While there is evidence of the effectiveness of integrated cognitive behaviour therapy (CBT) for young people with co-occurring depression and substance use, there is limited research examining the underlying processes of change that predict treatment outcomes. There is increasing recognition that understanding processes in change during therapy is important for the refinement of CBT. The aim of the current research was to examine if changes in two targets of integrated CBT – cognitions and coping skills – were associated with subsequent changes in depression symptoms and substance use.

### **Method**

In the present study, 60 young people (aged 15 to 25) with a DSM-IV diagnosis of Major Depressive Disorder and concurrent substance misuse (at least weekly use in the past month) or disorder received 10 sessions of integrated CBT treatment over a 20 week period.

## **Results**

Results showed that reductions in negative automatic thoughts and emotion-oriented coping at mid-treatment predicted improved depression symptoms, but not substance use, at end of treatment. Conversely, changes in task-oriented coping predicted substance use outcomes, such that greater reported use of task-oriented coping at mid-treatment predicted greater number of days abstinent at end of treatment.

## **Discussion**

These results provide preliminary evidence for the importance of cognitions and coping skills for addressing co-occurring depression and substance use. Further studies using randomised controlled designs are required to determine if cognitions and coping skills are mechanisms of change in an integrated CBT intervention.

## **Cognitive-Behavioral Therapy for Cancer-Related Fatigue in Cancer Survivors: a Case-Report**

**Eun-Seung Yu, Hyun Jeong Lee & Ji Sung Yoo, National Cancer Center, South Korea**

### **Introduction**

Cancer-related fatigue (CRF) is a significant and common clinical problem in cancer patients. Meta-analysis has indicated that psychological interventions, such as cognitive-behavioral therapy (CBT), are efficacious in reducing cancer-related fatigue (Kangas, Bovbjerg & Montgomery, 2008). However, in reality, clinicians are not fully aware of the effects of CBT on fatigue. A 52-year-old Korean woman diagnosed with breast cancer, suffering from severe CRF. She also experienced depressive mood, helpless, sleep problem (PHQ-9= 11, Insomnia Severity Index=9, EORTC-FA12=31). She had dysfunctional beliefs in fatigue, and the persistence of fatigue was evidence that her immune system was inferior, so she was afraid that cancer would recur.

### **Method**

We developed the CBT-CRF for cancer survivors, which consisted of 6 sessions, composed of behavioral activation, psychoeducation, sleep restriction therapy, and cognitive restructuring. We encouraged her to breaking the vicious circle of fatigue.

### **Results**

After 6 weeks of treatment, she was able to recover from the function of daily life by reducing subjective fatigue (EORTC-FA12=18). Depression was reduced (PHQ-2=3[normal level]), and sleep problems were improved (ISI=6[normal level]).

### **Discussion**

It is known that fatigue is a multidimensional construct, and psychological factors contribute to persistence of fatigue. CBT seemed to have a beneficial and effect on CRF in cancer patients. More research should clarify these observation (This work was supported by the National Cancer Center Grant (NCC-1810303-2)).

## **Do Ruptures in Alliance Occur Within Therapy Sessions? An Investigation of Between Session Processes**

**Elad Zlotnick, Asher Strauss, Pnina Twersky & Jonathan Huppert, The Hebrew University, Israel**

### **Introduction**

Alliance is one of the most studied aspects of the psychotherapeutic process. Recent studies have examined ruptures and repairs (R&R) in alliance in order to better understand alliance patterns. Until now, much of the research on ruptures and repairs has employed a single measure per session approach, measuring either pre-session or post-session alliance. This method relies on the assumption that there is no significant variance in alliance between sessions. Recent results have demonstrated that alliance changes differently within-sessions and between-sessions, suggesting differentiation between ruptures occurring within vs. between sessions. In the current study we compare frequency of traditional ruptures (defined as reductions in alliance from the end of one session to the next) to ruptures within and between sessions in order to evaluate the assumption that ruptures occur predominantly or solely within sessions.

### **Method**

Two clinical samples were used for this study, each of whom underwent cognitive behavior therapy for their respective disorder: a sample of patients suffering from social anxiety disorder (N=33) and a sample suffering from panic disorder (N=31). Pre-session and post-session data of the therapeutic alliance and outcome measures were collected. Traditional ruptures as well as within and between session ruptures were then coded for each session. Finally, ratios of traditional, within-session and between-session ruptures are compared.

### **Results**

In both samples a large majority of ruptures occur between sessions, accounting for most traditional ruptures.

### **Discussion**

Contrary to the common assumption, the majority of ruptures in alliance occur not within therapeutic sessions but between them. This finding highlights the role of alliance as a measure of commitment to tasks and goals in therapy above and beyond the interpersonal role of the bond.

## **The Efficiency of Cognitive Behavioural Therapy and Mindfulness Exercises in a Four-Week Interdisciplinary Rehabilitation Programme for Chronic Pain: A Pilot Study**

**Katja Zupančič, Martina Bürger Lazar & Črtomir Bitenc, The University Rehabilitation Institute, Republic of Slovenia**

### **Introduction**

Among psychological approaches for chronic pain, cognitive behavioural therapy (CBT) is most widely used (Ehde, Dillworth and Turner, 2014). Studies (Cherkin et al., 2016) show that mindfulness-based (MF) approaches can be as effective as CBT for people with chronic pain. For this reason, we tried to examine if a small number of short mindfulness exercises (raisin exercise, sitting meditation focused on breath and body, three-minute breathing space) added to our programme can be more effective in improving outcomes than CBT approach alone.

### **Method**

This study was carried over five months in 2018. The sample consisted of 35 individuals who attended a four-week interdisciplinary rehabilitation programme for chronic pain at the University Rehabilitation Institute in Ljubljana, Slovenia. Three groups of patients (19 women and two men aged between 47 to 66) attended a programme, based on CBT principles. Two groups of patients (13 women aged between 39 to 62) also attended the same programme but with added mindfulness exercises during psychotherapy sessions. In the first and last week of a programme Slovene versions of the Beck Depression Inventory (BDI-II), Tampa Scale of Kinesiophobia (TSK) and Chronic Pain Acceptance Questionnaire (CPAQ; with scales Activity Engagement – AE and Pain Willingness – PW) were administered to all patients.

## Results

The Wilcoxon signed-rank test was used to compare test scores at the beginning and the end of the programme. In CBT ( $Z = -1.81$ ,  $p = .070$ ,  $r = -.28$ ) and MF ( $Z = -2.73$ ,  $p = .006$ ,  $r = .53$ ) groups the fear of movement was lower at the end of the programme, but only in the latter, the difference was statistically significant. For both groups, depression was lower at the end of the programme with the medium effect size for MF groups ( $Z = -1.61$ ,  $p = .107$ ,  $r = -.32$ ) and slightly lower for CBT groups ( $Z = -1.74$ ,  $p = .082$ ,  $r = -.27$ ). For CBT groups acceptance of pain remained similar at the beginning and the end of a programme ( $Z = -0.36$ ,  $p = .723$ ,  $r = -.05$ ). At the end AE was lower ( $Z = -1.30$ ,  $p = .192$ ,  $r = -.20$ ), whereas PW was higher ( $Z = -1.41$ ,  $p = .159$ ,  $r = .22$ ) compared to beginning. For MF groups acceptance of pain at the end was higher ( $Z = -1.89$ ,  $p = .059$ ,  $r = .37$ ) which was also true for AE ( $Z = -1.19$ ,  $p = .234$ ,  $r = .23$ ) and PW ( $Z = -1.26$ ,  $p = .208$ ,  $r = .25$ ).

## Discussion

Although CBT-based approach to chronic pain is efficient, when mindfulness is added, outcomes are improved. Despite a small number of participants, this study suggests that even a few short mindfulness exercises can be effective in reducing the fear of movement and depression and increasing acceptance of pain. The research will continue to include more participants and other outcome variables.

## Bipolar Disorder Type I and CBT

Markella Fiste, Aegean College and University of the Aegean, Greece

Gregorios Georgakopoulos, Aegean College, Greece

### Introduction

Demonstration of the efficacy of the model of Cognitive Behavior Therapy in Bipolar Disorder Type I in a female, 46-years old that hospitalized in the Psychiatric Hospital of Athens Dromokaitio

### Method

Case study, review of research studies and recent articles. Bipolar disorder affects about 2 - 4% of the world's population and inheritance is estimated at 79-93%. Several studies suggest that cognitive-behavioral therapy, due to its biological background, is the most effective treatment as a complement to pharmacotherapy for patients with BD, contributing to faster stabilization, delaying relapses, reducing the severity of symptoms (as the time passes) and enhancing psychosocial and family functionality. CBT includes a set of interventions with a basic assumption that mental illness is maintained by cognitive factors. It is a brief, structured psychotherapy, with defined goals between the therapist and the patient, focused on the present. It aims to solve problems and modify dysfunctional thoughts and behaviors.

### Results

Recent studies have reported that compared to standard treatment, within the first year, BD Type I patients receiving CBT had fewer episodes of mood. Also, although there was no difference in the number of episodes of mood between CBT and the usual treatment during the 2-year follow-up, patients receiving CBT experienced a reduced number of overall mood symptoms and fewer entries in hospitals. When CBT is combined with psycho-education, patients can monitor their symptoms, detect precursory symptoms, and improve their coping skills. In our case we used Lam's CBT model that proposes the learning of cognitive - behavioral techniques, the importance in routine and sleep, psycho - education and better deal of long - term vulnerabilities.

### Discussion

Although the patient experienced improvement within a short time, verifying the efficacy of CBT, some recent meta-analyses present unclear data regarding the role of CBT in clinical symptoms.

## What Does Existing Evidence Tell us About Patient Perceptions of Primary Care Psychological Therapy Services in the UK and Is There any Evidence that Perceptions Affect Treatment Outcome?

Louise Crouch-Read, University of East Anglia, United Kingdom

### Introduction

Depression and Anxiety Disorders are conditions which affect a large proportion of the general population. In 2007 the Improving Access to Psychological Therapies programme was introduced in the UK, with significant government funding, to provide evidence based psychological treatment to those whom such treatments would not have previously been available. A decade on, much has been published about the effectiveness of this programme in terms of numerically measured recovery and this review aims to draw together existing evidence about patient perceptions of such services and explore whether there is any evidence that these perceptions affect the treatment outcome.

### Method

A systematic literature search was conducted using PsychINFO, AMED, MEDLINE, PsycARTICLES, CINAHL and OpenGrey databases. Studies which related to patient perception or experience of accessing Primary Care Psychological Therapy Services were included. Critical Appraisal Skills Programme (CASP) checklists were used to assess methodological quality appropriate to the methodology of each study. Data were extracted from each study using a pre-piloted form and analysed using thematic analysis.

### Results

191 unique papers were returned from the search. 4 studies met inclusion criteria and 1 paper from the preliminary search was included totalling 5 papers included in this review. The 5 papers included qualitative and quantitative studies and ranged in methodology. 5 main themes were identified from the analysis: minority group disadvantages, helpful and unhelpful aspects of treatment, impact of the severity of condition, attitudes towards treatment and outcome, and conflict between quantitative and qualitative sources of data. Recommendations for future research were also identified.

### Discussion

This study attempts to evaluate literature from a relatively new health initiative and fill an important gap in current understanding. Strengths of the review are a thorough search strategy (published and unpublished studies) and the use of a tool to appraise the quality of studies. The design of the analysis and interpretation is by nature interpretive, a strength for the purpose of this study.

Many papers returned from the search did not meet inclusion criteria and whilst it could be seen as a strength that so many results were returned, poor relevance to the research question may demonstrate a flaw. The addition of a specifically developed tool to appraise quality and a second reviewer would have improved quality. Some of the included studies were non-UK and consequently findings related to health insurance cover are less relevant due to the availability of the National Health Service and perhaps other cultural differences.

## **Pakistani Psychotherapists' Experiences with Cognitive Behavior Therapy: CBT at Checkpoint Charlie Berlin**

**Nazia Ishfaq, Farah Malik & Ayesha Majeed, Government College University Lahore, Pakistan**

**Naeem Leghari, Nishtar Medical University and Hospital, Pakistan**

**Tazvin Ijaz, Government College University Lahore, Pakistan**

**Robina Mahmood, Mayo Hospital Lahore, Pakistan**

**Aroob Fatima, FMH College of Medicine and Dentistry, Pakistan**

### **Introduction**

Advances in neuroscience hold important implications for therapeutic work as does increasing understanding of how traumas and conflicts can be stored in bodily modes that do not take verbal form (Wachtel, 2018). We are embodied beings and exploration of how to work with dimensions of experience that have been only at the margins of therapeutic field so far is an important field for further exploration (Wachtel, 2018). Cognitive Behavior Therapy in its traditional form is a talking Therapy. This study aimed to explore experiences of Pakistani Psychotherapists with Cognitive Behavior Therapy (CBT) in their clinical practices with regard to CBT targeting the above mentioned prospective concern, and to incorporate their recommendations in development of CBT based integrative model in dealing with embodiment of symptoms and exploration of experiences. This paper is based on first part of the study which includes only Pakistani therapists, focusing international CBT practitioners in next phase.

### **Method**

For this purpose, in depth semi-structured one to one interviews, of one hour duration on an average, were conducted with five professionally trained cognitive Behavior Therapists working in public and private sectors. These recorded interviews were analyzed employing thematic analysis to recognize and understand the answers of inquiry questions. To ensure rigor in research, different validation strategies were employed.

### **Results**

The results showed that Pakistani Cognitive Behavioral Therapists are following the western trends of CBT with slight modifications according to the cultural, religious and educational aspects of patients thus acknowledging the role of culture, religion and personal aspects in phenomenology and thought pattern but there is a need and gap for incorporating the background concern into CBT practice.

### **Discussion**

This study, by motivating Psychotherapists to practice CBT in our culture, is hopefully opening the path towards development of CBT based integrative model in dealing with embodied conflicts and dimensions of experiences.

## **Measuring Treatment Engagement in Mindfulness Based Stress Reduction Using Smartphone-Based Monitoring**

**Christine Parsons, Maria Madsen, Kasper Jensen, Lone Fjorback & Andreas Roepstorff, Aarhus University, Denmark**

**Conor Linehan, University College Cork, Ireland**

### **Introduction**

Evidence-based psychological interventions involve sessions both with a therapist and extensive between-session assignments, 'homework'. The most common measure of treatment engagement is the extent to which participants report completing their homework. Meta-analytic evidence demonstrates that participants' reported homework completion predicts positive intervention outcomes. However, there are questions as to the accuracy of participants' self-reports, and the frequency of measurements is often limited in trials.

### **Method**

Here, we used a novel smartphone app to measure participants' homework completion during a Mindfulness-Based Stress Reduction (MBSR) course. The app provided participants with access to the homework component of MBSR course, daily formal mindfulness practice exercises, and concurrently recorded participant behaviour. Participants also wore commercial wearable activity monitors to measure their sleep and step counts, important objective indicators of functioning. Twenty-five participants used the app and activity monitors during a standard-format MBSR course.

### **Results**

Participants listened to a median of three of their assigned six mindfulness practice sessions per week during the course. During weekdays, participants practiced most frequently in the morning, but there was considerable variation in participants' practice start times. During the weekend, the peak practice time was in the evening. Overall the data suggested that participants overall did not have a regular daily practice time. By the last week of the course, less than half of the participants were wearing the commercial activity monitors consistently. We did not find evidence of an increase in sleep or step counts as the course progressed.

### **Discussion**

We suggest that it is feasible to integrate a smartphone monitoring approach into an existing, evidence-based psychological intervention, where homework is a core component. Such real-time objective monitoring can provide valuable insights into how and when participants complete their homework. Mindfulness teachers typically suggest that participants set aside a regular practice time, preferably in the morning, but on average, the current participants did not do so. This information may be helpful in establishing effective methods to support treatment engagement.

## **Training & Supervision**

### **How Do Therapists from Different Countries and with Different Therapeutic Orientations Feel About Using Technologies in Their Work?**

**Branka Bagaric, Croatian Association for Behavioral-Cognitive Therapies, Croatia**

**Natasa Jokic-Begic, University of Zagreb, Croatia**

### **Introduction**

Modern technologies (MTs) are increasingly being used in psychotherapy and with promising results, helping to reach more and more clients in need. Since therapists are included in developing and disseminating such treatments and incorporating MTs in their practice in a form of blended care, their views on this topic become essential. Traditional cultural practice, which may differ in different geographical regions as well as in different therapeutic orientations, can affect the acceptability of MTs.

Therefore, the first aim of this study was to explore whether therapists of different therapeutic orientations and working in different countries in the Balkans differ in respect with their attitudes toward the use of MTs in psychotherapy. The second aim was to explore whether therapists attitudes predict their usage of MTs and their interest in education on how to use MTS in treatment.

#### **Method**

To assess therapists attitudes we used Therapist Attitudes toward using MTs in Psychotherapy and Counseling Scale (MTPS) (Jokic-Begic & Bagaric, 2018) with 4 subscales: MTs can improve psychotherapy, MTs are useful in psychoeducation, caution is needed when using MTs in psychotherapy and MTs are redundant in psychotherapy. MTPS was administered via on-line survey.

A total of 361 therapists or trainees from Bosnia and Herzegovina, Croatia, Montenegro, Slovenia and Serbia participated. Therapists were predominantly female (89%), with mean age of 39.58 (SD=9.13) years. Most of them provided CBT, gestalt or systemic family therapy in a private practice or health care system, with 64% having used MTs in their work.

#### **Results**

We first performed CFA using maximum likelihood with robust standard errors due to non-normal data. A 4-factor model provided a good fit for the data ( $\chi^2(98) = 219.59$ ,  $p < .01$ ; CFI=.94; RMSEA=.06; SRMR=.072). Most of the therapists believed that MTs are useful for psychoeducation. MANOVA revealed that therapists differ in their attitudes toward MTs in respect with their therapeutic orientation and county in which they live. CBT, gestalt and family therapists equally agreed that caution is necessary when using MTs in psychotherapy. However, CBT therapists generally had a more positive attitudes toward MTs, whereas gestalt therapist more strongly believed that MTs are redundant in psychotherapy. Similarly, therapists from different countries equally agreed that caution is necessary when using MTs in psychotherapy. However, therapists from Croatia and Slovenia, compared to those from Bosnia and Herzegovina and Serbia, more strongly believed that MTs can improve psychotherapy and that MTs are

#### **Discussion**

In conclusion, therapists working in different countries and using different treatment approaches differ in their attitudes toward using MTs in psychotherapy. These attitudes predict their usage of MTs in psychotherapy and their interest in education on this topic. Generalization of results is limited due to self-selection bias. Another limitation is the uneven representation of therapists with therapeutic orientations by country.

### **Skilling up Support Workers: Providing Supervision and Training to Non-Qualified Staff to Deliver Psychological Interventions**

**Stephanie Casey, Rachel Maciag, Katherine Parkin, Kim Masson, Maggie Page & Youngsuk Kim, Cambridge and Peterborough NHS Foundation Trust, United Kingdom**

#### **Introduction**

Supervision is a process of support and learning which is central to safe clinical practice and ongoing professional development. The Cambridge Adult Mental Health Service has trained and supervised non-qualified support workers to deliver Brief Psychological Intervention (BPIs) to patients with moderate to severe difficulties. To do this, support workers attended 1) training days and 2) fortnightly BPI supervision groups with a clinical psychologist. In accordance with experiential learning models (Kolb, 1984), where learning concepts translate through experience, support workers continuously develop skills and understanding that are firmly rooted in CBT. The purpose of this study is to test the hypothesis that supervision attendance is associated with better patient outcomes.

#### **Method**

Support workers (N = 11) were categorised based on their attendance to supervision over a year, as either 'high attenders' (attended > 50%) (N = 6) or 'low attenders' (attended < 50%) (N=5). Clinical psychologists offered 28 group supervision sessions and each support worker received an attendance percentage which was calculated to account for time off (e.g. maternity leave or starting the job within that year). Pre and post outcome measures are collected as part of routine care (PHQ9, GAD7, sWEMWBS, WSAS) and the means of these were compared for 'high attenders' and 'low attenders'.

#### **Results**

Results of this study showed that supervision attendance did not consistently create a 'dosage effect' on outcomes. The mean change for the sWEMWBS and WSAS were larger for the 'high attender' group, but for depression (PHQ9) and anxiety symptoms (GAD7) there were similar improvements across the two groups. A variable that may have impacted these results, but one that is also of interest in itself, is that 'high attenders' had considerably more patients that had completed BPI compared to 'low attenders' (75 completed BPIs and 11 completed BPIs, respectively). We will be presenting the results in further detail.

#### **Discussion**

The conclusions that can be drawn are limited due to a substantial difference in the number of completed BPI's between the two groups. These differences are of interest however may reflect the need for supervision from 'high attenders' as they are taking on more patients for these interventions, or, that perhaps these staff members feel more confident in delivering BPIs as a result of supervision and thus take on more patients. Exploring this further will help us to understand the role of group supervision. Another area to examine are drop-out rates between the two groups to see if there is a different benefit to attending supervision e.g. enhanced skills in rapport building or engagement. Future research should compare a larger and more equal data set.

### **GROW or PRACTICE in Coaching. That Is the question?**

**Loana Comsa & Oana David, Babes Bolyai University, Romania**

#### **Introduction**

It is often stated that the quality of the coaching practice is based on using effective questions. Therefore, it is important to establish whether these questions should be primarily focused on analyzing client's problem, or on their solutions, as it was recently suggested (Grant & O'Connor, 2010). This paper aims to identify which of the two coaching approaches: Problem solving (using PRACTICE model) or Solution focused (using GROW model) is more effective in terms of improving attitude towards problems, goals and emotional state.

#### **Method**

We conducted a randomized clinical trial with the dependent variables being the attitude towards problems, goals, resources, expectations, self-efficacy to solve the problem or attain the goal, distress and positive affects. Participants were thirty-eight master students who participated in four peer coaching sessions lasting 30 min each, one every week. The participants were organized in nineteen pairs. We measured the dependent variables four times: pre, mid, post coaching and at two months follow-up.

## **Results**

Our results show no significant differences between the two approaches on any of the variables considered.

## **Discussion**

Both approaches have similar efficacy levels. They might work differently based on the type of issue approached and future research will need to examine this hypothesis.

## **What About Quality Research on Psychotherapist Training? Pilot Study on Quality of Results of Outpatient Psychotherapy in Training Institutes of the German Association of Behavior Therapy**

**Anja Dresenkamp, Ausbildungsakademie DGVT e. V., Germany**

**Philipp Victor, Universität Witten/Herdecke, Germany**

### **Introduction**

An important role in patient care play psychotherapeutic Training outpatient centers, which on the one hand, due to their size, supply-relevant and on the other hand socialize future Psychotherapists for specific quality standards. The evaluation of the therapy outcome of psychotherapy training is therefore an important component of internal quality management and patient-oriented research at training institutes. At the same time data in this research field are scarce. Previous research usually takes place in university outpatient departments with established research structures. So far there are hardly any results about the Quality of training therapies in non-university ambulances. The aim of the Study is a first outcome evaluation in training centers of the training academy of the German Association of Behavior Therapy (DGVT).

### **Method**

On the basis of the elicitation and evaluation criteria proposed in the literature (Hiller et al. 2006), data from five outpatient therapy centres (DGVT Berlin, Dortmund, Hannover, Krefeld and Munich) were analysed, concerning direct and indirect measures of change for 597 adult patients between 2010 and 2014.

### **Results**

The outcome quality of training therapies is good with effect sizes of  $d = 1.24$  for psychopathology (Brief Symptom Inventory, BSI) and  $d = 1.88$  for depression (Beck Depression Inventory, BDI). At the same time, there were very good response and remission rates: In about 75-85% of all cases, patients responded positively to the treatment, and in 56-73% of the patients a remission of psychopathology could be achieved. The BVB-2000 as a measure of direct change also showed a good treatment success in a sub-sample of the Completer with  $M = 5.49$ . Differentiated according to critical change values (Willutzki et al. 2013), the status of 91.56% of patients in BVB-2000 is categorized as improved, 7.36% as unchanged and 1.08% as worsened.

Outpatient centers did not differ in therapy outcomes.

### **Discussion**

Due to the various limitations of data collection, the present study is to be seen as a first step towards urgently needed further evaluations on a better data basis. The fact that there has been no evaluation of training therapies in non-university ambulances in the German-speaking countries to date also emphasises that the pilot character of this work. A follow-up study is planned for 2019.

## **Effects of Specialized Training on Psychiatry Residents' Beliefs About CBT**

**Rodrigo de Almeida Ferreira & Tammy Amaral Ferreira, Instituto de Previdência dos Servidores do Estado de Minas Gerais, Brazil**

### **Introduction**

Training in psychotherapy during the psychiatry residency is recognized as insufficient in many countries, particularly in Brazil. The causes include lack of trained psychiatrists for adequate supervision, distorted beliefs about psychotherapy treatment and heavy focus on the neurobiological perspective for mental disorders and psychopharmacological treatment. Many psychiatrists view psychotherapy as an ineffective treatment, to be used only as an adjunct to pharmacological treatment or for mental disorders in milder forms. Specially for CBT, there are widespread incorrect ideas that it is a superficial, overly manualized treatment that does not require intensive training and shows only modest results. The aim of this study is to assess psychiatry resident's ideas about psychotherapy treatment and specifically, CBT, before and after being trained in a CBT program. The main hypothesis is that the supervised and specialized practice undermines distorted thoughts about CBT.

### **Method**

At the beginning of training, all residents responded anonymously to a structured questionnaire that examined ideas about CBT treatment and its efficacy, as well as their perceived competency in CBT core abilities (such as agenda setting, guided discovery and empathic listening). After six months, at the end of training, they responded to the same questionnaire. Their answers to each question were then compared to the prior assessment.

### **Results**

There was a tendency for residents to evaluate CBT as a more effective treatment after being trained in it. They viewed their abilities in CBT increase, especially in agenda setting. They also were more prone to indicate or be subject to CBT treatment, as well as pursuing additional training.

### **Discussion**

As proposed by the cognitive model, distorted ideas about situations can be subject to objective testing and then be reformulated in the light of more realistic, evidence-based interpretations. Practicing CBT with supervision in a residency program helped residents to view CBT as a more effective treatment and to be more motivated to apply learned abilities in their practice. Widespread teaching of CBT in psychiatry residency programs can contribute to reduce misinterpretations about CBT among psychiatrists.

## **Clinical Hypothesis and Treatment Decision Making in Clinical Psychologist Trained in Process Based Transdiagnostic Clinical Formulation**

**Nicolás García & William Jimenez-Leal, Universidad de los Andes, Colombia**

### **Introduction**

Clinical decision making is based in different inferential processes (heuristics, availability biases, theoretical persuasions, etc.). Decision making is influenced by theory-based categorization (Kim and Ahn, 2002). Clinicians will use their previous experience and theories to make decisions about diagnosis, formulation and treatment. Clinical decision making is not always valid and this is related to the development of

expertise in clinical psychology. Expertise is associated with deliberate practice in sports (Ericsson, 2014; Tracey et al. 2014), and it is a necessary and sufficient condition to develop expertise. Nevertheless, unstructured and delayed feedback in clinical psychology makes this process insufficient to develop expertise (Ells et al. 2005; Kazdin, 1999; Tracey et al. 2014), since lack of feedback on performance diminishes the effectiveness of delivered practice.

For training purposes, clinical decision making can be systematized in deliberate practice through case formulation to guide the process of clinical decision making. There are several kinds of formulations in CBT (Persons, 2012; Brodsky and Stanley, 2013), but in this research we will focus on the process based transdiagnostic clinical formulation developed by Castro (2011). This formulation is widely used in Colombia with several clinicians trained in its use. The aim of this research is to explore inferred psychological hypothesis for mental health problems used by trained psychologists and their association with treatment decision making.

#### **Method**

Procedure: 30 psychologists participated responding to a clinical case vignette. The case vignette used a case with anxiety and depression mixed symptoms, the case was constructed following the Heverly, Fitt, and Newman guidelines (1984). Participants could select the more important symptoms of the case and rate its importance, they were asked to select a treatment for the patient in the vignette and a written justification for their selection of treatment. Written justifications were coded into cognitive hypothesis, behavioral hypothesis, ACT hypothesis, contextual hypothesis, biological hypothesis, DBT hypothesis and diagnostic reasoning.

#### **Results**

Data analysis and Results: Network analysis was used to process the collected data, 2 different analysis were done, one for symptoms, and one for hypothesis and treatment association. Symptoms network showed that central symptoms are: experiencing fear, feelings of failure, irritability, social problems, and dissatisfaction. This analysis also showed that symptoms are not grouped according to depression and anxiety diagnosis. The second analysis showed that ACT related hypothesis are associated with acceptance, values, mindfulness and behavioral intervention techniques, while cognitive hypotheses are associated with cognitive reappraisal and restructuring, while behavioral, contextual and biological hypothesis don't seem to be related to any treatment.

#### **Discussion**

Conclusions: results suggest that categorization of symptoms is not related to diagnostics in this sample as well as more prominent selection of cognitive and ACT related hypothesis compared to behavioral, contextual or biological explanations. Future research should focus on different paradigms for the evaluation of decision making. This research focused on depression and anxiety, but other less common psychological problems should be studied. This study is also a first step to evaluate clinical formulation decision making, these procedures could be used to study change in decision making in clinical training.

### **Cognitive Behavioral Therapy Training in Japanese Graduate Programs: Survey on Establishing Japanese CBT Training Guidelines**

**Daisuke Ito, Hyogo University of Teacher Education, Japan**

**Shunsuke Koseki, J. F. Oberlin University, Japan**

**Haruka Ono, Waseda University, Japan**

**Naoko Kishita, University of East Anglia, Japan**

**Yuko Ogawa, Waseda University, Japan**

**Yuko Yanai, National Cancer Center Japan, Japan**

**Shin-ichi Suzuki, Waseda University, Japan**

#### **Introduction**

In Japan, the national qualification of a psychologist was born in 2017 with cognitive behavior therapy (CBT) positioned as the core method of psychotherapy. However, quality control of CBT is a major concern (Shimizu, 2011), so it is an urgent task to develop training guidelines of CBT to train psychologists who can practice effective CBT. First, we organized the content of CBT education with reference to the UK training guidelines (BABCP, 2016; Koseki et al., 2018). The next task involved clarifying the level of CBT education in Japan based on the contents of education. The purpose of this study was to investigate the current status of the basic components and training methods of CBT in Japanese graduate schools.

#### **Method**

There are 171 graduate schools that train clinical psychologists in Japan. We asked 99 faculty involved in CBT training for their cooperation. Eighty questionnaires were distributed, and 74 university faculty specializing in CBT and affiliated with clinical psychology graduate program training institutions participated in the study. They were asked to complete the questionnaire (Koseki et al., 2018), which consisted of 62 items with educational content related to 1) Fundamental CBT, 2) CBT for depression, and 3) CBT for anxiety. We first asked them to evaluate how much they implemented these education items (0: not handled at all ~ 3: sufficiently handled). Next, we found the ratio of three methods (1: Lecture, 2: Exercise, 3: Practical Training and Supervision) used to impart each item. This research was approved by a university ethics committee.

#### **Results**

The average value of the implementation level of each educational item of CBT was 2 (Somewhat) or less for most items; so the basic constituent elements of CBT were generally insufficiently covered. In particular, while basic education on CBT theory and techniques is relatively thorough, practical education and training seems to be lacking. In addition, in comparison with the UK data (Suzuki et al., 2018), the standard deviation of each item tended to be higher. So, the amount of instruction on these components varied widely among faculty members, showing a tendency for education to depend on each faculty member's discretion. Furthermore, compared with the UK data (Suzuki et al., 2018), in Japan, lectures were used in greater proportions as an educational tool and focus on practicum tended to be less.

#### **Discussion**

CBT training in Japan is not sufficiently implemented in the educational programs conducted. It is necessary to share the current state of educational content of Japanese CBT and to develop guidelines for realizing effective educational practices.

## **The Integration of CBT and MI in the Context of Clinical Supervision**

**Iga Jaraczewska, Anna Derwich & Marzena Mendyk, Academy of Mind and Emotions, Poland**

### **Introduction**

It is without doubt that CBT supervisors should have the sound theoretical knowledge and clinical experience necessary to guide a supervisee towards safe and ethical practice of CBT. But as P. Armstrong and M. Freeston point out one of the crucial elements of successful supervision is also the quality of relationship between supervisor and therapist/ supervisee (Armstrong, Freeston 2006). They emphasise that the effective relationship should be based on safety, trust, support, collaboration. A similar view takes W.R. Miller who created Motivational Interviewing (MI). MI is a collaborative, goal-oriented style of communication with particular attention to the language of change (Miller & Rollnick, 2013). It has been successfully integrated with CBT in a wide range of psychological disorders to maximize the outcome and recently it was also described as a useful tool to understand the processes in clinical supervision (eg. Westra 2012).

### **Method**

As the number of CBT therapists in Poland is growing fast (currently, we have over 2,000 members of the Polish CBT Association, of which about 600 are certified CBT therapists!), there is a great need for good quality supervision and supervision training courses. We present findings from one of such courses. The CBT supervision course integrates some MI supervision skills.

The course program consists of 8 two day sessions spread over 18 months. Throughout the course we guided the supervision work to not only focus on the theory and practice of supervision, combining theory with practice and broad understanding of the patient's (and therapist's) problems, but also to evoke information of supervisee and strengthen self-reflection within an atmosphere of acceptance and compassion.

### **Results**

Preliminary observations are discussed. Supervision sessions were evaluated by various Supervisor Competency Scales (eg. A scale developed by Oxford Cognitive Therapy Center). Integration CBT model and principles of MI allowed for: promotion of positive change within the supervision context (especially in the culture where there is a long tradition of the supervision based on confrontational practices), increasing of learning potential of supervisees, effective recognition of the difficulties but also strengths of the supervisees. In addition, we present the effects of discussions on participants' own experiences in the role of supervisors and supervisees.

### **Discussion**

Integrating CBT with MI can promote positive change within the supervision context, especially in cultures where there is a long tradition of the supervision based on confrontational practices. If the supervisor's attitude is more consistent with MI spirit, there is more autonomy and collaboration in the supervision relationship. The issue, however, requires further and more detailed studies.

## **Effectiveness of a Cognitive Behavioral Therapy Training Program for Nurses - Toward the Development of a Training Program**

**Sayaka Kato & Hiroki Tanoue, University of Miyazaki, Japan**

**Yuko Shiraishi, International University of Health and Welfare, Japan**

### **Introduction**

There are increasing opportunities for nurses in Japan to learn and practice cognitive behavioral therapy (CBT) for patients with depression. However, few CBT training programs are specialized for nurses, and current training programs typically do not involve structured educational content.

We developed a trial CBT training program for nurses. In the present study, we conducted a qualitative analysis of nurses participating in our trial CBT training program, involving structured educational content.

### **Method**

Focus-group interviews were conducted among 22 nurses who volunteered to participate in the study and undertook trial CBT training. The interview questions assessed the feasibility and educational processes of CBT training for skill-learning in nursing practice. Each focus group ranged from three to six nurses, and semi-structured focus-group interviews were conducted. The focus-group interviews were recorded and continued until thematic saturation was reached. The audio recordings were transcribed verbatim and thematic content analysis was used to analyze the data.

### **Results**

Thirteen nurses agreed to participate in the focus groups. Four of the 13 nurses who participated were already training in CBT before participating in the trial CBT training. The work unit was psychiatric care. Each interview lasted between 65 and 80 minutes. Thematic content analysis revealed six overarching themes: (1) Iterative learning: become accustomed to the idea of CBT; (2) Training using a lecture format: make a valuable discovery depending on the learning level of CBT; (3) Project-based learning: promote understanding; (4) Clinical experience of CBT: enhance motivation; (5) Group work: promote mutual learning; and (6) Create a learning environment: promote iterative learning.

### **Discussion**

In the current study, the results revealed six overarching themes for CBT training in nursing practice. Four of six themes were shown in a phased learning process, and two themes focused on ways of creating a learning environment that increased motivation for learning and generated interest in learning. In addition, the current findings indicated that continuous support of learners is important for improving mutual learning with peers in a supportive learning environment.

## **Communication Skills Training with the Interactive Self- and Peer Observation Tool (i-Spot): A Webcam Instrument for Standard and Personalized Feedback**

**Jeroen Kuntze & Mark Hommes, Open University, the Netherlands**

### **Introduction**

Mastering professional communication skills is one of the key competences of (cognitive behavioral) therapists. Therefore, trainee therapists are obliged to follow courses in communication skills. These courses often contain interactive computer programs in which students individually can practice the skills before practicing them in role plays (e.g. Adema, Edens, Hommes & Kuntze, 2001; Van der Molen et al. 2007). In these programs students watch video examples, do exercises in which they type their answers and are provided with standard feedback. However, these programs lack a tool to practice spoken communication skills individually online and receive both standard and personalized feedback. With the interactive self- and peer observation tool (i-Spot) students practice with and receive feedback on their

mastery of spoken communication skills, independent of time and location. In this web based program students see short videos of simulation clients. Students answer these clients by speaking into the webcam. These answers are recorded and students first can evaluate their own answers. Furthermore, they can send their recorded answers to a protected online environment in which fellow students and the supervisor can provide them with personalized feedback.

#### **Method**

An experimental group of 35 psychology students taking a course in advanced communication skills, used i-Spot in the first part of the training program, before practicing in role plays. A control group of 29 psychology students received the same training but without using i-Spot. We compared the results of both groups on a self-efficacy questionnaire (Hommel, 2006) and a communication skills progress test (Kuntze, Van der Molen & Born; 2007). Furthermore, we asked the experimental group to evaluate i-Spot.

#### **Results**

The experimental group experienced the use of i-Spot as exciting, but very instructive, particularly the different forms of feedback provided by i-Spot (average mark 7.9 on a 10-point-scale). The experimental group showed more progress in their self-efficacy in communication skills. This could however be due to a pretest difference. Finally, the mastery of the communication skills after training was higher for the experimental group than for the control group ( $t = -4.83$ ,  $p = .000$ )

#### **Discussion**

i-Spot appears to improve the mastery of communication skills more than the standard programs. Trainees and supervisors are enthusiastic about using i-Spot. However, further research with a larger sample and a more thorough design is needed, as well as investigating the effects of the peer feedback possibilities i-Spot offers.

### **Unwanted Events and Side Effects in Cognitive Behavior Therapy**

**Michael Linden, Charité University Medicine Berlin, Germany**

**Marie-Luise Schermuly-Haupt, Rehabilitation Center Seehof, Germany**

#### **Introduction**

Side effects (SEs) are negative reactions to an appropriately delivered treatment, which must be discriminated from unwanted events in general (UEs), or other adverse treatment reactions (ATR) which are for example the consequence of malpractice. Side effects are seen in almost every case of treatment. Nevertheless there is a lack of empirical research on this important topic, which is partly due to a lack of methods.

#### **Method**

We developed the UE-ATR-checklist, which allows to systematically screen for side effects. There is an observer and a self rating version. One hundred CBT therapists were interviewed for UEs and SEs in one of their current outpatients.

#### **Results**

In the structured interview therapists reported 372 UEs in 98 patients and SEs in 43 patients. Most frequent were “negative wellbeing/distress” (27% of patients), “worsening of symptoms” (9%), “strains in family relations” (6%); 21% of patients suffered from severe or very severe and 5% from persistent SEs.

#### **Discussion**

SEs are unavoidable and frequent also in well-delivered CBT. They include both symptoms and the impairment of social life. Knowledge about the side effect profile can improve early recognition of SEs, safeguard patients, and enhance therapy outcome.

### **Pictorial Representation of Early Maladaptive Schemas and Modes**

**Christof Loose, Psychotherapy Practice and Centre for Schema Therapy Dusseldorf, Germany**

**Peter Graaf, Werner Otto Institute, Germany**

#### **Introduction**

In Schema Therapy (ST), the psychoeducation of modes and schemas plays an important role. When working with Children and Adolescents (CA), we encounter patients who are still in the natural process of emotional and cognitive development, so the capacity to understand theoretical models is limited. Similarly, adults who are suffering from severe mental health disorders or emotional crisis might also be, to a certain extent, cognitively and/or emotionally “blocked” and therefore overwhelmed by abstract models consisting of the commonly-used circles, squares, ellipses and other geometrical figures.

#### **Method**

We have had good results visualizing the mode-model with small man-like figures that are positioned inside a bigger figure to represent the whole person. Additionally, we add red wedges onto the figure’s skin to signify the patient’s schemas; comparable with “wounds”. When a difficult situation or stimulus hits the patient’s painful wound, first the small figure of the Vulnerable Child mode is activated. After this activation other figures (modes) come, one after another, into play and at the end of the dynamic mode process a specific mode for the patient’s symptom (dysfunctional coping mode) comes into fore and dictates the patient’s behaviour.

#### **Results**

It is easy to learn how to create such a mode-sketch, and is usually highly-accepted by patients of all ages, since it is in its nature pictorial, interactive, incorporates the emotional needs, and allows the integration of positive modes as well (e.g. resources, and strengths). Finally, schema collusions and mode clashes between two persons (e.g. child vs. parent or wife vs. husband) are easily depicted.

#### **Discussion**

Pictorial representation offers an easy way to explain the schema and mode model in an effective and comprehensible manner.

## **Skilling Up Support Workers: Interviews with Non-Qualified Staff on Supervision and Training of CBT-Based Interventions**

**Rachel Maciag, Cambridge and Peterborough NHS Foundation Trust, United Kingdom**

**Emma Hill, Kent and Medway NHS Foundation NHS and Social Care Partnership, United Kingdom**

**Stephanie Casey, Katherine Parkin, Maggie Page & Youngsuk Kim, Cambridge and Peterborough NHS Foundation Trust, United Kingdom**

### **Introduction**

There is evidence that training and supervision can enhance CBT skills through different methods. This includes enactive learning strategies and reflective practice (e.g. supervision) which enhances procedural skills, and didactic teachings which support the acquiring of knowledge (Bennett-Levy et al, 2009). Within the Cambridge Adult Mental Health Service, non-qualified staff members have been taught to deliver CBT-based brief psychological interventions to patients with moderate to severe mental health issues. They are then supervised by qualified clinical psychologists in group supervision sessions occurring fortnightly. An evaluation was used to explore views and experiences of staff trained in BPI to seek the effectiveness and acceptability of supervision and training.

### **Method**

The study is qualitative in design and is using the Thematic analysis (Guest, 2012) to examine emerging themes within data. Service evaluation approval was obtained from Research and Development of Cambridgeshire and Peterborough Foundation NHS Trust. Written consent was obtained from each participant, and audio-recorded verbal consent was acquired at the beginning of each interview. A total of eight semi-structured interviews were conducted with staff members delivering BPI. Staff members included Peer Support Worker (N=1) (a member of staff with lived experience of mental health condition), Assistant Psychologist (N=1) and Support, Time Recovery Workers (N=6). Written consent was obtained prior to interview. As a piece of qualitative research, the search for rigour has been met by the concern to achieve trustworthiness, both in methods of data collection and analysis (Rolfe 2006).

### **Results**

A thematic analysis will be presented visually. This will be covering the topics of change, shadowing, overcoming barriers, confidence, support, and practical issues.

### **Discussion**

The themes will provide ideas for areas of improvement in the training and supervision of CBT-informed techniques with non-qualified staff. Using this methodology will have enabled staff to speak openly and reflect on their experiences which invaluable to all involved in the project (e.g. service managers, supervisors).

## **Reliability and Validity of the Group Cognitive Therapy Scale**

**Misuzu Nakashima, National Hospital Organization Hizen Psychiatric Center, Japan**

**Miki Matsunaga, Rikkyo University, Japan**

**Makoto Otani, NTT Medical Center Tokyo, Japan**

**Hironori Kuga, Kyushu University, Japan**

**Daisuke Fujisawa, Keio University School of Medicine, Japan**

### **Introduction**

The aim of this study was to develop the Group Cognitive behavioral Therapy Scale (G-CTS), a 12-item scale for evaluating the clinical skills of group cognitive behavioral therapy (group CBT) therapists. We developed it by adding a new item, "Intervention by using the relationship with other participants," to the Cognitive Therapy Scale, an existing 11-item scale for evaluating the clinical skills of individual CBT therapists. In addition, we also investigated the reliability and validity of the G-CTS.

### **Method**

We collected 41 videotapes, which recorded the scenes of group CBTs by four therapists with long experiences (10.47years) ("Advanced Group") or 18 therapists with short experiences(1.28years) ("Beginner Group"). Real patients with depressive disorders participated in group CBTs by therapists with long experiences, while simulated patients participated in group CBTs by therapists with short experiences. Beginner Group consisted of psychology graduate students with little or no previous experience of group CBT therapists, while Advanced Group consisted of therapists with five or more years of experience. Each videotape was reviewed independently by two raters using G-CTS.

### **Results**

The Cronbach's alpha for the scale were 0.95 and 0.96 for each rater. The interclass correlation coefficients ranged from 0.65 (guided discovery) to 0.88 (homework). The inter-rater correlation on the total score of the scale was 0.97. Total G-CTS scores of the Advanced Group (n = 23) (M = 48.85, SD = 3.93) were significantly higher than the total G-CTS scores of Beginner Group (n = 18) (M = 35.94, SD = 3.91) (t (39) = -12.808, p <= 0.01).

### **Discussion**

The G-CTS demonstrated high internal consistency, and high inter-rater reliability. The therapists with long experiences in group CBT scored significantly higher than those with short experiences. These results suggested satisfactory construct validity. Inter-rater reliability in each G-CTS item ranged from good to excellent. These were high values, even when compared with the interclass correlation coefficients of the individual CBT's evaluation scale (0.40 - 0.86: Blackburn et al., 2001, and 0.27 - 0.83: Muse et al.). The limitation is that clients for Beginner Group were all simulated patients, while those for Advanced Group were all real patients. G-CTS might provide how to evaluate the clinical skills of group CBT therapists in any situation, including supervision, education and research.

## **Group Cognitive Behavior Group Therapy: The Perception of Supervisors in Training**

**Janaina Barletta & Carmem Neufeld\*, University of São Paulo, Brazil**

### **Introduction**

The teaching of cognitive-behavioral therapy in Brazil has gained space in universities, undergraduate and postgraduate psychology courses. Thus, in recent years there has also been increased interest in the development of clinical skills in CBT. One of the difficulties found is the lack of standardization, including content, extent of time, supervised clinical practice and teaching strategies offered in the courses. Although there is a growing interest, in general the incipient discussion about the effective strategies in teaching CBT in the country is based on the therapist and individual care. In this way, there is a lack of information regarding the supervisor and the group intervention, and a need to

explore this subject so far without studies in Brazil. The aim of this study is to describe the supervisors' perception about the training conducted to supervise CBT group offered by the Cognitive Behavioral Intervention and Research Laboratory - LaPICC-USP.

#### **Method**

This is a qualitative and exploratory study, where all CBT group supervisors were interviewed, totaling 9 participants in different training stages: observant-supervisors, monitors-supervisors and assistant-supervisors. The study was approved by the Research Ethics Committee (CAAE n° 95852418.1.000.5407). Results: The average age of the participants was 26 years (23y- 31y), with an average of 3 years of degree in psychology (1 y- 9y) and all were included in the graduate program (master's - 5 and doctoral - 2) or just finished program. All the participants had been therapists and co-therapist of the group intervention programs offered by LaPICC, with the exception of one who was observing the group intervention in parallel. All of them underwent individual care training.

#### **Results**

The participants emphasized aspects that helped to exercise the role of CBT group supervisor: a) to have been a therapist of the group previously, since it facilitated the knowledge about the protocol and the difficulties, b) to be able to follow and observe the assistant supervisor, before assuming the function of principal supervisor, c) be able to observe the work of the head supervisor at specific moments, d) be assisted by the head supervisor whenever necessary. Among the difficulties were raised: a) not being clear about the scope and limit of the roles of supervisors, including observers, monitors and assistants, b) not having theoretical knowledge on the subject, c) not having a specific skills training.

#### **Discussion**

Group supervisor training is based on Bandura's proposal of modeling learning as a continuum of group therapist training. Therefore, the professional must be in the postgraduate level and preferably had been a therapist and co-therapist of the group before supervising it and have clinical experience. This continuum was considered one of the strengths of the proposed supervisory training, in addition to the support offered by the head supervisor. Faced with the difficulties pointed out, a specific competences training was initiated, including theoretical deepening, training of educational and clinical skills with experiential and reflexive activities.

### **Effectiveness of Group Supervision in Nurse-Administered Cognitive Behavioral Therapy**

**Yoshie Okada & Toshie Amano, International University of Health and Welfare, Japan**

**Tomomi Nemoto, St. Luke's International University, Japan**

**Naoki Yoshinaga, University of Miyazaki, Japan**

**Susumu Kitano, Tokyo Metropolitan Matsuzawa Hospital, Japan**

**Rie Yanai, Saitama Psychiatric Hospital, Japan**

**Makiko Nakano, Mental Health Management Office IMS, Japan**

#### **Introduction**

In Japan, Cognitive Behavior Therapy (CBT) administered by nurses under physician supervision was included in the medical fee schedule revision in 2016. Quality assurance of nurse-administered CBT is an important subject, and CBT training with supervision has been developed (Okada et al., 2016). In this study, we introduced Group Supervision (GSV) as a part of CBT training for nurses and examined its effectiveness for improving the nurses' basic knowledge and skills on CBT and their problem-solving ability towards patients in a randomized control trial.

#### **Method**

Subjects were 18 nurses who participated in CBT training from April 2017 to July 2018. They all attended lectures and exercises on CBT overview and methods on the first and second days of a five-day program. They were then randomly assigned to a GSV group or a follow-up group. In the GSV group, each nurse provided a CBT example and gathered once a month for a total of three times to examine the case studies with the supervisor. In the follow-up group, self-directed learning of CBT was arranged. Data was collected four times by using Cognitive Therapy Awareness Scale (CTAS) and General Self-Efficacy Scale (GSES) before the start of the first day of, on the second day, the fifth day, and one month after completion. Problem Solving Scale for Nurses (PSSN) was used three times. Furthermore, interview sessions were arranged on the second and fifth days and performance assessed using Cognitive Therapy Rating Scale (CTRS). Two-way analysis of variance was performed.

#### **Results**

Of the 18 nurses, nine were assigned to each GSV and follow-up groups, and five in the GSV group and eight in the follow-up group completed the study at one month after end of study. The average number years of nursing experience was 14 years (SD = 9), psychiatric nursing experience was 7.4 years (SD = 4.6), average CBT training time before the study was 11.8 hours (SD = 11.2), and average number of CBT implementation before the study was 1.4 (SD = 4.7). Significant differences were not observed for CTAS, GSES and PSSN as a result of analysis of variance. Significant difference was found between time points ( $F=16.4$ ,  $p=0.002$ ) for CTRS, but interaction was not observed.

#### **Discussion**

Differences in CTRS between the second and fifth days of the training suggested that nurses may have implemented the training contents up to the second day of training during nursing practice. However, because significant differences were not observed in CTAS, GSES and PSSN, and GSV was not found to be effective, we need to further investigate by increasing the number of subjects in future studies.

### **Relation Between Beliefs and Attitudes Toward Supervision in Cognitive Behavioral Therapy and Competencies of the Trainees in Cognitive Behavioral Training**

**Jan Prasko, University Palacky and University Hospital, Czech Republic**

**Milos Slepecky, Constantine the Philosopher University in Nitra, Slovakia**

**Marie Ociskova, University Palacky and University Hospital, Czech Republic**

**Antonia Kotianova, Constantine Philosopher University in Nitra, Slovakia**

#### **Introduction**

Cognitive behavioural therapy emphasizes the role of supervision during the training of the therapists. Our study measured the trainees' expectations from the supervision and relation of the expectations with the therapeutic competencies.

## **Method**

Beliefs and attitudes toward supervision were assessed by the Attitudes and Beliefs about Supervision Scale (ABSS). It is 25-item questionnaire which measures the attitudes in 5 domains of therapy and supervision (therapeutic relation, skills, self-reflection, structure and process). Trainers and supervisors rate the level of competencies of trainees in Therapy Competencies Questionnaire (TCQ).

## **Results**

The trainees (n=50, mean age 34.8 + 7.3 years ) prefer helping with self-reflection and understanding of therapeutic relation (mainly counter-transference) during supervision slightly (but significantly) more, than supervision of classical CBT domains like skills, structure and process. There were not the correlations of the most of ABSS domains with the trainees' therapeutic competencies measured by CTQ with the exception of domain "skills", which statistically highly correlate with some specific CBT competencies like skill to reward patient, using conceptualization and leadership of the social skills training

## **Discussion**

The trainees of cognitive-behavioral therapy courses expect from the supervision helping in the understanding of the therapeutic relation (mostly counter-transference) and the improvement of the self-reflection and these expectations are higher than the expectations about supervision of skills and therapy structure. Nevertheless, on the other side, only level of expectations of the supervision of domain "skills" highly correlate with the level of some competencies of the trainees rated by their trainers and supervisors

## **Examination of the Effects of Cognitive-Behavioral Therapy Supervision Toward Psychiatric Visiting Nurses**

**Yuko Shiraishi, International University of Health and Welfare, Japan**

**Hiroki Tanoue, University of Miyazaki, Japan**

**Yoshihiro Saitoh, International University of Health and Welfare, Japan**

**Hiroko Kunikata, Kagawa Prefectural College of Health Sciences, Japan**

## **Introduction**

Recently, in Japan, mental health support has been promoted for regional migrants.

Cognitive-behavioral therapy (CBT) is widely used for self-management of community-living individuals with mental disorders, and has been found to promote recovery. Although some previous studies have examined nursing practice reports of CBT, no studies have published nursing practice reports regarding CBT performed in home visit care. The current study sought to examine changes in the quality of care and the effects of intervention among individuals with mental disorders being treated by psychiatric visiting nurses performing CBT supervision (SV).

## **Method**

The study design used non-randomized comparative testing. Patients in this study were individuals with a mental disorder who received psychiatric visiting care, and psychiatric visiting nurses who provided care.

Patients were classified into two groups: patients who received CBT SV (SV group), and patients who received treatment as usual care (TAU group). Patients in both groups completed the seven-item Generalized Anxiety Disorder scale (GAD-7), the nine-item Patient Health Questionnaire scale (PHQ-9) and the five-level EQ-5D scale (EQ-5D-5L), before intervention, 2 weeks later, 4 weeks later, 6 weeks later 8 weeks later, and 3 months later. The psychiatric visiting nurses completed the Autonomy Measurement Rod Scale for Professional Autonomy in Nursing (SPAN) and the CTAS-J before intervention, 2 weeks later, 4 weeks later, 6 weeks later, 8 weeks later and 3 months later. Approximately 1 hour of SV was conducted from 30 minutes before questionnaire measurement in the SV group. Both g

## **Results**

The results of the EQ-5D-5L of patients receiving psychiatric visiting care exhibited changes in mental disorder symptoms (GAD-7, PHQ-9), and a change in CTAS-J and SPAN results reported by visiting psychiatric nurses.

## **Discussion**

In the future, CBT might be useful skills in a psychiatric visiting nurses.

## **Supervisees' Nondisclosure in South Korea and the United States: A Cross-Cultural Comparison**

**Eunjung Son, Keimyung University, South Korea**

**Michael Ellis, University at Albany, USA**

**Heidi Hutman, Temple University, USA**

## **Introduction**

The effectiveness of clinical supervision hinges on supervisee nondisclosure (supervisees willingly withholding relevant information with their supervisors; Knox, 2015). When supervisees withhold important information, supervisors cannot promote supervisee development and protect patient welfare. Given that trainees are increasingly diverse, research investigating the influence of cultural factors on supervisees' nondisclosure is important. Cross-cultural research on disclosure has been conducted (e.g., Chen & Danish, 2010), but it has not focused on the supervision context, and inter-ethnic and intra-ethnic designs have not been used simultaneously. To bridge this gap, the current study examined whether supervisee characteristics (attachment), the supervisory relationship (supervisory working alliance, role conflict), and cultural factors (Asian cultural values, country) would differentially and uniquely predict the United States (U.S.) and South Korea (SK) supervisees' nondisclosure.

## **Method**

The sample of 474 supervisees (247 U.S.; 227 SK) consisted of mostly females (82.2% U.S., 91.6% S.K.) in counseling (28.7% U.S.; 84.1% SK) and clinical (51.4% U.S.; 4.4% SK) psychology programs who were, on average, 28.90 (U.S., SD =6.36) and 34.89 (SK, SD =7.91) years old. A demographic questionnaire, as well as the Supervisee Attachment Strategies Scale (SASS; Menefee, Day, Lopez, & McPherson, 2014), the Supervision Working Alliance Inventory – Trainee Version (SWAI; Bahrack, 1990), the Role Conflict subscale of Role Conflict and Role Ambiguity Inventory (RCRAI; Olk & Friedlander, 1992), the Asian American Values Scale – Multidimensional (AAVS-M; Kim, Li, & Ng, 2005), and the Supervisee Non-Disclosure Scales (SNDS; Ellis & Colvin, 2016) were completed.

## **Results**

Tests of the assumptions for the major analyses revealed no violations. Using a family-wise Type I error rate of .05, we performed a multivariate multiple regression with six predictors (SWA, SASS-Rejection concern, SASS-Avoidance, RC, AAVS, country) with two dependent variables (Supervision Focused Non-Disclosure and Clinical Focused Non-Disclosure). As predicted, the test of all predictors was significant, Pillai's V = .40, F(12, 934) = 19.62, p < .0001. As predicted, tests of the unique contributions of four predictors were significant,

SWA:  $V = .14$ ,  $F(2, 467) = 36.47$ ,  $p < .0001$ ; SASS-R:  $V = .03$ ,  $F(2, 467) = 7.04$ ,  $p < .001$ ; RC:  $V = .02$ ,  $F(2, 467) = 4.79$ ,  $p < .009$ ; Country:  $V = .02$ ,  $F(2, 467) = 4.88$ ,  $p < .008$ . Two predictors (SASS-A, AAVS) were non-significant ( $\alpha p c = .0083$ ):  $V_s \leq .017$ ,  $F(2, 467)s \leq 3.95$ ,  $p_s \geq .02$ .

#### **Discussion**

Thus, four of the six hypotheses were supported. Implications of the findings for supervision theory, research, and practice will be discussed.

### **Face to Face Online - Using Immersive VR and Cyberspaces in CBT Training**

**Bronwyn Tarrant & David Randall, University of Melbourne, Australia**

#### **Introduction**

CBT has an evidence-base for consumers experiencing serious mental illness (SMI). However mental health nurses (MHNs), the largest mental health workforce globally, remain unskilled or unconfident. Effective CBT training for MHNs needs to be immediately transferable to acute inpatient settings - currently, this remains a wicked problem. This case report describes the transition from a face-to-face on-campus CBT training for MHNs to an online and immersive VR training, as a potential solution to a global problem.

#### **Method**

An established CBT subject explicitly developed for the needs of mental health nurses in acute psychiatric settings was transitioned to an online platform. The development of the online pedagogy and technology is described including user acceptability/uptake will be presented.

#### **Results**

Immersive 360 virtual reality, audio and video material, interactive engagement and cyberspace meeting and practice rooms were purpose-built for the utility and uptake for mental health nursing practice context.

#### **Discussion**

The experience of students from face-to-face and online cohorts, including their application of CBT with consumers in their daily practice, will be presented. Qualitative data from microblogging discussion boards will be presented from both cohorts.

### **The Effect of the Preventive Group Setting Parent Training Program for Mothers of Toddlers. A Randomized Controlled Trial (RCT)**

**Shin Tatsumoto, University of Miyazaki, Japan**

#### **Introduction**

The effect of the Preventive Group Setting Parent Training Program for Mothers of Toddlers (PG-PT-T) was examined.

#### **Method**

The PG-PT-T comprised four 90-min sessions. Each session consisted of a relaxation program for toddlers, cognitive and behavioral skills for mothers' mental health (cognitive restructuring, mindfulness, problem solving, training supporter), knowledge about child development, and child rearing skills. Mother-child dyads were recruited with a handbill distributed in the pediatric clinic and child care support facilities. The intervention was implemented on eight groups. Using envelope method, four groups were assigned for intervention group randomly, and other four group were assigned for control group. Mothers of intervention groups ( $n=50$ ) were assessed based on maternal reports, one week before the intervention (Time 0), one 1 week after the sessions (Time 1), and one 4 weeks after the sessions (Time 2). Mothers of control groups ( $n=35$ ) were completed the same questionnaire in the same timing of Time 0 and 1. Outcomes were measured using the Parenting Skills Scale for parent

#### **Results**

Data were analyzed using SPSS 24.0. At time 0, the mean score of the Parenting Skills Scale for parents of toddlers, the Parent Cognition Scale of Child Rearing, the Psychological Stress Rating Scale, and the Child Behavior Check List (CBCL) were not differed significantly between intervention group and wait list group. At time 1, the mean score of the Parenting Skills Scale for parents of toddlers (positive and negative parenting skills), the Parent Cognition Scale of Child Rearing (positive and negative parenting cognition), the Psychological Stress Rating Scale (sullenness), and the Child Behavior Check List (Externalizing problems score, Internalizing problems score, and Total problems score) were differed significantly ( $P_s$  were  $< .05$ ). The score of withdrawal, and irritation measured by Psychological Stress Rating Scale revealed tendency of improvement.

#### **Discussion**

RCT procedure revealed that the PG-PT-T significantly improved the use of the mothers' parenting skills, parenting cognition, mothers' stress reactions, and children's externalizing and internalizing problem behavior. Thus, the PG-PT-T is expected to prevent later problematic child rearing and children's problem behavior.

### **Feeding Two Birds with One Stone? The Effects of Training Junior Mental Health Staff to Deliver Brief CBT**

**Emma Travers-Hill, Kent and Medway NHS and Social Care Partnership Trust, United Kingdom**

#### **Introduction**

Across the globe mental health services are seeking new and innovative ways of working effectively and efficiently with limited resources. A handful of services are now utilising Clinical Psychologists in training junior mental health staff to deliver CBT-based interventions. The primary aim of such service models are to benefit patients directly (i.e. reduce their symptomology and improve wellbeing). However, what if such models could benefit all those involved in the service? What if one stone really could feed several birds? A service evaluation of an 'Initial Intervention' package designed and piloted in Kent and Medway NHS and Social Care Partnership Trust (KMPT) will aim to provide answers to these questions.

#### **Method**

Junior mental health staff working in an adult mental health service within KMPT were trained and supervised by a Clinical Psychologist to deliver CBT-based interventions in a pilot project. Data was collected from all individuals involved as part of a service evaluation of the pilot. This includes qualitative data from staff at the start of the pilot and several months into the pilot, and pre-post quantitative data from the ProQOL questionnaire (Stamm, 2009) used to measure compassion satisfaction, burnout and compassion fatigue.

#### **Results**

A thematic analysis of the qualitative data will be presented alongside the pre-post analysis of the ProQOL quantitative data.

## Discussion

The discussion will focus on whether it is possible for the CBT-based 'Initial Intervention' pilot project to benefit staff (not just patients), in other words to feed two birds with one stone. The themes will highlight staff's views on such projects and how these change over time, helping future projects to take these into account. The ProQOL results will shed light on whether such projects benefit staff's perception of their caring roles.

## Mindfulness Based Cognitive Skill Training for Health Professionals in Training (MBCT-HIT): Manual Development and a Pilot Study on the Feasibility of a Mindfulness-Based Program for Enhancing Resilience and Self-Compassion for Health Professionals in

Florian Ruths, Francesca Turner\* & Vinuri MA Fernando, SLAM, United Kingdom

Monique Maroney, London South Bank University, United Kingdom

### Introduction

Background: A total number of staff of about 60,000 professionals provide health care for South London.

Morale among health professionals in training (HITs) is at an all-time low. The need for maximum efficiency in the UK's National Health Service (NHS) leaves health trainees working under conditions of heightened stress and pressure. There is an urgent need to open new ways of enhancing the sense of resilience, meaning and purpose under these circumstances..

Mindfulness Based Interventions (MBI) have over many years successfully been used to improve the quality of experience for members of many different professional groups, including mental health professionals (Ruths et al. 2013), trainee doctors, therapists and associated health professions (e.g. Shapiro et al 2005). There is compelling evidence that MBI reduce anxiety and depression and enhance psychological well-being across clinical groups with mental and physical disorders.

Mindfulness Based educational programs have been used for medical training and postgraduate training in programs worldwide, (e.g. Epstein 2017, Dobkin &

Hassed 2016), over the last 15- 20 years.

As part of wider multi-professional agenda of well-being of our trainees, we developed and implemented an 8-session group program for resilience building, increase in the sense of purpose and meaning, as well as reduction of psychological stress for health professionals in training. This program was developed, tested, and implemented over the last 24 months.

### Method

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### Results

Quantitative pilot group results:

Self-Compassion Pre-MBCT-HIT and post-MBCT-HIT scores for the total SCS-SF analysed with matched pairs t tests (N= 17) showed an overall significant improvement

Mindful Awareness for the total FFMQ-SF and subscales analysed with matched pairs t tests showed an improvement of the facets of describing, acting with awareness, being non-judgemental and non-reactive

Resilience as measured by the BRS score showed that there was a significant increase in brief resilience scale score at post MBCT-HIT.

Overall Psychological Well Being for the CORE-10 score improved significantly .

The final results from a larger cohort over 24 month and Qualitative Feedback will be presented.

### Discussion

Discussion: This program was designed as a pilot to develop, test and fine-tune a manual of Mindfulness Based Cognitive Skill Training for Health Professionals in Training (MBCT-HIT). It served as a study of feasibility. Although the evidence so far is preliminary, we think that a degree of immersion in MBI, in combination with the validating effect of a peer-group experience, is critical for the effectiveness of MBIs in health professionals in training to improve overall self-compassion, mindful awareness and mental well-being as well as resilience.

### References

Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness-based stress reduction for health care professionals: results from a randomized trial. *International Journal of Stress Management*, 12(2), 164.

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Dobkin P.L. & Hassed C.S. (2016): *Mindful Medical Practitioners-A Guide for Clinicians and Educators*. Springer, Switzerland.

## **The Relation Between Level of Psychological Symptoms and Success in Distinguishing Components in Thought Record Form and Self Evaluation in Turkish Psychotherapy Trainees**

**Hakan Turkcapar, Hasan Kalyoncu University, Turkey**

**Burcu Uysal\*, Ibn Haldun University, Turkey**

**Kadir Ozdel, Diskapi Yildirim Beyazit Egitim ve Arastirma Hastanesi, Turkey**

### **Introduction**

Psychopathology affects the evaluation of feelings, thoughts, beliefs, behaviors, daily situations and self-image negatively. These components of feelings, thoughts, beliefs and behaviors have rarely been considered in mental health professionals in Turkey. As part of an assignment in a Cognitive Behavioral Therapy Class, it was observed that trainees had difficulties in distinguishing between thoughts vs. emotions, beliefs vs. thoughts, and situations vs. thoughts. In the present study, we would like to examine the relationship between the ability to distinguish among these components of emotions, thoughts, beliefs and behaviors in relation to psychological symptom levels and the evaluation of self-image among psychotherapy trainees.

### **Method**

The data are currently being collected from mental health professionals in cognitive behavioral therapy (CBT) trainings in Turkey. Respondents include Clinical Psychology Master Students at Hasan Kalyoncu University in Gaziantep and Ibn Haldun University in Istanbul. Other CBT trainees who are not attached to universities are also considered. In total, we aim to have approximately 60 mental health trainees. In addition to thought record form, participants will fill the Beck Depression Inventory, Beck Anxiety Inventory, SCL-90 Short-Form, Psychological Symptom Screening Questions and a short sociodemographic form, including some questions on evaluation of their self-image as future mental health professionals.

### **Results**

Analysis of variance, correlations and regression will be used to analyse the data, using IBM SPSS Statistics 25.

### **Discussion**

We hope that the results of this study will make a contribution to support the professional development of the mental health trainees in Turkey.

## **Increasing Quality of Care in Norwegian Child Welfare Institutions: A Quantitative Analysis of Factors from the High Performance Cycle and a Test of Job Engagement**

**Per Jostein Matre, Psychological Health and Addictions: Drammen Municipality, Norway**

**Rita Kylling,**

**Pamela Waaler, Center for Child and Adolescent Mental Health, Eastern and Southern Norway, Norway**

**Hans Nordahl, Norwegian University of Technology and Science, Norway**

**Kitty Dahl, Center for Child and Adolescent Mental Health, Eastern and Southern Norway, Norway**

### **Introduction**

Seventy-six percent of youth living in child welfare institutions in Norway meet criteria for 1 or more psychiatric disorders (Kayed, et al., 2015). This high prevalence of emotional distress presents a significant challenge for Norwegian child welfare services. In order to provide effective help, institutional employees must be motivated, trained and engaged.

From 2011 to 2014, a systematic implementation called Module-Based Support (MBS) was enacted to increase the quality of institutional care through therapist training and supervision. The current study examines which program factors contributed to therapist development and job engagement.

### **Method**

A quantitative cross-sectional design was utilized. The independent variable was job engagement, and the dependent variables were High Performance Cycle (HPC) factors (Kylling, 2014) including: demands, performance, contingent rewards, consequences, and job satisfaction. All employees and leaders in Region North working day and/or evening shifts participated. In 2011, 320 employees and 12 leaders were recruited (62% women, 38% men). 78% percent had a bachelor's degree, 54% had between 1 and 6 years work experience at the institution they were employed, and 28% worked primarily day shift. The number of participants decreased to 230 in 2013 due to restructuring. Participants completed the Empowered Thinking Questionnaire (ETQ) 3 times between 2011 and 2014. The ETQ is based on five instruments and has a total of 133 questions. Questions include: leader support, goal orientation, self-efficacy, attachment to the organization, job engagement, and job satisfaction (Locke & Latham, 2013).

### **Results**

A Structural Equation Modelling (SEM) analysis was conducted to test the relationship between job engagement and the dependent variables. The analysis demonstrated a significant relationship between demands and performance ( $b = .54$ ), performance and contingent rewards ( $b = .85$ ), contingent rewards and job satisfaction ( $b = .94$ ), contingent rewards and job engagement ( $b = .58$ ), and job satisfaction and consequences ( $b = .88$ ). However, significant relationships were not found between job engagement and self-efficacy ( $b = .04$ ), nor job engagement and job satisfaction ( $b = .02$ ).

### **Discussion**

The results from the SEM analysis suggest that there are significant relationships between job engagement and HPC factors, which indicates that the HPC model is a valid tool for improving care quality in child welfare institutions in Norway.

## Poster Session 6 (15.00-17.30)

### Children and Adolescents - English Programme

- 1 **Competence and Adherence Scale for Cognitive Behavioural Therapy (CAS-CBT) for Pediatric Anxiety Disorders: Psychometric Properties in Group and Individual Therapy**  
Marianne Aalberg Villabø, Akershus University Hospital, Norway
- 2 **Differential Psychosocial Characteristics of Male and Female Young Offenders in a Juvenile Court in Spain**  
Alfonso Arteaga, Universidad Pública de Navarra, Spain
- 3 **Childhood Social Anxiety and (Perceptions of) Likeability and Friendship Within Their Class**  
Jeanine Baartmans, University of Amsterdam, the Netherlands
- 4 **The iSocial Program - Social Skills Training Program for Children and Adolescents**  
Patricia Barros, University of Minho, Portugal
- 5 **GAMER TEST: An Online Tool to Detect Internet Gaming Problems in Adolescents and Youths**  
Mónica Bernaldo-de-Quirós, Universidad Complutense de Madrid, Spain
- 6 **Associations of Emotion Regulation Skills and Psychopathology in Adolescents from the General Population – Results from the BeMIND-Study**  
Johanna Berwanger, Technische Universität Dresden, Germany
- 7 **Beck Youth Inventory Reports and Treatment Outcomes Across Internalizing and Externalizing Contexts**  
Jordan Booker, University of Missouri, USA
- 8 **Consequence or Risk Factor? Attention Biases in Children and Adolescents with Major Depression and At-Risk Youths**  
Christina Buhl, Ludwig Maximilian University of Munich, Germany
- 9 **Internet Gaming Disorder: Internalising and Externalising Profile and Its Response to Cognitive Behaviour Therapy**  
Sampurna Chakraborty, Central Institute of Psychiatry, India
- 10 **Adolescents' Co-Rumination and Memory Specificity Predict Level of Perceived Social Support from Friends**  
Christine H. M. Chiu, The University of Hong Kong, Hong Kong
- 11 **The Feasibility of a Video-Based Transdiagnostic Universal Prevention Program for Internalizing Problems in Youths**  
Costina Păsărelu, Babeş-Bolyai University, Romania
- 12 **The Differential Role of Cognitive and Affective Empathy in Antisocial Behavior: An Investigation Among Adolescents Hospitalized in a Forensic Psychiatric Unit**  
Raffaella Di Schiena, Centre Hospitalier Jean Titeca, Belgium
- 13 **The Malay Version of the Beck Youth Inventories-Second Edition (BYI-2 Malay): Evidence for Factor Structure, Reliability, and Validity in a Sample of Adolescents Living in the Sheltered Homes**  
Wai-Eng Ding, Universiti Putra Malaysia, Malaysia
- 14 **Effects of Family Involvement in Psychotherapeutic Treatment of Depressed Children and Adolescents: A Systematic Review**  
Nele Dippel, Philipps-Universität Marburg, Germany
- 15 **Development and Evaluation of a Program to the Prevention of Emotional Problems and Behavior in Children in the Cognitive-Behavioral Perspective: Training for Teachers**  
Débora C. Fava, ELO Psicologia e Desenvolvimento, Brazil
- 16 **Cognitive Behavioral Therapy for Children with Comorbid Anxiety Disorders and Medically Unexplained Symptoms**  
Guillaume Foldes-Busque, Université Laval, Canada
- 17 **Cognitive Behavioral Therapy for Obsessive-Compulsive Disorder in Children and Adolescents. A Systematic Review with Meta-Analysis**  
Camilla Funch Uhre, The Child and Adolescent Mental Health Centre, Denmark
- 18 **Effects of Phosphatidylserine-Omega-3 (Vayarin) Supplementation for Children Diagnosed with Autism Spectrum Disorder (ASD) and Comorbid Attention Deficit Hyperactivity Disorder (ADHD)**  
Tze Jui Goh, Institute of Mental Health Singapore, Singapore
- 19 **Does Attachment Influence Desire for Thinness in 9- to 14-Year-Old Children After Exposure to Images Representing the Beauty Ideal?**  
Lien Goossens, Ghent University, Belgium
- 20 **Dealing with Emotions: Using a Service-Learning Approach to Enhance Emotional Competences in Children and Adolescents**  
Raphael Gutzweiler, University of Koblenz-Landau, Germany
- 21 **Children with Academic Difficulties with Emotional Problems: Implication of CBT**  
Susmita Halder, Amity University, India
- 22 **Anxious School Refusal in Adolescents: Efficiency of a Cognitive and Behavioral Therapy (CBT) Outpatient Program**  
Helene Denis, University Hospital of Montpellier, France
- 23 **Effect of Mental Health Prevention Program for Deaf and Hard of Hearing Children**  
Noriko Hida, Doshisha University, Japan
- 24 **Improvement in Assessment Ability of Elementary and Junior High School Teachers Influences Adaptation of Japanese Students**  
Yui Horikawa, Waseda University, Japan
- 25 **The Effects of Teachers' Praise on Students' Psychological School Adaptation**  
Yuya Iijima, Waseda University, Japan
- 26 **Telehealth Parent Training for Children with Neurodevelopmental Disorder: Home-based Assessment for Behavior of Everyday Life**  
Natsumi Ishikawa, University of Tokyo Hospital, Japan
- 27 **Telehealth Consultation and Parent-Implemented Social Skill Training in Children with Neurodevelopmental Disorder**  
Yuka Ishizuka, University of Tsukuba, Japan
- 28 **The Bullying Phenomenon: Lack of Empathy or Cold Manipulation?**

- Enrico Iuliano and Carlo Buonanno, School of Cognitive Psychotherapy - SPC - Rome, Italy
- 29 **How are Interoception and Psychopathology Related in Childhood and Adolescence? A Systematic Literature Review and Transdiagnostic Approach**
- Stefanie Jungmann, Johannes Gutenberg-University Mainz, Germany
- 30 **The Effect of Intervention for Families of Individuals with Hikikomori (Prolonged Social Withdrawal) According to Cognitive Behavioral Characteristics**
- Mana Kadokura, Waseda University, Japan
- 31 **Pilot Evaluation of the Child and Parent Emotion Regulation (CAPER) Program for At-Risk Children with Symptoms of Disruptive Mood Dysregulation Disorder (DMDD)**
- Maria Kangas, Macquarie University, Australia
- 32 **Cognitive Behavioural Therapy for Anxiety Disorders in Children with Autism Spectrum Disorder: A Randomized Controlled Trial**
- Tina R. Kilburn, Aarhus University Hospital, Denmark
- 33 **Mechanisms of Behavioral Activation for Depressive Symptoms in Children: Comparison of Non- and Sub-Clinical Group in a Community Sample**
- Kohei Kishida, Doshisha University, Japan
- 34 **The Degree of Parental Influence on the Degree of Clarification of Children's Value**
- Nao Komiyama, Waseda University, Japan
- 35 **Effects of a Group Stress Management Program for Residents of a Welfare Facility for Children with Disabilities**
- Shunsuke Koseki, J. F. Oberlin University, Japan
- 36 **Severity of Nonsuicidal Self-Injury, Emotion Regulation, and Suicidality: A Mediation Analysis**
- Laura Kraus, University of Koblenz-Landau, Germany
- 37 **A Preventive School-Based Pilot-Intervention for Youth with Disruptive Behavior and Mild Intellectual Disabilities: A Small Sample Size Solution for a Challenging Population**
- Eva Kuhl, Utrecht University, the Netherlands
- 38 **Alterations of Functional Brain Network After Group Cognitive-Behavioral Therapy for Adults with Attention-Deficit / Hyperactivity Disorder**
- Yusuke Kyuragi, National Hospital Organization Hizen Psychiatric Center, Japan
- 39 **Therapist-Assisted Online Parenting Strategies (TOPS) Program for Parents of Adolescents Experiencing Clinical Anxiety or Depression**
- Katherine Lawrence, Monash University, Australia
- 40 **Robot-Enhanced Interventions for Children with Autism Spectrum Disorders: The Results of an Effectiveness and Accommodability Study Across Eleven Special Education Settings**
- Silviu Matu, Babeş-Bolyai University, Romania
- 41 **Cognitive Behavioral Characteristics Influencing Diet Behavior in Child Students**
- Kato Misaki, Waseda University, Japan
- 42 **Keep it Brief - Innovative Directions in Anxiety Prevention for Vulnerable Children in Disadvantaged South African Contexts**
- Naomi Myburgh, Stellenbosch University, South Africa
- 43 **Development of Autism Social Skills Assessment for Parents, and a Test of its Reliability and Validity**
- Yo Nakanishi, Doshisha University, Japan
- 44 **Development and Initial Evaluation of REBTonAD - A Transdiagnostic Program for Anxiety and Depressive Disorders in Youth**
- Costina-Ruxandra Pasarelu, Babeş-Bolyai University, Romania
- 45 **Adverse Effects of Psychotherapy in Children and Adolescents: A Systematic Review and Meta-Analysis**
- Linea Pretzmann, Child and Adolescent Mental Health Centre, Denmark
- 46 **Improving Access to Evidence-Based Treatment for Anxiety and Depression in Adolescents: Development of a Brief Identification Tool**
- Jerica Radez, University of Reading, UK
- 47 **Implementing CBT in Public Mental Health Services for Adolescents: Results from a Comprehensive Service Development Program in the Capital Area of Finland**
- Klaus Ranta, Helsinki University Hospital, Finland
- 48 **The Moderating Role of Sleep in the Relationship Between Social Isolation and Internalising Problems in Early Adolescence**
- Cele Richardson, Macquarie University, Australia
- 49 **Attention Deficit/ Hyperactivity Disorder and Task-Related Heart Rate Variability: A Systematic Review and Meta-Analysis**
- Andreea Robe, Babeş-Bolyai University, Romania
- 50 **Case Series Analysis: Effectiveness and Feasibility of a Low Intensity Sleep Intervention with Adolescents in a Secondary Mental Health Service**
- Rebecca Rollinson, Norfolk and Suffolk NHS Trust, UK
- 51 **Efficacy of Cognitive-Behavioral Therapy (CBT) for Children with ADHD and with Emotion Dysregulation**
- Lucia Romo, Université Nanterre Laboratoire CLIPSYD, France
- 52 **Investigating the Effectiveness of Disciplinary Strategies on Non-Compliance, Parent-Child Relationship and Individual Factors Involved**
- Georgiana-Maria Roşca, Babeş-Bolyai University, Romania
- 53 **Treating a Child With an Unspecified Eating Disorder: The Integration Between CBT and Positive Narrative Strategies**
- Chiara Ruini, University of Bologna, Italy
- 54 **Acceptability and Usefulness of Providing Feedback on Parenting in Web-Based Interventions**
- Wan Hua Sim, Monash University, Australia
- 55 **Pathways to Perceived Stress in Caregivers of Individuals with Autism Spectrum Disorder: The Role of Behavioural Problems and Parental Mental Health Symptoms**

- Wei Jie Soh, Institute of Mental Health, Singapore
- 56 **Development and Validation of the Korean Classroom Problem Behavior Scale – Elementary School Version (CPBS-E)**  
Wonyoung Song, Konyang University, South Korea
- 57 **Impact on Stress Response and Resilience of Cognitive Behavioral Technique in Adolescence**  
Takahito Takahashi, University of Miyazaki, Japan
- 58 **The Relationship Between Foster Behavior and Job Satisfaction and Burnout of Workers in Japanese Social Care Institutions for Children**  
Ayako Takii, Hyogo University of Teacher Education, Japan
- 59 **Effects of a Teacher’s Behavior-Specific Praise on the Academic Engagement of a Child with Autism Spectrum Disorder in a General Education Classroom**  
Masako Tanabe, Kwansei Gakuin University, Japan
- 60 **Applying a Transdiagnostic Modular Approach to Treating Comorbid Posttraumatic Stress Disorder and Depression in Children’s Community Mental Health**  
Emilee H. Turner, University of Hawaii at Manoa, USA
- 61 **On How the Heart Speaks. Emotion Dysregulation, Temperamental Vulnerability, and Parental Depression in Adolescents: Correspondence Between Physiological and Informant-Report Measures**  
Marie-Lotte Van Beveren, Ghent University, Belgium
- 63 **A Meta-Analysis of the Worldwide Prevalence of Mental Disorders in Preschool Children**  
Mira Vasileva, University of Bremen, Germany
- 64 **The Role of Parenting Practices in the Development of Internalizing Problems in Preterm Born Infants**  
Leonie Vreeke, Utrecht University, the Netherlands
- 65 **Business as Usual? A Case Series to Illustrate Hypothesised Areas in Which the Treatment of Emetophobia in Young People Should Differ from Standard CBT for OCD**  
Sasha Walters, University of Reading and Berkshire CAMHS Anxiety and Depression Team, UK
- 66 **Applying the Metacognitive Model to Children with Generalised Anxiety Disorder: Evidence from a Clinical Sample**  
Julia White, The University of Sydney, Australia
- 67 **The Development and Validation of the Korean Implementation Fidelity Checklist of Tier 3 School-Wide Positive Behavior Support (IFC-T3)**  
Sung-Doo Won, Keyo Medical Foundation Keyo Hospital, South Korea
- 68 **Telehealth Parent Training for Children with Neurodevelopmental Disorder: Intervention for Parent-Child Verbal Interaction**  
Junichi Yamamoto, Keio University, Japan
- 69 **The Effect of Emotional Regulation Skills Intervention for Adolescents’ Relationship**  
Noguchi Yuka, Hiroshima University, Japan
- 70 **The Association Between Parenting, Self-Compassion, Friendship and Depression in Chinese Adolescents**  
Mengya Zhao, University of Exeter, UK
- 71 **Adverse Childhood Experiences and Family Resilience Among Children with Autism Spectrum Disorder and Attention Deficit/Hyperactivity Disorder**  
Kim Zlomke, University of South Alabama, USA
- 72 **Clinical Dissemination and Implementation of EBTs from the Ground Up: How to Develop a Multi-Disciplinary, Multi-Site CBT “Clinical Dissemination Practice”. The Case Example of The Child & Family Institute**  
Adam Weissman, The Child & Family Institute, NY, USA
- 73 **Competent Parents – Satisfied Children? Short- and Long-Term Effects of the Positive Parenting Program (Triple P) on the Health-Related Quality of Life**  
Max Supke, Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany
- 74 **Pakistani Chapter to CBT at Crossroad: A Randomized Trial of a Group Self System Integrated Cognitive Behavioral Intervention and Mechanisms in Prevention of Major Depressive Disorder in an At-Risk Sample of High School Adolescents**  
Nazia Ishfaq, Government College University Lahore, Pakistan
- 75 **Coaching in Parent-Child Interaction Therapy: Sequential Analysis of Interaction Between a Mother of Child with Autism Spectrum Disorder and a Therapist in Child-Directed Interaction Coaching**  
Yumi Kaneyama, Kwansei Gakuin University, Japan
- 76 **A Randomized-Controlled Trial of UTalk: An Innovative Approach to Preventing Adolescent Peer Victimization and Reducing Social Anxiety and Depression**  
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## Poster Session 6: Children & Adolescents and Family, Relationship & Sexual Issues

### Children & Adolescents

#### **Competence and Adherence Scale for Cognitive Behavioural Therapy (CAS-CBT) for Pediatric Anxiety Disorders: Psychometric Properties in Group and Individual Therapy**

Stine Harstad, Regional Centre for Child and Youth Mental Health and Child Welfare, Norway

Scott Compton, Duke University, USA

Odin Hjemdahl, Norwegian University of Science and Technology, Norway

Trine Waaktaar, University of Oslo, Norway

Jon Bjaastad, Stavanger University Hospital and Regional Centre for Child and Youth Mental Health and Child Welfare, Norway

Marianne Aalberg Villabø\*, Akershus University Hospital, Norway

#### **Introduction**

Recently new instruments have been developed to assess adherence and competence in CBT and how this is related to treatment outcome in therapy with children. Among these instruments is the Competence and Adherence Scale for Cognitive Behavioural Therapy (CAS-CBT; Bjaastad et al, 2015). The CAS-CBT measures therapists' competence and adherence in CBT when delivered to youth with anxiety disorders. The aim of this study was to evaluate the psychometric properties of the CAS-CBT.

#### **Method**

The participants were part of an effectiveness study (within in a community-based setting) of the Coping Cat program for children with anxiety disorders (Villabø, Compton, Narayanan, Kendall, & Neumer, 2018). 165 patients were included (M age= 10.46, SD= 1.49, age range 7-13 years). The study was a randomized controlled trial and the participants were randomized to individual cognitive behaviour therapy (ICBT), group cognitive behaviour therapy (GCBT) and waiting list. Treatment was provided by 32 therapists (M age = 34.7, SD = 5.9, range 27-49, 81.3% females) treating an average of five children each (range 1-19). Therapists were rated with the CAS-CBT on 212 randomly selected videotaped treatment sessions including both individual and group therapy sessions. Five independent raters assessed the videos. The two expert raters assessed a total of 81 videos (one rated 29, whilst the other rated 52 videos) and three non-expert raters assessed a total of 131 videos (subsequently 36, 45 and 50).

#### **Results**

Results suggested that the internal consistency for the CAS-CBT was good (Cronbach's alpha = .88). Factor analysis suggested a 2-factor solution for the total sample, where the first factor was related to CBT structure and session goals, and the second factor was associated with process and relational skills. Both ICBT and GCBT showed the same factor solution.

#### **Discussion**

Results suggest that the CAS-CBT is a reliable measure for assessing competence and adherence to CBT in the treatment of anxious children. Results from this study is also in line with Bjaastad (2016) related to the psychometric properties of CAS-CBT. Future research is needed to further assess the generalizability of this scale, its psychometric properties in different populations and with other treatment programs, and preferably larger sample sizes.

#### **Differential Psychosocial Characteristics of Male and Female Young Offenders in a Juvenile Court in Spain**

Alfonso Arteaga, Raúl Cacho, Javier Fernández-Montalvo, José J. López-Goñi & Begoña Haro, Universidad Pública de Navarra, Spain

#### **Introduction**

Juvenile delinquency is a serious social problem. Gender of juvenile offenders is an important variable that must be taken into account when analysing this phenomenon. The knowledge of the differential psychosocial characteristics of male and female young offenders can support the implementation of specific measures aimed at effectively addressing the interventions. The main goals of this study were: 1) to determine the rate of male and female young offenders who enter a juvenile court in Spain, and 2) to determine the differential psychosocial characteristics of male and female young offenders.

#### **Method**

The sample of this study was composed of 838 juvenile offenders (650 males and 188 females) with whom the Justice System of Navarra (Spain) intervened between 2010 and 2013. Based on the information provided by the Archives of the Juvenile Court and the Technical Team Report, the Youth Level of Service/Case Management Inventory (YLS/CMI, Hoge & Andrews, 2002; Spanish version by Garrido, López & Silva, 2006) was completed for each minor. Comparisons on psychosocial characteristics between males and females were carried out.

#### **Results**

The rate of male minors of the sample was 77.6%, and 22.4% were females. Regarding the type of offences committed, most of males' offences were some type of crime, while females mainly committed misdemeanours. Female young offenders present with higher scores than male offenders in three areas (parenting/educational guidelines, leisure and recreation, attitudes and orientation) and in the total score of the YLS/CMI. Males obtained significant higher scores than females in the personality and behaviour domain, with more problems than women to maintain attention.

#### **Discussion**

The programmes aimed at both the prevention of risk behaviours and the intervention with young offenders should take into account the areas and characteristics of these minors, according to their gender. Cognitive-behavioural interventions with young offenders should address the areas detected as more problematic considering gender-based differences.

## **Childhood Social Anxiety and (Perceptions of) Likeability and Friendship Within Their Class**

**Jeanine Baartmans, University of Amsterdam, the Netherlands**

**Anke Klein, Ruhr University Bochum, Germany**

**Bonny van Steensel, University of Amsterdam, the Netherlands**

**Tessa Lansu, Radboud University Nijmegen, the Netherlands**

**Susan Bögels, University of Amsterdam, the Netherlands**

**Ronald Rapee, Macquarie University Sydney, Australia**

**Mike Rinck, Radboud University Nijmegen, the Netherlands**

### **Introduction**

Children who suffer from a social anxiety disorder have concerns about their social skills, are afraid to be disliked by peers and rate their own social competence low (Spence, Donovan, & Brechman-Toussaint, 1999). However, it is known that children with a social anxiety disorder have cognitive biases related to interpretation, attention, memory, and perception (Hofmann, 2007). Since non-self-report studies are inconclusive about whether socially anxious children are really less socially competent than non-socially anxious peers, it is still unclear whether socially anxious children's concerns about their social functioning are justified or not. Therefore, the purpose of the three presented studies was to examine the relation between social anxiety symptoms in children and perception accuracy of likeability by peers and friendships with peers.

### **Method**

In the first two studies participated respectively 586 children between 7 and 13 years old and 532 children between 7 and 12 years old. The children completed questionnaires about social anxiety symptoms, depressive symptoms, self-assessed likeability, and perceived social support. In the first study, peer reported likeability measures were derived from nominations of the most and least liked peers. In the second study, these measures were derived from ratings on a Likert-scale. The goal of the third study was again to investigate perception accuracy by peers, but this time with adolescents. Participants of the study were 263 adolescents between 12 and 15 years old. The adolescents in the study reported on their social anxiety symptoms, self-perceived likeability, and likeability of their peers both on a scale and with nominations. Additionally, adolescents reported which classmates they considered to be their friends.

### **Results**

Results from the first two studies showed that in general children tended to overestimate their likeability by peers. Children with higher levels of social anxiety, but not depression, demonstrated less overestimation or even underestimation of their likeability by peers compared to children with lower levels of social anxiety. Children who reported more social anxiety symptoms perceived themselves as less liked by their peers, while in fact their peers nominated them less often as least liked than less socially anxious children. Social support by a best friend was positively related to likeability and negatively related to social anxiety, but did not moderate the association between perception accuracy of likeability and social anxiety. Results of the third study on the relation between social anxiety, perception accuracy of likeability, and mutuality of friendships in adolescents will be discussed.

### **Discussion**

So far, it is concluded that socially anxious children indeed suffer from a negative perception bias about their social functioning with peers. The presented topic gives insight in possibilities for correcting the discrepancy in objective versus subjective peer acceptance and is a crucial target in the prevention and treatment of social anxiety disorders in children.

## **The iSocial Program - Social Skills Training Program for Children and Adolescents**

**Patricia Barros, University of Minho, Portugal**

**Francisco Assumpção, University of São Paulo, Brazil**

### **Introduction**

Social skills are part of the repertoire of development, particularly in childhood and adolescence. However, some children and adolescents fail to acquire and perform such skills. One of the reasons for this impairment is the Theory of Mind (ToM) deficits which has been pointed out as one of the pillars of social inaccuracies mainly in Autism Spectrum Disorders (ASD). The goal of this study is to present the preliminary results and discussion of the iSocial Program: a 14-session program for the development of Theory of Mind and social skills including parents' group (14 parallel sessions). It was believed the program would result in effective gains concerning social narrative and understanding through ToM improvement in an Autistic Sample (considering them as determining examples of ToM deficits). Apart from that, it would have an impact in performing appropriate behavior in several contexts

### **Method**

Originally planned for Autistic children and adolescents, the first sample of the program consisted of 19 Brazilian participants, aged between 8 and 13, who met the DSM-5 criteria to ASD, having the IQ standard level or above. Its structure and topics derive from and make use of the Cognitive Behavior Therapy (CBT) strategies of two previous programs (Laugeson & Frankel, 2010; Barros & Falcone, 2012). It aimed at developing empathy and training ecologically validated social behaviors through the Socratic Method as well as video modeling, role-plays, behavior experiments and homework tasks. The Social Skills Rating System - parents and teachers versions (SSRS; Gresham e Elliott, 1990) - was used in order to evaluate social skills and disruptive behaviors in natural contexts. The second instrument was a decoding system which items were based on the ToM literature review with the objective of analyzing the participants' narrative related to the emotional and mental states understanding.

### **Results**

Data on this first sample has shown improvements in the SSRS in general social skills according to parents ( $P < 0.0$ ;  $d = 1.14$ ) and teachers ( $P < 0.0$ ;  $d = 2.43$ ). Additionally, the behavior problems have decreased in the parents' ( $p < 0.01$ ,  $d = 0.82$ ) as well as in teachers' version of SSRS ( $p < 0.001$ ,  $d = 0.86$ ). From the specialized judges standpoint, there have also been improvements in the empathic understanding of social situations ( $F(11, 539) = 151.7$ ).

### **Discussion**

The iSocial Program, in the preliminary version of its results, suggests that the bond between empathetic strategies and ecologically validated behavior rules may result in progress when it comes to Children and Adolescents with ToM impairments. In this study, the sample consisted solely of Autistic participants, who have clear difficulties in this area. However, more data is required from other groups of children and adolescents with Social Skills impairment related to ToM deficits as well as a treatment control group with a typical sample. As a

consequence of these needs there are two new studies running in Brazil and Portugal with different groups of participants and a structured training for CBT therapists in order to put that into practice.

### **GAMER TEST: An Online Tool to Detect Internet Gaming Problems in Adolescents and Youths**

**Mónica Bernaldo-de-Quirós, Francisco J. Labrador, Marta Labrador-Méndez, Ignacio Fernández-Arias, Francisco Estupiñá & María González-Álvarez, Universidad Complutense de Madrid, Spain**

#### **Introduction**

Playing video games is a very popular form of entertainment among adolescents and youths. Internet gaming disorder has become a topic of increasing research interest since its inclusion in Section 3 of the DSM-5. There are persistent reports that the internet gaming, or certain ways of playing internet games produce negative effects of personal and social relevance, such as the emergence of problems with sleep, impact on general well-being and a higher incidence of mental health problems including a lower degree of self-control. These data highlight the importance of quickly identifying the presence of problem gaming and, better still, of detecting the risk of developing these problems before they appear, as this would allow us to act preventively, avoiding the emergence of problem. For this purpose, we developed the GAMER TEST, an on-line tool for the detection of persons who have or may develop gaming problems. The goal of this work is to present and validate the GAMER TEST.

#### **Method**

A sample of 2887 Spanish students, 57.5% men and 42.5% women, ranged 12-22 years completed the GAMER TEST. It included questions concerning: sociodemographics; patterns of gaming habits; weekly gameplay; attitudes and cognitions about gaming; impulsivity; personal, social and school functioning; the General Health Questionnaire (GHQ-12, Goldberg et al., 1997); and the Internet Gaming Disorder Test-Short Form (IGDS9-SF, Pontes & Griffiths, 2015).

#### **Results**

75.3% of the adolescents and youths admit to play videogames. Results about psychometric properties will be presented and discussed.

#### **Discussion**

The GAMER TEST is a brief and effective screening tool to detect adolescents and youths with gaming problems or at risk of developing them.

### **Associations of Emotion Regulation Skills and Psychopathology in Adolescents from the General Population – Results from the BeMIND-Study**

**Johanna Berwanger, John Venz, Catharina Voss, Theresa Ollmann, Jana Hoyer, Lars Pieper, Katja Beesdo-Baum, TU Dresden, Germany**

#### **Introduction**

Difficulties in emotion regulation (ER) have been linked to a variety of mental disorders and are discussed as a potential transdiagnostic factor. However, most research so far has focused on selected disorders in comparison to specific ER-skills. Therefore, assessment of ER-skills within a broad range of disorders is still rare. Furthermore, the development of ER-skills is especially interesting in adolescents and young adults, since this phase marks the onset of many psychological problems.

We assessed the relationship between ER-skills in a broad range of mental disorders compared to healthy individuals in adolescents and young adults from the general population.

#### **Method**

Data from the Behavior and Mind Health (BeMIND) study was used. BeMIND is an epidemiological study on the development of psychopathology in a random sample of 14-21 year olds, drawn from the population registry in Dresden (Germany). ER-skills were measured via an online-questionnaire (ERSQ). Mental disorders in the last 12 months were assessed face-to-face via a standardized clinical interview (DIA-X/M-CIDI). N=1033 participants (♀= 59.25%) provided data on both mental disorders and ER-skills. Associations were tested using multiple regression analysis.

#### **Results**

Adolescents who met criteria for any anxiety, depressive, somatic or adjustment disorders (incl. PTSD) or substance-use related disorders in the last 12 months revealed diminished overall ER-skills compared to healthy participants ( $p < .05$ ). These associations were significant even after adjusting for comorbidities, age and sex. Separate analysis for specific ER-skills indicated that deficits varied between disorders. For instance, in participants who met criteria for depressive disorders, all ER-skills were significantly lower than in healthy participants, while participants with any anxiety disorder only reported lower levels of resilience against negative emotions and lower regulation abilities of undesired emotions.

#### **Discussion**

These results support the notion of overall ER as a transdiagnostic factor for a variety of mental disorders. At the same time findings suggest that a lack of specific skills is relevant to specific disorders. These findings underline the necessity for a better understanding of the association between ER and mental disorders in a critical developmental period such as adolescence and young adulthood. Particularly longitudinal studies would contribute to an improved understanding of the temporal patterns of ER and mental disorders and provide information on whether targeted ER interventions could be promising for preventing mental health problems.

### **Beck Youth Inventory Reports and Treatment Outcomes Across Internalizing and Externalizing Contexts**

**Jordan Booker, University of Missouri, USA**

**Thomas Ollendick, Virginia Tech, USA**

#### **Introduction**

The Beck Youth Inventory (BYI) provides valuable insights into children's risks in internalizing problems (anxiety, depression) and externalizing problems (anger, disruptive behaviors), as well as a promotive factor in their self-concept. We were interested in the ways BYI reports uniquely inform clinical outcomes across children with internalizing and externalizing disorders. In a secondary analysis, this study addressed the predictive value of BYI subscales on post-treatment symptom severity and global clinical adjustment for children seeking treatment for either specific phobias or oppositional defiant disorder.

## **Method**

Two hundred ninety-nine children from two treatment groups were considered as a single sample. Children from each treatment group reported on the BYI before completing treatment for either a diagnosis of specific phobia diagnosis or oppositional defiant disorder. Clinicians provided scores for children's symptom severity for the primary diagnosis and global clinical adjustment score at pre-treatment and post-treatment. Two sets of analyses were used to predict clinical outcomes beyond the influences of demographics, treatment group, comorbid diagnoses (i.e., ADHD, GAD), and pre-treatment clinical ratings. Both variable-centered and person-centered analyses were used to test the predictive value of BYI reports on clinical outcomes.

## **Results**

Variable-centered analyses showed that self-concept was uniquely associated with less severe pre-treatment symptom severity, less severe post-treatment symptom severity, and greater pre-treatment global adjustment. Person-centered analyses showed support for four profiles given reports across the five BYI subscales. These profiles were not associated with treatment group assignment or comorbid diagnosis; however, profiles involving greater reports of self-concept alongside lower reports of internalizing and externalizing problems had less severe post-treatment symptom severity and greater global clinical adjustment.

## **Discussion**

Findings suggest that children's BYI reports and particularly their reports of self-concept before entering treatment provide unique information for their post-treatment outlook beyond relevant clinical covariates. These reports can help identify children who may be more responsive to treatment, even in the face of comorbidity and other hurdles to intervention. Further, these reports can help identify children who may benefit from additional considerations during intervention to promote the likelihood of a robust and enduring treatment response.

## **Consequence or Risk Factor? Attention Biases in Children and Adolescents with Major Depression and At-Risk Youths**

**Christina Buhl, Anca Sfaerlea & Johanna Loechner, LMU Munich, Germany**

**Elske Salemink, University of Amsterdam, The Netherlands**

**Gerd Schulte-Koerne & Belinda Platt, LMU Munich, Germany**

### **Introduction**

Major Depression (MD) is among the most common psychiatric disorders in childhood and adolescence, often accompanied by adverse outcomes regarding mental health, social life and education. MD is associated with negative cognitive biases, including a negative bias in attention. Although attentional biases (ABs) have been found in currently depressed adults and children as well as at-risk populations, it is still unclear to what extent these biases are a risk factor contributing to the development of depression or rather a correlate of a current episode of MD.

### **Method**

To separate risk factors from consequences of depression, the present study compares 3 groups of children and adolescents aged 9 to 14 years: currently depressed children and adolescents (MD; n=30), children and adolescents at high risk for depression due to having a parent with MD (high-risk, HR; n=50) as well as children and adolescents from families with no history of MD or any other mental illness (low-risk, LR; n=42). We use eye-tracking to record eye-movement patterns during a Passive Viewing task (in which neutral, happy, sad, and angry faces are presented simultaneously) assessing initial orientation of attention as well as sustained attention.

### **Results**

At this point, data acquisition and analyses are still ongoing, but will be completed by July 2019.

### **Discussion**

In accordance with previous findings using this task in depressed and at-risk youth samples (Harrison and Gibb 2015, Owens et al. 2015), we expect group differences regarding sustained attention towards sad faces.

## **Internet Gaming Disorder: Internalising and Externalising Profile and Its Response to Cognitive Behaviour Therapy**

**Sampurna Chakraborty, Central Institute of Psychiatry, India**

**Susmita Halder, Amity University, India**

### **Introduction**

The present paper outlines two cases of treatment-seeking male children aged 10 and 13 years with different clinical IGD profiles undergoing the treatment. From the clinical history one child was diagnosed with IGD along with depressive features like low mood and high feelings of loneliness, social avoidance and low self-esteem and confidence that was identified as an internalising profile. The other child was identified as an externalising profile with a diagnosis of Oppositional Defiant Disorder showing high disobedience and defiance towards authority figures, temper tantrums and disruptive behaviour. Both the children had significant impact on their academics and social life due to the excessive gaming over a period of 6-8 months. The treatment used Cognitive Behaviour Therapy for Internet Addiction (CBT-IA) that combined classical Cognitive and Behavioural elements with specific Internet-related issues over 12 weekly sessions (Young, 2011). In the internalising profile the focus was

### **Method**

The treatment used Cognitive Behaviour Therapy for Internet Addiction (CBT-IA) that combined classical Cognitive and Behavioural elements with specific Internet-related issues over 12 weekly sessions (Young, 2011). In the internalising profile the focus was more on cognitive restructuring along with motivational interviewing while in the externalising profile the emphasis was on the behaviour modification and harm reduction techniques. The children were assessed on Internet Addiction Test (IAT) before and after completion of 7 sessions of therapy.

### **Results**

There was significant reduction in the score in the domains of lack of control, excessive use, anticipation, salience and neglect of work. There was no difference noted in negative social life domain. The study showed positive findings in management of IGD with CBT specifically modifying and targeting the profile.

### **Discussion**

Therefore, in an area with so few studies relating to IGD treatment, the present study is of existential value and contributes clinical information concerning the treatment of IGD in concerning the efficacy of CBT and also the need to adapt the treatment to suit the profile in question. It is important to define the profile of the patient with IGD because it helps us establish the intervention plan and identify those people which are at risk in order to contribute to prevention.

## **Adolescents' Co-Rumination and Memory Specificity Predict Level of Perceived Social Support from Friends**

**Christine H. M. Chiu, Chelsea C. W. Lo, The University of Hong Kong, Hong Kong**

**Barbara C. Y. Lo, Lingnan University, Hong Kong**

**Tom J. Barry, The University of Hong Kong, Hong Kong, and King's College London, United Kingdom**

### **Introduction**

People share memories of their past experiences with family and friends on a regular basis. Despite this natural practice and theories suggesting that the recall of autobiographical memories serves several social functions, research has often overlooked the relationship between memory retrieval and social processes. On an intra-personal level, difficulties with retrieving memories for specific autobiographical events have been shown to be associated with the presence and course of emotional disorders. However, it is less clear how memory specificity might affect people's interaction with others and the support they receive. One factor that might be involved is individuals' preferences to engage others in repeated discussions about certain problems, mulling over and rehashing them, namely co-rumination. Co-rumination has been found to strengthen friendships in both adolescents and young adults but at the same time contribute to the emergence of depressive symptoms.

### **Method**

This investigation examines whether co-rumination and memory specificity would be associated with perceived social support. Adolescents from Hong Kong (N=136) retrieved autobiographical memories according to a list of negative and positive cue words, which were then coded for whether or not they referred to a specific event that lasted for less than one day. They also completed measures of perceived social support, the tendency to co-ruminate with others, and depressive symptoms.

### **Results**

In line with previous findings, memory specificity was significantly related to depression ( $r = -.19, p = .030$ ). In a linear regression, our results showed that co-rumination (i.e., encouraging others to engage in problem talk and mulling over problems) and memory specificity predicted significant unique variance in perceived social support from friends and also they indicated a significant interaction. Overall, the model explained a significant amount of variance in perceived social support ( $R^2 = .51, F(7, 128) = 18.93, p < .001$ ). Specifically, individuals who tended to engage in co-rumination reported perceiving higher level of support from their friends when compared to those who co-ruminated less. Furthermore, individuals high in both co-rumination and memory specificity perceived even more support from friends than those who co-ruminated at the same level but were less specific in their memory recall.

### **Discussion**

Our findings add to current literature regarding the social function of autobiographical memory, suggesting that co-rumination and memory specificity play an important role in people's relationships and their perception of how well their friends support them.

## **The Feasibility of a Video-Based Transdiagnostic Universal Prevention Program for Internalizing Problems in Youths**

**Costina Păsărelu & Anca Dobrea, Babeş-Bolyai University, Romania**

### **Introduction**

Anxiety and affective disorders, also known as internalizing problems, are the most prevalent mental health problems in children and adolescents. Disorder-specific interventions are effective in reducing the targeted problems, however, there are significant differences in effects on the non-targeted condition (e.g., either smaller or nonsignificant). Transdiagnostic prevention programs could overcome such limitations given the fact that their content target multiple conditions at the same time. Therefore, the aim of the present study was to investigate the feasibility of a video-based transdiagnostic prevention program for internalizing problems in children.

### **Method**

Participants were 83 children recruited from two Romanian schools (Mage = 12.77, SD = .75; 45.8% boys). The intervention protocol was based on Rational Emotive and Behavioral Therapy (REBT) and consisted of six modules delivered over three weeks, each module enhanced with a video-based content.

### **Results**

Results indicated for the primary outcome (internalizing problems as assessed by the Strengths and Difficulties Questionnaire – Internalizing problems subscale) a significant change from pre-intervention to postintervention assessment ( $t = 2.93, df = 80, p = .004$ ). Furthermore, children's satisfaction with the intervention was high.

### **Discussion**

In conclusion, our findings indicated that a video-based transdiagnostic program implemented in a school format is feasible to be used as a prevention tool for adolescents' internalizing problems. This is the first study investigating the efficacy of a transdiagnostic REBT program in reducing anxiety and depression in adolescents. Also, it is the first study that integrated REBT with technology in the format of a cartoon-based program efficient in reducing anxiety and depression outcomes in youths.

## **The Differential Role of Cognitive and Affective Empathy in Antisocial Behavior: An Investigation Among Adolescents Hospitalized in a Forensic Psychiatric Unit**

**Raffaella Di Schiena, Stephanie Charles & Louis de Page, Centre Hospitalier Jean Titeca, Belgium**

### **Introduction**

Antisocial behavior (AB) has been traditionally associated with a lack of empathy, in line with theories of psychopathic personality (Meyer et al., 2018). Nonetheless studies conducted so far on this topic showed contrasting results (Vachon, Lynam & Johnson, 2014). This is also in line with clinical observations we conduct on the population of adolescents hospitalized in our unit: highly aggressive inpatients can be very aware of other people's feelings, but still willing to hurt them.

Therefore this contrasting evidence implies that the association between empathy and AB deserves to be better understood.

On the one side, we propose that, AB being a multidimensional construct, association with empathy can be different depending on the behavioral dimension considered. On the other side, few studies so far disentangled the two different aspects of empathy: emotional reactivity to others' emotions (affective empathy) and comprehension of others' emotions (cognitive empathy).

### **Method**

The present study aims at shedding light on the association between empathy (affective and cognitive) and different dimensions of AB, by investigating those associations on a sample of 20 male adolescents hospitalized in a forensic psychiatric unit (Mage=16,17; sd=1,21).

The 20 items Basic Empathy Scale (BES, French version) was administered to our subjects. This is composed of two subscales measuring respectively affective and cognitive empathy. Tendency to adopt AB was measured by rating the severity of four behavioral indicators on a 5-point scale. These were the four indicators of the Modified Overt Aggression Scale (MOAS, De Benedictis et al., 2012): Physical aggression to others, physical aggression to objects, self-harm and verbal aggression. Nurses rated severity of this behavior every week during the hospitalization and the average score of severity was considered.

#### **Results**

Correlation coefficients between the four dimensions of AB and the two subscales of BES were examined. Physical aggression to others had negative correlation with affective empathy ( $r = -.53, p < .005$ ) and no correlation with cognitive empathy; physical aggression to objects and verbal aggression did not show any significant correlation with none of the two subscales; self-harm had negative correlation with cognitive empathy ( $r = .46, p < .05$ ) and no correlation with affective empathy.

#### **Discussion**

Consistent with what we expected, results showed that affective and cognitive empathy were differently associated with AB, although it did not appear for all the dimensions. Results are very clear about physical aggression: the more one adolescent reacts to others' emotions, the less he is willing to adopt physically aggressive behaviors towards others, and this regardless his ability to understand other people's emotions. This will be discussed with reference to the literature about psychopathy. A second relevant finding is about self-harm, which is associated with a deficit in understanding other people's emotions, supposedly in understanding emotions whatsoever. This will be discussed with reference to the literature about borderline personality disorder. Clinical implications will also be discussed.

### **The Malay Version of the Beck Youth Inventories-Second Edition (BYI-2 Malay): Evidence for Factor Structure, Reliability, and Validity in a Sample of Adolescents Living in the Sheltered Homes**

**Wai-Eng Ding & Kit-Aun Tan, Universiti Putra Malaysia, Malaysia**

**Jia-Yuin Fam, Sunway University, Malaysia**

**Hamidin Awang & Firdaus Mukhtar, Universiti Putra Malaysia, Malaysia**

#### **Introduction**

The purpose of this study was to evaluate the psychometric properties of the Malay version of the Beck Youth Inventories-Second Edition (BYI-2 Malay) in a sample of adolescents living in the sheltered homes.

#### **Method**

In this study, 300 adolescents completed the BYI-2 Malay, the Beck Depression Inventory-Malay (BDI-Malay), the Beck Anxiety Inventory-Malay (BAI-Malay), the Automatic Thoughts Questionnaire-Malay (ATQ-Malay), and the Rosenberg Self-Esteem Scale-Malay (RSES-Malay).

#### **Results**

The internal consistency estimates for the BYI-2 Malay scales were excellent. The five-factor model of BYI-2 Malay (i.e., Self-Concept, Anxiety, Depression, Anger, and Disruptive Behaviour) showed good fit to the data. Evidence for concurrent validity was established for the BYI-2 Malay Self-Concept, Anxiety, and Depression scales, whereas evidence for convergent validity was established for the BYI-2 Malay Anger and Disruptive Behaviour scales.

#### **Discussion**

The present findings fortify the utility of the BYI-2 Malay in aiding clinicians as well as therapists for identifying multiple symptoms of social and emotional problems in adolescents.

### **Effects of Family Involvement in Psychotherapeutic Treatment of Depressed Children and Adolescents: A Systematic Review**

**Nele Dippel, Katharina Mladek, Eva-Lotta Brakemeier & Hanna Christiansen, Philipps-Universität Marburg, Germany**

**Pim Cuijpers, Vrije Universiteit Amsterdam, the Netherlands**

#### **Introduction**

Affective disorders are relatively common in children and adolescents. One-year prevalence rates vary between 1.7% and 5.4% for Major Depressive Disorder (MDD) at puberty and between 1.4% and 3.4% for prepubertal children (summarized in Wesselhöft, 2016). Lifetime prevalence for MDD is around 11.7% (Merikangas et al., 2010). These prevalence rates are comparable to adult prevalence rates indicating that affective disorders begin in childhood or adolescence and may become chronic in adulthood. The social and family situation in which the child or adolescent grows up seems relevant for the development of a depressive episode. Furthermore, children and adolescents suffer during depressive episodes from considerable impairments of their quality of life. Previous meta-analyses on the efficacy of psychotherapy for depressive children and adolescents have shown comparatively low effect sizes (e.g. Weisz, Mccarty, & Valeri, 2006).

#### **Method**

We are currently conducting a systematic review with the aim of focusing on possibilities to involve family members or caregivers in structured psychotherapy of depressed children and adolescents.

The review question is: What are the effects of family involvement in treatments of depressed children and adolescents? A detailed data research is carried out in various databases to examine the efficacy and potential causal factors of family-based psychotherapy of depressed children and adolescents.

#### **Results**

Participants in the studies included are children or adolescents up to the age of 21, who are diagnosed with an affective disorder. Diagnoses, as well as baseline and outcome measures should be based on DSM-III, DSM-IV/DSM-5, or ICD-10 and operationalized with evaluated self-rating instruments, clinical or subclinical interviews, or external assessment instruments. All psychotherapeutic and psychological interventions or therapies aimed at treating depressed children and adolescents are included. Different control conditions can be included, the decisive criterion for the control conditions is the involvement of the family or caregiver in the treatment. The outcome measures of the studies should address the efficacy of the treatments, i.e. the operationalization of the change in severity of depression, depressive symptoms, or level of functioning. To reduce the risk of bias in randomized trials, the Cochrane Collaboration's tool for assessing risk is used.

#### **Discussion**

In July 2019, results of the systematic review could be presented and discussed.

## **Development and Evaluation of a Program to the Prevention of Emotional Problems and Behavior in Children in the Cognitive-Behavioral Perspective: Training for Teachers**

**Débora C. Fava, ELO Psicologia e Desenvolvimento, Brazil**

**Angela H. Marin, Universidade do Vale do Rio dos Sinos, Brazil**

**Milena Miyuki Hiratuca Ujihara**

**Josiane Maliuk dos Santos**

**Gabriela Ainhorn Fernandes**

**Angela Helena Marin, Universidade do Vale do Rio dos Sinos, Brazil**

### **Introduction**

The prevalence of emotional problems and child behavior is high and can be maintained by the educational practices of teachers, with whom Brazilian children spend much of their time. The scientific literature presents interventions aimed at teachers based on behavioral theories focusing on the modification of student behavior through the educational practices of teachers. There are also interventions that include Socioemotional Learning for the development of social and emotional skills in students.

In addition to these assumptions, this study is proposed to use the principles of the cognitive model, so that teachers can identify their dysfunctional concerns regarding the student's behavior and their educational practices, changing the way they interpret everyday situations, contributing to the formation of alternative thoughts and enabling better applicability of behavioral techniques and better interaction with students.

### **Method**

In this sense, the objective is to develop and evaluate the process and the results of an intervention that contemplates the theoretical bases mentioned. The randomized controlled trial with a control group will compare intervention modalities, with (group 1) and without (group 2) the content of the cognitive model, in view of educational practices and emotional and behavioral problems in children. The intervention consists in 16 hours with the contents: cognitive model applying to teachers, knowledge about behavior, teacher-child interaction and technics for guiding behavior. The researcher which is the developer, is the only implementator of the program.

Each group will contain at least 150 teachers of the first three years of all elementary schools of a big city in South Brazil. The participants will be randomly selected. In addition to the teachers, who will participate in the intervention and will respond to instruments to evaluate de self-efficacy by means of the Teacher Effectiveness Belief Assessment (Bzuneck & Guimarães, 2003), and educational practices by means of the Roteiro de Habilidades Sociais Educativas de Professores (Bolsoni-Silva & Loureiro, 2011), and child behavior, by means of the Teacher Reported Form, (Achenbach, 1991), and the Strengths and Difficulties Questionnaire (Fleitlich, Cartázar e Goodman, 2000). Parents will also be accessed to complete instrument to evaluate child behavior, by the means of the Child Behavior Check List (Achenbach & Rescorla, 2001). All will respond to sociodemographic data and external variables control questionnaires. Finally, the intervention process will be evaluated through the Intervention Process Assessment Questionnaire and the Program Evaluation Questionnaire developed for this research.

### **Results**

The results of the intervention that will be implemented on march 2019, are expected to show differences between groups 1 and 2 in that the participants better evaluate the program that contemplates the content of the cognitive model. Preliminary data will be analyzed using descriptive and inferential statistics in April and May 2019.

### **Discussion**

Teacher training has been increasingly implemented in Brazil, due to the importance of teachers in the modeling and shaping of children's behaviors. However, these interventions have not been evaluated and do not consider an important methodological rigor for such implementations. Considering the importance of teachers being instrumented when their distorted thoughts and their influence on their educational practices, only after this topic addressed in the intervention is that teachers could handle adequately the daily situations that involve interaction with their students and difficult behavior.

## **Cognitive Behavioral Therapy for Children with Comorbid Anxiety Disorders and Medically Unexplained Symptoms**

**Guillaume Folds-Busque, Richard Bélanger, Pierre Tremblay & Isabelle Denis, Université Laval, Canada**

### **Introduction**

Between 10 and 30% of children suffer from at least one recurrent medically unexplained symptom (MUS). As many as 80% of these children also suffer from at least one comorbid anxiety disorder (AD). This comorbidity has serious consequences, given that it is associated with more severe and disabling MUS and AD. Considering the importance of this clinical problem, our team adapted a CBT protocol for severe ADs for use with children with comorbid MUS. The goal of this study was to conduct a preliminary evaluation of the impact of this 10-week parent and child intervention targeting AD and MUS.

### **Method**

This study used a single-case non-concurrent multiple baseline design. It includes seven children aged between 8 and 12 years old (5 girls and 2 boys; median age of 11 years old), suffering from at least one of 4 ADs (separation anxiety disorder, social anxiety disorder, panic disorder and generalized anxiety disorder) as well as recurrent MUS. The presence of ADs was assessed using the Anxiety Disorders Interview Schedule – Child version (ADIS-C) at pre and post-test. The children and their parents also completed a daily observation diary to monitor anxiety and MUS intensity at baseline and throughout treatment.

### **Results**

The main MUS presented by the children were headaches, nausea, abdominal pain and dyspnea. At baseline, four children met the diagnostic criteria for one AD and three presented two disorders. At post-test, six children (86%) were in complete remission of their ADs. However, autoregressive integrated moving average analyses indicated a small, but non-significant, treatment effect on children and their parents' daily self-monitoring measures of anxiety and MUS intensity.

### **Discussion**

These preliminary results provide some indication that CBT could be useful in treating ADs in children suffering from MUS. As in previous studies among similar populations, there is a discrepancy between results from the clinical and diagnostic assessment (i.e., the ADIS-C) on one hand and daily self-monitoring measures of the children and their parents on the other hand. This situation highlights the need to continue to improve CBT efficacy in children with comorbid ADs and MUS. Some promising avenues will be discussed.

## **Cognitive Behavioral Therapy for Obsessive-Compulsive Disorder in Children and Adolescents. A Systematic Review with Meta-Analysis**

**Camilla Funch Uhre, Valdemar Funch Uhre, Nicole Nadine Lønfeldt & Linea Pretzmann, The Child and Adolescent Mental Health Centre, Denmark**

**Signe Vangkilde, University of Copenhagen, Denmark**

**Anne Katrine Pagsberg, The Child and Adolescent Mental Health Centre, Denmark**

### **Introduction**

The recommended first-line treatment for pediatric OCD is cognitive behavioral therapy (CBT) including exposure and response prevention (ERP). Previous reviews support the recommendation of CBT for pediatric OCD, but methodological limitations such as not assessing risk of bias in included trials, pooling results from randomized trials and uncontrolled studies, or including only symptom severity as an outcome measure may have led to inaccurate conclusions regarding the efficacy of CBT.

### **Method**

We systematically searched for randomized clinical trials of CBT for pediatric OCD in Cochrane's CENTRAL, MEDLINE, PsycINFO, EMBASE, LILACS, Science Citation Index Expanded on Web of Science, SSCI, and BIOSIS. The primary outcomes were OCD severity, serious adverse events, and level of functioning. Secondary outcomes were quality of life and adverse events. We assessed all trials for risk of bias and evaluated the certainty of the evidence with the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach.

### **Results**

We included nine trials (N=645) comparing CBT with no intervention and three trials (N=146) comparing CBT with selective serotonin reuptake inhibitors (SSRIs). Compared with no intervention, CBT decreased OCD severity (MD=-8.51, 95% CI -10.84 to -6.18, p<.00001, low certainty), improved level of functioning (patient-rated: SMD=-0.90, 95% CI -1.19 to -0.62, p<.00001, very low certainty; parent-rated: SMD=-0.68, 95% CI -1.12 to -0.23, p=.003, very low certainty) and had similar proportions of participants with adverse events (RR=1.06, 95% CI 0.93 to 1.22, p=0.39, low certainty). We had insufficient data to assess the effect of CBT versus no intervention on serious adverse events and quality of life. Compared with SSRIs, CBT led to similar decreases in OCD severity (MD=-0.75, 95% CI -3.79 to 2.29, p=.63, very low certainty). We had insufficient data to assess the effect of CBT versus SSRIs on serious adverse events, level of functioning, quality of life, and adverse events.

### **Discussion**

CBT may be more effective than no intervention and comparable to SSRI for pediatric OCD, but high risk of bias in included trials and low certainty of the evidence prevent firm conclusions regarding the efficacy of CBT. Moreover, our systematic review revealed a lack of data on effects of CBT for pediatric OCD beyond change in OCD symptom severity. All trials included a symptom severity score as a primary outcome, but few trials assessed adverse events, level of functioning, and quality of life. While symptom reduction is arguably an important outcome, a comprehensive and more complete evaluation of CBT efficacy should also include assessment of potential negative effects (i.e. adverse events), quality of life, and level of functioning. Differences in adverse events could be decisive factors when choosing between CBT and SSRIs, and symptom reduction may have little relevance to patients if not accompanied by noticeable improvements in daily life well-being and functioning.

## **Effects of Phosphatidylserine-Omega-3 (Vayarin) Supplementation for Children Diagnosed with Autism Spectrum Disorder (ASD) and Comorbid Attention Deficit Hyperactivity Disorder (ADHD)**

**Tze Jui Goh, Institute of Mental Health, Singapore**

**Thanita Pilunthanakul, Institute of Mental Health, Singapore**

**Bei Lin Joelene Tan, Institute of Mental Health, Singapore**

**Sung Min, Institute of Mental Health and Yong Loo Lin School of Medicine, Singapore**

### **Introduction**

The inclusion of the phospholipid component in Vayarin to facilitate an increase in omega-3s bioavailability in the blood brain barrier, presented it as a potential alternative to the traditional omega-3 supplementation. We conducted an open-label pilot trial to examine the effects of a 12-week supplementation of Vayarin in children diagnosed with ASD and comorbid ADHD.

### **Method**

A total of 24 children (Mage = 10.1, SD = 1.68) diagnosed with ASD and comorbid ADHD were randomized to either control or intervention group which received Vayarin for 12-weeks. Parents completed pre-post measurements on the Conners 3rd Edition, Social Responsiveness Scale (SRS), Aberrant Behavioral Checklist (ABC) and Child Behavioral Checklist (CBCL).

### **Results**

There were no significant differences between completers and dropouts at baseline. Participants in the control group (n = 10) were younger and weighted less (p<0.05) compared to intervention group (n = 8). Controlling for these differences did not impact the results. There were no other differences at baseline.

No statistically significant differences were found between pre- and post-measurements. However, children in the intervention group were reported to present with general improvements on the Conners Total Score, SRS Total Score, ABC irritability Domain Score. The treatment was well-tolerated with nil report of side effects.

### **Discussion**

Our findings are encouraging although results are not statistically significant. Nonetheless, inherent bias of an open-label approach should be considered. Longer term maintenance effects, dosage optimization and objective measurement such as omega-3 blood concentration, to complement reports of therapeutic benefits could be further examined.

## **Does Attachment Influence Desire for Thinness in 9- to 14-Year-Old Children After Exposure to Images Representing the Beauty Ideal?**

**Lien Goossens, Eva Van Malderen, Leentje Vervoort & Kim Van Durme, Ghent University, Belgium**

**Guy Bosmans, Leuven University, Belgium**

### **Introduction**

The present study aims to investigate whether attachment is associated with desire for thinness in 9- to 14-year-old girls following exposure to images representing the current beauty ideal. Also, it will be examined whether the same vulnerability exists in boys as well.

### **Method**

Girls (n = 46) and boys (n = 35) self-reported on their level of attachment anxiety and attachment avoidance towards mother as well as on their overall concerns about their body shape. In an experimental setting, participants were exposed to either images of same sex people representing the current beauty ideal in the experimental condition or to images of average size people in the control condition.

### **Results**

In girls, results show a significant interaction effect of condition and attachment avoidance. In girls with higher levels of attachment avoidance, exposure to media images representing the beauty ideal increases their probability for experiencing desire for thinness, whereas exposure to more average weight images doesn't seem to negatively affect their body image. No significant interaction effect was found with regard to attachment anxiety in girls, nor did we find significant interactions between the attachment dimensions and condition in the sample of boys.

### **Discussion**

Avoidant attachment seems to moderate the association between exposure to thin images and drive for thinness in girls. Future research is needed to investigate the nature of this vulnerability in girls. Also, more research is needed to further unravel whether body image problems in boys may be explained by the same processes than in girls.

## **Dealing with Emotions: Using a Service-Learning Approach to Enhance Emotional Competences in Children and Adolescents**

**Raphael Gutzweiler, Simone Pfeiffer & Tina In-Albon, University of Koblenz-Landau, Germany**

### **Introduction**

Approximately one in five children and adolescents show signs of psychopathology. Higher levels of emotional competences are associated with better mental health. In order to improve mental health at an early stage, there is a need for evidence-based prevention programs addressing emotional competences. Using a service-learning approach, Bachelor students in psychology were guided to arrange and run prevention programs based on existing programs in primary and secondary schools. These CBT-based prevention programs focused on training problem-solving skills, social skills or dealing with upsetting emotions such as anger, sadness or anxiety.

### **Method**

In the last two years 270 psychology undergraduates run prevention programs for 118 classes in the federal state of Rhineland-Palatinate in Germany. 630 children and adolescents aged 8-16 years (M = 11 years; SD = 2.1; 49% female) conducted self-report questionnaires regarding their stress-handling skills (SSKJ 3-8 R; year 1) and well-known protective factors such as empathy, self-efficacy and sense of belonging in the context of psychopathology (FRKJ 8-16; year 2) before and after the training. Also the Bachelor students rated their overall self-efficacy and course-related self-efficacy before, while, and after the course (year 1 + 2). The prevention program in year 2 is currently ongoing.

### **Results**

In year 1, the prevention program was found to be effective in enhancing stress-handling skills especially in boys ( $\eta^2 = .007$ ) and in children in classes 3-6 ( $\eta^2 = .20$ ). In year 2, before the beginning of the program, a total of 16% (n = 46) of the participating children and adolescents scored on a low or very low level regarding their emotional competences. Students rated their self-efficacy before the course as high (M = 29.9, SD = 4.0). The program was well accepted by students, teachers, children, and adolescents.

### **Discussion**

Stress-handling skills were improved, yet further improvement is needed to support girls and adolescents. Results from the questionnaires before the program indicate a need in children and adolescents to strengthen their emotional competences. Further results will be discussed and conclusions for prevention research will be drawn. The preliminary results indicate a successful implementation of a service-learning approach to run prevention programs for mental health addressing emotional competences in primary and secondary schools.

## **Children with Academic Difficulties with Emotional Problems: Implication of CBT**

**Susmita Halder & Akash Mahato, Amity University, India**

### **Introduction**

Children and adolescents are often brought for consultation for their poor academic performance that may be independent of diagnosis like ADHD or Learning Disability. It is not uncommon for children with academic problems to struggle with underlying emotional problems. Irrespective of the etiology of poor academic performance, these children are often presented with various emotional problems along with symptoms of anxiety, low self esteem; difficulty in social interaction, irritability and low mood. Psychotherapeutic intervention for children with academic difficulties typically includes remedial training which often ignores the emotional issues. However, Cognitive behavior Therapy (CBT) could be indicative for underlying issues which could be either secondary or even etiological to the symptoms. CBT is conventionally thought as treatment for adults presented with anxiety and depression with a standard frame of delivery. However, the modality of providing CBT in children needs more deliberation and consideration of associated factors. CBT for this young and vulnerable population need thoughtful deliberation. The comprehensive management also requires additional incorporation of customized learning strategies to deal with academic difficulties of the child.

### **Method**

The present study focuses on application and efficacy of CBT along with customized learning strategies on this category of children and adolescents presented with poor academic performances or academic deterioration and emotional problems. Total 30 children and adolescents were included in the study primarily came with the complaints of academic deterioration but underlying emotional problems were found in detailed assessment. A combined CBT methods were applied, including attention training with the span of 4 months where 15 sessions given.

## Results

Post assessment suggest significant improvement in emotional problems and in academic performance.

## Discussion

CBT could be effective mode of management for children and adolescents with academic difficulties.

However, need to be practiced with caution and consider the various intervening factors. Diagnostic issues need to be sorted out and a customized approach helps in achieving desired targets.

## Anxious School Refusal in Adolescents: Efficiency of a Cognitive and Behavioral Therapy (CBT) Outpatient Program

Helene Denis, University Hospital of Montpellier, France

### Introduction

Anxious school refusal (ASR) is a common disorder belonging to the anxiety disorder spectrum. It is defined as “the behavior of children and adolescents who, for irrational reasons, refuse to go to school and resist with very sharp anxiety or panic when forced to.” This diagnostic is not classified as an independent one in the international systems of classification. Nevertheless, ASR may be linked to diverse mental health disorders such as separation anxiety disorder, generalized anxiety disorder, other children’s anxious disorders, or furthermore depression.

The essential features commonly present in school refusal are outlined in criteria:

- when faced with the prospect of going to school with reasonable parental pressure to attend, the child displays severe emotional disturbance or complains of physical illness thought to have an emotional basis
- the child is usually at home with his parents or another family member
- the absence of severe anti-social behavior/ conduct disorder

### Method

A specific ambulatory CBT program was established within the children and adolescent psychiatric unit in the University Hospital of Montpellier, France. It implemented cognitive and behavioral therapy techniques to gradually reintegrate the child back into the school environment.

The program consists of a part-time day hospitalization, 4 times per week, with normal school education, individual or group CBT. CBT is a manualized program with anxiety psychoeducation, stress managing, cognitive restructuring, problem solving techniques, progressive exposure, assertiveness exercises and self-esteem work. When patients are ready, medical staff accompany them to school for gradual exposure. Parents had also to undergo a CBT program for guidance, psychoeducation and stress management, individually or as part of a group exchange with other families. We included adolescents between 11 and 16 years’ old who have completely dropped out from school.

### Results

We evaluated the effectiveness of this program in a cohort of 36 patients treated between September 2014 and December 2018. Alongside school reintegration period assessment, the overall functioning of patients was quantified using C-GAS, the clinical improvement with CGI scales, and anxious symptoms through the FSSC-R, STAIC, RC-MAS, MASC and ECAP scales. 33 patients have returned to school partially after 15 (SD: 6) weeks of treatment on average. For all the adolescents, overall functioning assessment with C-GAS scale showed a significant improvement ( $p < .001$ ). Significant improvement in anxiety level was also found in all anxiety scales when comparing the beginning and the end of institutional cognitive and behavioral therapy. 30 patients have returned to school full time in September after the beginning of the program.

### Discussion

This CBT program for school refusal performed in a day hospital setting is effective and allows partial attendance in school within the year, and to fully return to school the year after, for the majority of patients. Further studies and monitoring of patients are needed to better characterize the effectiveness of this support.

## Effect of Mental Health Prevention Program for Deaf and Hard of Hearing Children

Noriko Hida & Shin-ichi Ishikawa, Doshisha University, Japan

### Introduction

Introduction: In recent years, the number of schools for special needs has increased in Japan (Ministry of Education, Culture, Sports, Science and Technology, 2016), and vulnerability of mental health is pointed out in children with hard of hearing (Hindley, 2005). On the other hand, practical research is rarely seen in Japan. The school-based universal prevention programs have advantages regarding cost-effectiveness and adjustment of the class environment. The Universal Unified Prevention Program for Diverse Disorders (Up2-D2) developed by Ishikawa et al. (2018) indicated the effects for enhancing self-efficacy and improving mental health symptoms (Oka et al., 2018). The purpose of this study was to implement the program and examine its effects in a school for the deaf and hard of hearing.

### Method

Method: The program was implemented by a homeroom teacher assisted by four teachers. Up2-D2, cognitive-behavioral therapy based program, was composed of 11-session in total, which was 45 minutes in a single session. In addition, the homeroom teacher arranged Up2-D2 to consider comprehension of students’ development and intellectual ability. The number of participants were three to ten depending each lesson. Three teachers completed the questionnaires to assess children. Children responded the SCAS, DRSR-C, ASCA, GSESC-R, and SDQ to assess child anxiety, depression, anger, self-efficacy, and overall difficulties respectively. Teachers completed SDQ and TSSS to assess overall difficulties and social skills. Questionnaires for children were explained in sign languages and they were assessed in August and October in 2018.

### Results

Results: The analysis included five children (two boys and three girls, average 9.8 years old), three teachers who completed all questionnaires. As a result of comparing the data pre- and post-intervention, no significant change was observed in the anxiety, anger, depression, self-efficacy and overall difficulty score of the children ( $Z = -.41$ ,  $Z = -.88$ ,  $Z = -.55$ ,  $Z = -.67$ ,  $Z = -.54$ , n.s.). On the other hand, in the teacher evaluation, the social skills of children improved significantly after intervention ( $Z = -2.03$ ,  $p < .05$ ), and overall difficulty tended to decrease ( $Z = -1.63$ ,  $p = .10$ ).

### Discussion

Discussion: The intervention could not significantly decrease the mental symptoms for child-self reports. A natural disaster (September 5th, 2018) during the implementation of Up2-D2 and the limitation of self-assessment could be influenced on the results. On the other hand, the significant effect was indicated in the teacher evaluation. Although we cannot deny the tendency that the effect was greatly estimated by the expectation, they may have caught an unnoticed change of the children given that the school provides more individualized and tailored

curriculum than regular classes. Especially, considering the age of the children and their intellectual ability, self-assessment might be limited methodology. Although the study provides a meaningful implication for mental-health of children with hard of hearing where scarce research is available, it is necessary to accumulate research with enough sample size and multiple assessments.

### **Improvement in Assessment Ability of Elementary and Junior High School Teachers Influences Adaptation of Japanese Students**

**Yui Horikawa, Waseda University, Japan**

**Shunsuke Nonaka, Tokyo Future University, Japan**

**Yuki Tanaka & Hiroyoshi Ogishima, Waseda University, Japan**

**Naoshi Mimura, Ranzan Town Sugaya Junior High School, Japan**

**Hironori Shimada, Waseda University, Japan**

#### **Introduction**

In Japanese schools, group SST (social skills training) is often conducted for classroom groups. On the other hand, in order to further enhance the effect of group SST, previous Japanese research indicated that a teacher, who is able to observe daily classroom situations, can effectively carry out group SST including assessment. However, there has been little consideration of teachers in this capacity. This research aimed to empirically examine the influence of improvement in teachers' assessment ability on students' school adaptation.

#### **Method**

Teacher training was conducted with 11 teachers: five elementary school teachers and six junior high school teachers. Group SST was conducted with 275 (96 elementary and 179 junior high) students in the teachers' classes. As part of the research materials, students completed the Japanese version of the School Liking and Avoidance Questionnaire. The method was approved by the local ethical committee. Note that some of the data set in this study overlaps with reports by Horikawa et al. (2018a) and Horikawa et al. (2018b), but the present study mainly reports unpublished data used for different research purposes.

#### **Results**

A  $2 \times 3$  two-way analysis of variance was conducted with group (behavioral consultation, school consultation) and period (pre, post, follow-up) as independent variables and school liking scores as the dependent variable. The results revealed a significant interaction among elementary school students ( $F(2, 188) = 3.07, p < .05$ ). Multiple comparison results showed a decreasing tendency in pre to post school liking scores for the school consultation group ( $p < .10$ ). Moreover, the behavioral consultation group showed significantly higher school liking scores than did the school consultation group at follow up ( $p < .05$ ).

#### **Discussion**

These findings suggest that, although feelings of school liking decreased in the school consultation group, feelings of school liking did not decrease for the behavioral consultation group, which participated in group SST based on the classroom teachers' assessment, despite experiencing stressful events, and pre-intervention scores were maintained. In the future, it will be necessary to refine intervention strategies for improving the assessment ability of classroom teachers in order to further enhance the effect of group SST.

### **The Effects of Teachers' Praise on Students' Psychological School Adaptation**

**Yuya Iijima & Taisuke Katsuragawa, Waseda University, Japan**

#### **Introduction**

Recent research indicates the effects of teachers' praise on students' adaptive behaviors at school (e.g., on-task behaviors: Sutherland et al., 2003). However, there are few studies on students' psychological school adaptation. Iijima and Katsuragawa (2018) administered a questionnaire study and showed that receiving praise from teachers has a negative influence on stress response and a positive influence on school life enjoyment due to higher self-efficacy and social support from teachers. This study investigated the effect of teachers' praise on students' psychological school adaptation using an intervention study.

#### **Method**

A pre-post design intervention study was conducted. During the four-week intervention period, two elementary school teachers increased praise for their students through self-monitoring. A questionnaire was administered to 60 students (grade 4 and 6) twice; it consisted of scales of receiving praise from teachers and participants' psychological school adaptation (social support from teachers, self-efficacy, stress response (SR), and school life enjoyment (SLE)). Moreover, the extent to which the teachers praised each student during the intervention period was rated on a four-point scale as the variable of teachers' praising.

#### **Results**

As the results of the correlation analysis show, the correlation between teachers' praising and receiving praise was not significant. The amount of change of students' psychological school adaptation has significant correlations not with the amount of change in receiving praise answered by students, but with teachers' praising answered by teachers. With students' psychological school adaptation as the dependent variables and teachers' praising (high/low) and time (pre/post) as the independent variables, a two-way MANOVA was conducted. The result showed significant interactions on SR ( $F(1, 56) = 8.10, p < .01, \eta^2 = .13$ ) and SLE ( $F(1, 56) = 5.58, p = .02, \eta^2 = .09$ ). The results of simple main effect tests indicated a reduction in SR ( $F(1, 58) = 3.74, p = .06, \eta^2 = .06$ ) and an increase in SLE ( $F(1, 58) = 6.33, p = .02, \eta^2 = .10$ ) for high teachers' praising.

#### **Discussion**

The results indicated that teachers' praising is not necessarily recognized as praise by students since the correlation between teacher's praising and students' receiving praise was not significant. On the other hand, experiencing praise from teachers decreases SR and increases SLE, even if the students do not recognize the teachers' praise. It was suggested that a teacher's praise would affect students even if not recognized by students. In this study, there was no significant change in social support from teachers or self-efficacy due to the increase in teachers' praising, although previous research showed a positive relationship between teachers' praise and social support, and self-efficacy. Considering that the intervention period in this study was only four weeks, changes in cognition of social support and self-efficacy may be a longer-term process as compared to changes in states such as SR and SLE.

## **Telehealth Parent Training for Children with Neurodevelopmental Disorder: Home-based Assessment for Behavior of Everyday Life**

**Natsumi Ishikaw, University of Tokyo Hospital, Japan**

**Yuka Ishizuka, University of Tsukuba, Japan**

**Jun-ichi Yamamoto, Keio University, Japan**

### **Introduction**

Parent training programs have been found to reduce some behavioral impairment associated with children's attention deficit hyperactivity disorder (ADHD) as well as improve parenting competence, but there are barriers involved with the dissemination, including limited financial resources and transportation, lack of child care and extensive time commitments (Taylor et al.2008).

Telehealth is a method that enables individuals to receive professional services and support at a distance. Several studies involving telehealth have shown promise in teaching intervention skills to parents of young children with developmental disabilities (Wainer & Ingersoll, 2015). This study used a telehealth program consisting of live video-conferencing to conduct parent training in the homes of family of children with ADHD. The goal of the current study was to assess the degree to which the parent could learn about and effectively implement management of her child.

### **Method**

11-year-old boy with ADHD and his mother participated in the current study.

He was usually got angry when he lost the fighting game and he often pretend to break his game machine violently. He also had difficulties to keep seating when he was studying at home because he tended to care too much about his mistake. He often refused to go to school, and had difficulties participating in class activities.

At intake, therapist heard from his mother and determined target skills: (1) keeping seat when studying, (2) keeping calm when he lost the fighting games.

The mother completed the telehealth intervention sessions from their home using an iPad.

4 sessions of monthly parent training through video-conference were conducted for 1 month.

First, the mother herself video-recorded the mother-child interaction in 3-5 days out of a week.

Prior to weekly video-conference, the mother uploaded these videos in a cloud and the therapist checked these videos before video-conference.

### **Results**

The mother received 60-min online coaching sessions once a week. During the coaching sessions, his mother was provided specific feedback about her response to the child.

During follow-up session, the mother answered the questionnaire's soliciting feedback about the Internet-based coaching program.

This study was approved by the research ethics committee at Keio University. The mother was briefed about the purpose of the study and a written consent was taken in accordance.

The result suggests that telehealth parent training may promote mother-child relationships and notice his appropriate behavior more than before.

In addition, the mother indicated in a questionnaire that doing the recording had not been a problem for her.

### **Discussion**

Parent training via video-conference may be an important tool for parents who don't have enough time to access to in-vivo parent training service.

## **Telehealth Consultation and Parent-Implemented Social Skill Training in Children with Neurodevelopmental Disorder**

**Yuka Ishizuka, University of Tsukuba, Japan**

**Natsumi Ishikawa, University of Tokyo Hospital, Japan**

**Wataru Noda, Osaka Kyoiku University, Japan**

**Juichi Yamamoto, Keio University, Japan**

### **Introduction**

Social skills have an important role in the everyday life, and is often a missing skill in children with autism spectrum disorder (ASD) or attention-deficit/hyperactivity disorder (ADHD). Many studies focused on improving social skills have been shown to the effectiveness for children with ASD and ADHD, however there is limited evidence on the impact of social skills training with the home-based assessment for behavior of everyday life. Telehealth is a method that enables individuals to receive professional services and support at a distance. Although telehealth has been shown promise in teaching intervention skills to parents of young children with developmental disabilities (Wainer & Ingersoll, 2015), limited research exists to examine the effects of social skills training using telehealth consultation. Therefore, the purpose of this study was to examine whether children with neurodevelopmental disorder acquired social skills through telehealth parent consultation.

### **Method**

This study was approved by the research ethics committee at the Keio University. Four children with ASD or ADHD participated in this study. Data collection is still on going. Parents received an assessment on the child's social behavior at online. Based on the assessment, therapist created training materials about social skills such as rules for making friends according to the needs of parents and children. The therapist lent parents to the iPad with teaching materials and teach how to implement social skills training at home. Then, parents conducted social skills training to children for five months each day for one month. During conducting parent-implemented social skills training, parents received telehealth consultation once a week based on the video taken by the parent during training.

### **Results**

All sessions during pre-assessment, intervention, and post-assessment were videotaped. The dependent variables of behavior measures were the child's correct response rates to various social situations and appropriate frequency of communication during parent and child interaction using behavior observation. The results showed that the child's correct response rate to various social situations improved in post-assessment compared to pre-assessment. The results also showed that appropriate frequency of communication increased in post-assessment.

Furthermore, as a result of evaluating social validity, parents scored as "7 (very agreeable)" against the item " This program was useful for parents and participating children" and "Communication with children increased at home".

## **Discussion**

The result of this study showed that all children acquired social skills through telehealth consultation and parent-implemented social skill training. All children were able to acquire social skills in one month. The results suggest that parent-implemented social skills training using telehealth consultation can be an effective procedure for acquiring social communication skills. It suggests that sharing the video taken by the parent during training between parents and the therapist led to the implementation of concrete consultation. Telehealth consultation and parent-implemented social skill training may be an important tool for parents who don't have enough time to access to in-vivo parent training service.

## **The Bullying Phenomenon: Lack of Empathy or Cold Manipulation?**

**Enrico Iuliano, Carlo Buonanno, Giuseppe Grossi, Carlo Buonanno, Federica Russo, Rosa Vitali & Francesco Mancini, School of Cognitive Psychotherapy - SPC - Rome, Italy**

### **Introduction**

Two different and opposite models in literature tried to provide a better comprehension of the phenomenon of bullying. The first, the "social skills model deficit of aggression" (Crick and Dodge, 1994) supports that the bully is a person with a deficit in social skills and with difficulties in understanding the mental states of others. The second model describes the bully as a person with marked manipulation skills acted to pursue their goals (Sutton et al., 1999). The present study aims to investigate which of the two theoretical models are able to better describe the characteristics of the bully and the other figures involved in the phenomenon of bullying at different levels (victim, defender, helper, etc.).

### **Method**

300 students (aging range 10-16 years old) completed a "Questionnaire on the Roles of Participants" (Salmivalli, 1996) in order to define the role that each participant plays in the phenomenon of bullying. The construct of empathy was measured by "IRI" questionnaire (Interpersonal Reactivity Index; Davis, 1980). The "TOSCA" (Test of Self-Conscious Affect, Tangney et al., 1989) was administered to measure the tendency towards guilt. Finally, the "MDS" (Moral Disengagement Scale, Bandura et al., 1996) assessed proneness to moral disengagement of different forms of detrimental conduct in diverse contexts and interpersonal relationships.

### **Results**

Preliminary results show a positive correlation between bully behaviours and moral disengagement. The analysis of variance shows significant differences between bullies and defenders for the moral disengagement (MDS) scores and no differences among the three groups (bullies, defenders and victims) for the empathy scores (IRI).

### **Discussion**

The bullying behavior could be explained not so much by a deficit that does not allow the activation of the sense of guilt but by the mechanisms through which the individuals tend to disengage their cognitive resources from that emotion. They coldly and detachedly act towards the victim guided by a mental set that would be activated according to their purposes.

## **How Are Interoception and Psychopathology Related in Childhood and Adolescence? A Systematic Literature Review and Transdiagnostic Approach**

**Stefanie Jungmann & Michael Witthöft, Johannes Gutenberg-University Mainz, Germany**

### **Introduction**

Due to developmental characteristics, there may be a special link between interoception (i.e., perceiving internal bodily states) and psychopathology in childhood and adolescence. However, so far there is little research on interoception in children and adolescents and relationships with mental disorders have hardly been systematically reviewed. The aim of this review was to examine the current state of research on this relationship, to integrate the results into a transdiagnostic model, and to identify research gaps.

### **Method**

The systematic literature search was conducted according to the PRISMA guidelines and via the electronic databases PubMed, Web of Science, and PsycINFO. For the identified N=32 studies, the study quality was additionally assessed according to tested criteria.

### **Results**

The included studies showed that mental disorders in childhood and adolescence are associated with altered interoception, mainly studied on the dimensions of interoceptive accuracy, sensibility, and awareness. In addition, relevant moderators (e.g., gender, intellectual abilities, and situational aspects) were identified for this relationship.

### **Discussion**

Based on interoceptive predictive coding models and dimensional approaches to psychopathology, we integrate the findings into a transdiagnostic approach. The developmental perspective and the transdiagnostic significance bring with them a special relevance for further research. Based on the current findings and the transdiagnostic model, relevant future research directions are derived (e.g., valid self-reports, increased use of age-appropriate objective tests, extension to other organ systems in addition to cardiac interoception).

## **The Effect of Intervention for Families of Individuals with Hikikomori (Prolonged Social Withdrawal) According to Cognitive Behavioral Characteristics**

**Mana Kadokura, Waseda University, Japan**

**Shunsuke Nonaka, Tokyo Future University, Japan**

**Hironori Shimada, Waseda University, Japan**

### **Introduction**

Mainly in Asia, including in Japan, a behavioral phenomenon called "hikikomori" (prolonged social withdrawal) is regarded as a serious social problem. Employing the elements of Community Reinforcement and Family Training (Smith & Meyers, 2004), clinicians conduct cognitive behavioral intervention aiming at behavioral change of individuals with hikikomori through the family. We expect that it is important to identify the families' process variables affecting the behavioral change of hikikomori to increase the intervention's efficacy. Thus, this research aimed to examine the effect of cognitive behavioral intervention according to the characteristics of each individual family on the behavioral change of hikikomori.

## Method

Behavioral repertoires (FBS-H), family interaction (FIS-H), and adaptive behaviors of hikikomori (ABS-H) were administered to seven participants (Mean=67.00 [SD=6.11] years). Behavioral repertoires may influence the adaptive behaviors of hikikomori, and family interaction may enhance the effects. Therefore, participants without an average FBS-H score were classified as the “repertoire group” (case: 1, 2, 6). Participants with an average FBS-H score but without an average FIS-H score were classified as the “interaction group” (case: 3, 7). Participants with average FBS-H and FIS-H scores were classified as the “target behaviors group” (case: 4, 5). The method was approved by the local ethical committee.

## Results

It was explored whether score changes exceeding the standard values (M-2SD, M-1SD, M+1SD, M+2SD) of each measure were observed by case; FBS-H total scores of three participants (case: 1, 5, 6), FIS-H subscale scores of two participants (case: 5, 6), and ABS-H subscale scores of five participants (case: 2, 4, 5, 6, 7) exceeded each standard value in the post. In addition, the FBS-H total scores of case 6, the FIS-H subscale scores of case 6, and the ABS-H subscale scores of four participants (case: 1, 4, 5, 6) exceeded each standard value in follow-up.

## Discussion

ABS-H scores that exceeded the standard value were observed in two participants (case: 5, 6), where FBS-H and FIS-H scores each exceeded the standard value. This result suggests that behavioral repertoire and family interaction influence the behavioral change of hikikomori. However, there were cases where ABS-H scores exceeded the standard value even if FBS-H and FIS-H scores did not. It could be important to acquire functional coping with each case of hikikomori to change the participant’s behaviors rather than improve regular behavioral repertoires and the interaction of behaviors of certain scenes measured by the current study.

## Pilot Evaluation of the Child and Parent Emotion Regulation (CAPER) Program for At-Risk Children with Symptoms of Disruptive Mood Dysregulation Disorder (DMDD)

Maria Kangas & Ron Rapee, Macquarie University, Australia

James Gross, Stanford University, USA

### Introduction

Emotion regulation (ER) is a transdiagnostic factor that has a central role in determining adaptive versus maladaptive functioning, by shaping which emotions we experience, and how and when we experience and express them (Gross, 2015). Studies have shown that difficulties in ER are related to both internalizing and externalizing problems in children. Notably, irritability has increasingly been recognized as a core transdiagnostic feature across both internalizing (e.g., Major Depressive Disorder/MDD) and externalizing disorders (e.g., Oppositional Defiant Disorder/ODD); and is also central in the new, DSM-5, Disruptive Mood Dysregulation Disorder (DMDD). The core features of DMDD include recurring temper outbursts, manifested verbally or behaviourally that are out of proportion to the situation or provocation, and are also inconsistent with developmental level (Criteria A, B, C), whilst persistent irritability or angry mood occurs between temper outbursts for most of the day (Criterion D). For children, the DMDD criteria integrate elements from ODD and MDD. Given growing recognition that irritable and maladaptive anger are transdiagnostic, both can be viewed as grounded in deficits in ER skills. The aim of our study was to develop and pilot test the efficacy of the Child and Parent Emotion Regulation (CAPER) program which is a brief, transdiagnostic intervention, tailored for ‘at-risk’ children aged 6 – 12 years experiencing recurrent ER problems, (including elevated irritability, and problems in emotional awareness and expressivity) for a minimum of 4 consecutive weeks, and who met either full or sub-threshold levels of DMDD.

### Method

The CAPER program comprises 6x1 hour sessions. The first and 6th sessions are for parents, whilst the child is required to attend 4 weekly sessions (2 to 5). There are several unique features of our CAPER program that address gaps in this field. Conceptually, the CAPER program integrates Gross’ (2015) process model of ER and Brotman et al.’s (2017) dual deficit model of irritability and hence, it explicitly focuses on managing both externalizing and internalizing symptoms, including negative and positive emotions for at-risk children (K through to Year/Grade 6). For our proof of concept trial, we tested the initial efficacy of this program using an A-B within group design with N=10 children who met our study eligibility criteria. Notably, all children who took part had been experiencing ER problems for a minimum of 3 months and met either full or sub-threshold symptom levels for DMDD. The 10 child-parent dyads were assessed at baseline using validated measures (T1). Both children and parents then completed an online daily affective rating scale for 18-consecutive days, prior to treatment, and were re-assessed (T2) before commencing the CAPER program. They completed another assessment within 2-weeks of completing the program (T3).

### Results

Based on parental reports on the Child Behaviour Checklist (CBCL), there was a significant decline in both internalizing and externalizing symptom subscales. Specifically, significant declines were reported for the aggressive, anxious and depressed, and withdrawn depressive subscales. Based on child reports on the Emotional Awareness Questionnaire, there was also a significant improvement in the differentiating emotions scale, and ‘not hiding emotions’ scale by T3.

### Discussion

These findings lend promising preliminary support to the efficacy of the CAPER program in terms of enhancing ER skills and reducing both internalizing and externalizing symptoms in at-risk children. We will conclude this presentation by discussing the next essential steps in moving forward to test the efficacy of the CAPER program using a large-scale RCT in order to address several notable gaps in this field to strengthen ER flexibility in at risk children, with the ultimate goal of preventing psychopathology into adulthood.

## Cognitive Behavioural Therapy for Anxiety Disorders in Children with Autism Spectrum Disorder: A Randomized Controlled Trial

Tina R. Kilburn, Merete Juul Sørensen & Mikael Thastum, Aarhus University Hospital, Denmark

Ronald M. Rapee, Macquarie University, Australia

Charlotte U. Rask, Kristian Bech Arendt & Per Hove Thomsen, Aarhus University Hospital, Denmark

### Introduction

Autism spectrum disorder (ASD) is found in approx. 1-2% of the population and includes core symptoms that affect general and social development. A high risk of developing co-morbid disorders is prominent. It is thought that up to 60% of children with ASD suffer from different anxiety disorders which can further negatively influence educational, social and general development together with quality of life.

## **Method**

The study is a randomized controlled trial with intention to treat analysis. Forty-nine children with ASD and anxiety, aged 8 to 13 years from a public child psychiatric health clinic are randomly assigned to either an intervention group or a waitlist control group. After the waitlist period the control group will receive intervention as well.

The group based manualised CBT intervention consist of The Cool Kids Anxiety Program: Autism Spectrum Disorder Adaptation, 2nd edition (Cool Kids ASD).

Outcome measures are collected pre, post-treatment and at 3 month follow up and include scores from a semi-structured diagnostic anxiety interview, together with parent, child and teacher questionnaires on children's anxiety symptoms, life interference, children's automatic thoughts, and social and adaptive skills.

## **Results**

This is an ongoing study and final results will be available for presentation at the conference. However, results from a prior feasibility study showed that 55.5% of the children participating recovered and no longer met the criteria for their primary anxiety diagnosis after the treatment. This number rose to 77.7% at follow-up. Compliance to the program was high and 88.8% of the families found the program to be useful and would recommend it to other families in a similar situation.

## **Discussion**

The feasibility study suggests that the transition of the group program 'Cool Kids ASD' from research environments to non-English standard child psychiatric clinical settings is possible. The randomized study might confirm this efficiency and efficacy of the program in a larger sample.

Structured intervention like the manualised CBT group program might not only improve the main presenting difficulty, but also other aspects of the participants' functioning such as peer relationships. Training anxiety reduction skills and thus, decreasing anxiety in children with ASD using the manualised CBT program has the potential of preventing relapse and ensuring better psychosocial development for the child in general.

## **Mechanisms of Behavioral Activation for Depressive Symptoms in Children: Comparison of Non- and Sub-Clinical Group in a Community Sample**

**Kohei Kishida & Shin-ichi Ishikawa, Doshisha University, Japan**

### **Introduction**

Behavioral activation (BA) mainly focuses on increasing pleasant activities/events and decreasing avoidance behaviors (e.g., Kanter et al., 2009). Previous study indicated that environmental reward from pleasant activities/events significantly mediated the relationships of depression with avoidance in late adolescents in a community sample (Carvalho and Hopko, 2011). However, no study had attempted to investigate the mediated relationship in children. We investigated therefore whether pleasant activities mediate the relationship between avoidance behaviors and depressive symptoms in children with non/sub-clinical depressive symptoms in a community sample.

### **Method**

One hundred and forty-two children aged 9-12 from a public elementary school completed the Children's Avoidance Behavior Scale (CABS: Kishida and Ishikawa, 2017), the Children's Pleasant Activity Scale (CPAS: Kishida and Ishikawa, in press), and the Depression Self-Rating Scale for Children (DSRS: Birlson, 1981) to measure avoidance behaviors, pleasant activities, and depressive symptoms. Of these, based on the DSRS cut-off score, 121 children did not have depressive symptoms (DSRS < 16: Non-clinical group) and 21 children had depressive symptoms (DSRS ≥ 16: Sub-clinical group).

### **Results**

Mediation analyses using the bootstrapping method (N = 142; 2000 bootstrapping samples) were conducted among avoidance behaviors, pleasant activities, and depressive symptoms. Results of mediation analyses in both non- and sub-clinical groups indicated that avoidance behaviors had direct effects on depressive symptom in non-clinical groups ( $\beta = .29$ ; 95% CI .13 to .44), not in sub-clinical group ( $\beta = .19$ ; 95% CI -.12 to .60). Whereas, although pleasant activities did not mediate in non-clinical group (estimate of the indirect effect,  $\beta = .03$ ; 95% CI -.04 to .11), significant mediated in sub-clinical group (estimate of the indirect effect,  $\beta = .30$ ; 95% CI .07 to .63). In addition, in non-clinical group, avoidance behaviors did not have a direct effect on pleasant activities ( $\beta = -.07$ ) and pleasant activities had a direct effect on depressive symptoms ( $\beta = -.40$ ). On the other hand, in sub-clinical group, avoidance behaviors had a direct effect on pleasant activities ( $\beta = -.56$ ) and pleasant

### **Discussion**

The current study investigated whether pleasant activities mediate the relationship between avoidance behaviors and depressive symptoms, in order to identify the mechanisms of behavioral activation in children with non-/sub-clinical depressive symptoms in a community sample. The mediated relationship were found only in sub-clinical group, not in non-clinical group. However, pleasant activities affected depressive symptoms in both groups. Therefore, although BA focused on increasing pleasant activities might be effective for all children in community settings, BA focused in decreasing avoidance behaviors might be more effective for children with sub-clinical depressive symptoms. Future research is needed to examine these findings can be generalized to not only sub-clinical group in community settings, but also children with depressive disorders in clinical settings.

## **The Degree of Parental Influence on the Degree of Clarification of Children's Value**

**Nao Komiyama, Waseda University, Japan**

**Shunsuke Nonaka, Tokyo Future University, Japan**

**Haruna Yoshida, Yuki Karube, Misaki Kato & Hironori Shimada, Waseda University**

### **Introduction**

"Clarification of value" in the study of behavior analysis refers to verbalized reinforcers that accompany a certain action, so as to engage in certain actions without involvement of the reinforcement immediately afterward It is to do. From this, it is possible that the value-behaviors reduces the frequency of problem- behaviors in children. However, it is considered that the children's values are inseparable from the information obtained from their parents and teachers. The purpose of this study was to examine the degree of influence of parental values on the degree of clarification of children's values.

### **Method**

Value of Young Age Scale (Shimoda et al. 2016) and degree of parental value were examined in this study using the Visual Analogue Scale (VAS), which was administered to 41 Elementary and junior-high school Japanese students (mean age  $\pm$  SD of 11.7  $\pm$  1.6) from urban public

schools. Children completed experimental tasks, including clarification of value tasks, for 45 minutes. The method was approved by the local ethical committee. A part of this study's data set is parallel to the report to Komiyama et al. (2018), but this study mainly reports unpublished data for a different research purpose.

### **Results**

In order to examine the difference in acquiring clarification of value according to the degree of parental influence, higher than average VAS scores were organized in a high group while those lower than average were organized in a low group and a two-factor analysis of variance was performed with the clarification of value as the dependent variable and timing and group (high parental influence group, low parental influence group) as the independent variables. The analysis revealed that the main effect at the time was significant ( $F(1,39) = 9.77, p < .01, \eta^2 = .20$ ).

### **Discussion**

The results of this study suggest that the degree of clarification of the value of the children is promoted regardless of the degree of parental influence. From this, it is possible that the procedure for clarifying the value may be effective for children. However, it is pointed out that it is difficult for children to understand abstract concepts such as value (Greco & Hayes, 2008 Ogawa Translation, 2013). Thus it is possible that children's value may not serve the same function as that of adults. Therefore, future research is necessary to further examine the functions of the children's values.

## **Effects of a Group Stress Management Program for Residents of a Welfare Facility for Children with Disabilities**

**Shunsuke Koseki & Chikaze Sugiyama, J. F. Oberlin University, Japan**

**Mami Koseki, Waseda University**

### **Introduction**

The purposes of this study were the development and consideration of effectiveness of a group stress management program for residents of a welfare facility for children with disabilities. In Japan, there are a total of 40,668 welfare facilities. However, specific psychological support strategies for these facilities have not been established. Development of a group stress management program while considering the features of individual facilities is an urgent issue.

### **Method**

Participants were six junior high school girls living at a welfare facility for children with disabilities. Their IQs range from 53-68, and they have been staying at the facility for at least 2 years. Measures were assessed both pre- and post-program using a modified version of the psychological stress response scale for junior high school students. In addition, their behavior was monitored both by themselves and by the facility staff. The questionnaire measure of psychological stress and monitoring was administered four times: pre-program, post-session 1, post-session 2, and post-session 3. The stress management program of this study consisted of three 30-minute sessions, conducted once a week, based on social skills training, which concentrated on teaching the children various aspects of social competence using modeling, role-play, prompts, and reinforcement. The social skills training targeted the skill of "saying good morning."

### **Results**

The post-program frequency of the target greeting increased compared to the pre-program frequency, as assessed by both students themselves and the staff. Self-monitoring showed that their greetings were used 2.83 times on average before the program, 4.33 after session 1 (Cohen's  $d = 1.38$ ), 5.00 after session 2 (Cohen's  $d = 1.24$ ), and 6.67 after session 3 (Cohen's  $d = 1.01$ ). Staff monitoring showed that the participants used the greetings 3.17 times on average before the program, 3.33 times after session 1 (Cohen's  $d = 0.22$ ), 4.00 times after session 2 (Cohen's  $d = 1.10$ ), and 3.83 times after session 3 (Cohen's  $d = 0.73$ ). In addition, the scores regarding psychological stress were reduced after the program (Cohen's  $d = 1.86$ ).

### **Discussion**

The results suggest that the group stress management program for children living at the welfare facility for children with disabilities has been effective. However, a limitation of this study was that there was no control group. In summary, the present study provides evidence for the efficacy of a stress management program based on a social skills training approach to support residents of a welfare facility for children with disabilities.

## **Severity of Nonsuicidal Self-Injury, Emotion Regulation, and Suicidality: A Mediation Analysis**

**Laura Kraus & Tina In-Albon, University of Koblenz-Landau, Germany**

### **Introduction**

Nonsuicidal Self-Injury (NSSI) is a prevalent, clinically relevant problem, and a major risk factor for suicidality. In addition, perceived ability for emotion regulation (ER) is associated with the persistence of NSSI. The present study investigates the association between perceived ability for ER, suicidality, and severity of NSSI, considering the following factors: frequency, method, injury severity, function, and localization.

### **Method**

A total of 121 adolescents and adults ( $M = 23.01, SD = 7.37$ ) participated in this study. The sample consists of participants from clinical institutions and from an online-sample, who indicated that they self-injured themselves at least ones in the last three months. To assess severity of NSSI, the NSSI-Severity-Questionnaire (NSSV-SG), consisting of the factors method, localization, injury severity, function, and controllability, was gathered. In addition, the Difficulties in Emotion Regulation Scale (DERS-18) and the Self-Harm Behavior Questionnaire (SHBQ) were used. A mediation and a moderation model were applied.

### **Results**

A significant mediation effect was confirmed,  $F(1,119) = 10.10, p < .001, R^2 = .146$ . Results indicated a significant association between perceived ability for ER,  $b = 0.11, p < .001$ , and suicidality that was mediated by NSSI-severity,  $b = 1.03, p < .001$ . In the present study, a moderation model was rejected. Further results, such as the analysis of an association between several factors of NSSI-severity, suicidality, and perceived ability for ER will be presented and discussed.

### **Discussion**

The results of the present study indicated the importance of assessing perceived ability for ER in conjunction with suicidality and NSSI-severity in clinical practice. Furthermore, effective interventions reducing NSSI should also include methods improving the perceived ability of ER.

## **A Preventive School-Based Pilot-Intervention for Youth with Disruptive Behavior and Mild Intellectual Disabilities: A Small Sample Size Solution for a Challenging Population**

**Eva Kuhl & Juliette Liber, Utrecht University, the Netherlands**

### **Introduction**

Children with a Mild Intellectual Disability (MID) display more disruptive behavior problems than children without MID. Developing evidence based programs aimed at minimizing disruptive behavior in children with MID is of great importance. Children with disruptive behavior are often difficult to reach for interventions and more likely to drop out of interventions prematurely. Children with MID are typically excluded from RCTs examining CBT outcome. Therefore, more low-threshold indicated programs within the school-settings may be promising for this difficult to reach population. Including and completing may be facilitated by providing prevention programs during school hours and at schools.

### **Method**

Recently, a school-based indicated CBT prevention program for children with MID and disruptive behavior ('Meer zelfcontrole, minder boos') has been developed based on an evidence-based prevention program aimed at children without MID ('Keep Cool, start at school'; Liber et al., 2013). This training has been adjusted for children with MID specifically, using easier language, strong pictorial aids, and short video-clips. It is expected that the adaptations enhance motivation, promote effectiveness and prevent premature drop-out. This pilot study will investigate if children with MID show a decrease in disruptive behavior post-intervention and will investigate the social validity of the training.

### **Results**

In this pilot study, a multiple single-case design is employed: changes within multiple individuals are analyzed using piecewise growth models with dummy variables. Children, parents, and teachers complete questionnaires about children's behavior (SDQ) in a baseline period (A), a training period (B), and a post-training period (A'). Both qualitative as well as quantitative data are collected post-intervention to assess child-reported and therapist-reported social validity.

### **Discussion**

Data will be collected from February 2019-June 2019 in a school-based setting as part of regular mental health care. Results will indicate whether children decrease in disruptive behavior over the course of the intervention and will provide valuable information about how trainers and children experience the intervention with regard to motivation, adherence and effectiveness.

## **Alterations of Functional Brain Network After Group Cognitive-Behavioral Therapy for Adults with Attention-Deficit / Hyperactivity Disorder**

**Yusuke Kyuragi, Naoya Oribe, Naho Nakayama, Sho Fukushima & Masasuke Onoue, National Hospital Organization Hizen Psychiatric Center, Japan**

**Misuzu Nakashima, Kyushu University, Japan**

**Takefumi Ueno, National Hospital Organization Hizen Psychiatric Center, Japan**

### **Introduction**

Attention-deficit / hyperactivity disorder (ADHD) is a neurodevelopmental disorder characterized by inattention, hyperactivity, impulsivity. It develops in childhood, and its symptoms are thought to persist through childhood to adolescence and into adulthood. It has been demonstrated that treatment effects are enhanced by administering cognitive-behavioral therapy (CBT) in addition to drug therapy for adult ADHD (Emilsson B et al. 2011). However, there have been few studies that examined changes in brain function occurring in CBT for ADHD. In this study, we investigated the effects of group CBT on brain functioning in adult ADHD by resting-state functional magnetic resonance imaging (rs-fMRI).

### **Method**

ADHD patients with gCBT (gCBT, n=4) underwent rs-fMRI before and after completing a total of 8 weekly gCBT sessions. Patients without gCBT (Treatment as usual;TAU, n=9) also underwent rs-fMRI 26 weeks apart with no intervention. Analysis was performed using statistical parametric mapping 12 (SPM12) operating on MATLAB. We set the seed for each component of default mode network, and calculated the functional connectivity between the seed and region-of-interests on the whole brain. We compared the functional connectivity between two points in time for each group.

### **Results**

gCBT showed decreased functional connectivity between precuneus in default mode network and right amygdala after sessions ( $p < 0.001$ , uncorrected), whereas TAU showed no longitudinal changes after the same time period.

### **Discussion**

In ADHD, functional abnormalities in default mode network in resting brain functional networks (Castellanos FX et al. 2007) and morphologic abnormalities in multiple subcortical regions of the brain have been reported (Hoogman M et al. 2017). This study suggests that gCBT can cause changes of brain functional networks including these regions.

## **Therapist-Assisted Online Parenting Strategies (TOPS) Program for Parents of Adolescents Experiencing Clinical Anxiety or Depression**

**Catherine Fulgoni, Katherine Lawrence\* & Sarah Khor, Monash University, Australia**

**Glenn Melvin, Deakin University, Australia**

**Anthony Jorm, The University of Melbourne, Australia**

**Marie Yap, Monash University, Australia**

### **Introduction**

Family factors can contribute to the development and maintenance of anxiety and depression experienced by adolescents. Characteristics of the family environment (related to inter-parental conflict and family connectedness), the parent (including warmth, aversiveness or over-involvement), or parenting behaviours (such as modelling or reinforcement of anxious behaviours, or quality of response to the child emotions), have all been identified as important risk and protective factors (Yap, Pilkington, Ryan, & Jorm, 2014). However, parents' knowledge of preventive parenting is less than optimal (Yap & Jorm, 2012), and many parents feel ill-equipped to manage challenges in their relationship with their adolescent (Steinberg, 2001). Parenting programs can be effective in reducing internalising disorders for up to 6 months post-intervention in some cases (Yap et al, 2016), yet not all clinical services have the resources to support the parents of the

adolescents receiving treatment for depression or anxiety. Evidence-based online parenting programs represent one solution to provide parents with skills to support their adolescent's mental health that could be integrated with or sit separately to the adolescent's clinical service.

#### **Method**

We developed the 'Therapist-assisted Online Parenting Strategies' (TOPS) program for parents of adolescents receiving treatment from mental health services for clinical anxiety or depression. TOPS is an extension of the Partners in Parenting program—an individually-tailored, web-based parenting program shown to improve parenting behaviours associated with adolescent depression and anxiety (Yap, et al., 2018). TOPS is comprised of nine self-directed online modules with corresponding 'therapist-coach' video-conferencing sessions. TOPS assists parents to apply positive parenting behaviours known to support adolescent mental health and influence anxiety and depressive symptoms in particular.

We conducted a double-baseline open-label trial to investigate the effectiveness of TOPS. Parents completed baseline assessments at registration and one-month later, and four months and 12 months after commencing TOPS. Parenting behaviour was measured using the Parenting to Reduce Adolescent Depression and Anxiety Scale (PRADAS; Cardamone-Breen, et al. 2017). The PRADAS assesses current parenting practices against the recommendations in the research-informed guidelines 'How to prevent depression and clinical anxiety in your teenager: strategies for parents (Parenting Strategies Program, 2013). A range of secondary outcome measures were also utilised to capture the parent's sense of confidence in supporting their adolescent's mental health, their own experience of distress, sense of carer burden, and family functioning.

#### **Results**

We will present the baseline and 4 month follow-up data related to the parenting practices, confidence and distress levels of more than 40 parents who have completed TOPS.

#### **Discussion**

The findings will be discussed in terms of how well the TOPS program supports parents of adolescents who are experiencing clinical anxiety and/or depression.

### **Robot-Enhanced Interventions for Children with Autism Spectrum Disorders: The Results of an Effectiveness and Accommodability Study Across Eleven Special Education Settings**

**Daniel David, Silviu Matu\*, Anca Dobrean, Aurora Szentagotai & Radu Șoflău, Babeș-Bolyai University, Romania**

**Alexandre Mazel, SoftBank Robotics**

#### **Introduction**

Autism Spectrum Disorders (ASD) are an important burden for modern society and the available treatments targeting the recovery of these patients have high associated costs and could benefit from improvements and new means to be disseminated. The use of social robots is regarded as a promising avenue for improving these interventions, given that ASD children report great interest in interacting with such agents. Also, the idea of implementing robotic agents that could deliver the intervention with a certain degree of autonomy might lower the burden of the intervention on the therapists and the health system. A recent clinical trial has shown that a cognitive-behavioral intervention delivered with the help of a robotic agent is at least as effective as the standard intervention, delivered by a human agent. Thus, this opens the question if such interventions could be effectively delivered in real-life setting and if the patients and care-givers are willing to accept them.

#### **Method**

The present paper describes an effectiveness study which included 82 children with a diagnosis of ASD or marked ASD symptoms, as indicated by psychiatric or psychological assessment, aged between 3 and 10 years old. Children were recruited across 11 special education schools or treatment centers dedicated to ASD children and were randomly allocated to one of two groups: 1) a robot-enhanced intervention (REI; delivered under the supervision of a psychotherapist), or 2) a waitlist control group (which also received the intervention at the end of the wait period). The REI used a humanoid robotic agent called Nao to deliver 3 treatment sessions which targeted basic social skills that are known to be impaired in this population: imitation, joint-attention, turn-taking, and emotion recognition. These skills and general interaction skills were assessed before and after REI and the wait-period using a modified version of the social interaction module from the Autism Diagnostic Observation Sched

#### **Results**

All participants have been recruited and undergoing the REI or are in the wait period. Preliminary results indicated improvements in the targeted skills in the REI group.

#### **Discussion**

The present study will provide the first large scale evidence regarding the potential of using robots as facilitator for the recovery of children with ASD and the degree to which such an approach is feasible to be implemented in special education settings.

### **Cognitive Behavioral Characteristics Influencing Diet Behavior in Child Students**

**Kato Misaki, Komiyama Nao, Yoshida Haruna, Kadokura Mana, Karube Yuki & Shimada Hironori, Waseda University, Japan**

#### **Introduction**

Excessive dieting is a risk factor for eating disorders, and children start dieting at a lower age now in Japan. Excessive dieting has been studied, focused on characteristic personal perception such as "perfectionism", however it's difficult to be transformed. On the other hand, social pressure to be thin is said to affect diet behavior in cognitive behavior model. It's considered to weaken influence of the pressure by acquiring cognitive behavioral features that are relatively easy to transform in terms of cognitive behavioral therapy. The purpose of this study was to examine how cognitive behavioral features affect diet behavior in students.

#### **Method**

In this study, 242 elementary school, junior high school, and high school students (mean age  $\pm$  SD of  $13.4 \pm 2.1$ ) were asked to answer the questionnaire: Factor structure and items of the Dieting Behavior Scale (Matsumoto et al., 1995), Social Influence Scale (Matsumoto et al., 1999), Multidimensional Perfectionism Cognition Inventory (MPCI; Kobori et al., 2004), Concomitant Perception Scale (Kawagoe, 2016). The question item which was made based on a textbook of the health and physical education, and Stress Coping Scale in elementary school children (Otake et al., 1998). The method was approved by the local ethical committee.

## Results

In order to examine the difference in the influence of cognitive behavioral features according to developmental stages, we performed a hierarchical multiple regression analysis. As a result, for only elementary school students, the increment of R2 due to the injection of Step 4 ( $\Delta R^2 = .19$ ,  $p < .01$ ), and the interaction of mother's pressure and perfectionism was significant ( $\beta = -.04$ ,  $p < .05$ ). As a result of the simple gradient analysis, those who have strongly perfectionism showed diet behavior worsened as mother's pressure was greater ( $\beta = .36$ ,  $p < .01$ ).

## Discussion

It was suggested that the degree of cognitive behavioral features is low in elementary school students and they are more likely to lead to excessive diet behavior when

when receiving pressure on slimming from their mothers.

Meanwhile, in junior high school and high school students, although there was no significant influence of cognitive behavioral features on excessive diet behavior, there was no significant influence on masculine pressure and characteristic cognition from mother. From this, it is considered that the degree of cognitive behavioral features improves as they develop, and excessive diet behavior was suppressed.

## Keep it Brief - Innovative Directions in Anxiety Prevention for Vulnerable Children in Disadvantaged South African Contexts Naomi Myburgh & Helene Loxton, Stellenbosch University, South Africa

Peter Muris, Maastricht University, the Netherlands

### Introduction

Childhood anxiety problems, a global concern, are prevalent in South Africa with its unique sociopolitical milieu that paves the way for poor mental health. Disadvantaged South African children are particularly vulnerable due to significant socioeconomic inequalities, violent crime rates and parental loss, all linked to a greater frequency and intensity of anxiety problems. South Africa faces a dilemma with considerable discrepancies between mental health needs and service delivery, caused by barriers such as inaccessibility, cost, shortages of mental health professionals and lacking commitment to time-consuming services. Community-based, simple group-orientated CBT prevention interventions disseminated by non-clinical mental health workers may potentially overcome these barriers. Moreover, brief intensive CBT, a promising, comparable treatment format for childhood anxiety disorders, should be explored for its potential benefit in prevention intervention in disadvantaged contexts.

### Method

A pilot study was conducted on the feasibility, acceptability and subjective outcomes of a brief 8-session CBT-based anxiety prevention program delivered intensively over a two-week period within a disadvantaged South African community of children. 21 children aged 9 to 14 participated in a quasi-experimental study design with immediate and delayed intervention groups. Qualitative data was collected from participants by means of session-wise evaluation self-report forms and 3-month post-intervention focus groups. Content analysis was applied to explore data in terms of feasibility, acceptability and subjective outcomes.

### Results

Findings indicated satisfactory feasibility with recruitment rates of 77.7%, retention rates of 95% and attendance rates of 90.5% of 7 or more sessions. 94.7% of 170 completed session evaluations indicated satisfaction. Acceptability was related to satisfaction with both program content and delivery. At three months post-intervention, subjective reports on program outcomes indicated that 100% of participants had learnt about somatic responses to anxiety, 87% about cognition related to anxiety and 96% about behavioral responses related to anxiety. In addition, 96% reported the acquisition of emotive management skills, 86% reported the acquisition of cognitive restructuring skills and 74% reported the acquisition of behavior modification skills. Beneficial outcomes of participation in the program were: (i) the promotion of resilience and improved coping, (ii) improved interpersonal relationships, (iii) subjective reduction of anxiety, and (iv) generalization of program skills.

### Discussion

The findings of this pilot study support the feasibility, acceptability and utility of a new approach to CBT-based prevention in the South African context in the form of brief, intensive interventions. Combined with group-orientated delivery by non-clinical mental health workers in community settings, this approach has the potential to enhance accessibility, commitment, cost-effectiveness and outcomes of prevention interventions in disadvantaged contexts. Although brief intensive delivery formats have not been explored in CBT prevention intervention, the findings of this novel application demonstrate the potential benefit of keeping it brief.

## Development of Autism Social Skills Assessment for Parents, and a Test of Its Reliability and Validity

Yo Nakanishi & Shin-ichi Ishikawa, Doshisha University, Japan

### Introduction

Although social skills training is widely used to improve social functioning in children with autism spectrum disorder (ASD), there are no "gold-standard" scales to assess their social skills and to track improvement of the intervention. Therefore, the current studies aim to develop a new parent-report assessment for children with ASD, Autism Social Skills Assessment for Parents (ASAP) and to evaluate its measurement property. In subsequent studies, we referred to the COSMIN Risk of Bias Checklist to retain high methodological quality.

### Method

STUDY1: The potential items were collected from the previous scales with some additional ones that a psychiatrist and a clinical psychologist proposed. Then, 39 items endorsed by three clinical psychologists. Parents who had children aged from 9 to 15 participated in this study, then the subjects for analysis were 487 children (ASD:  $n = 30$ , TD:  $n = 457$ ). Each items rated on 4-point scale in terms of its frequency, "never", "sometimes", "often", "always".

STUDY2: The subjects for analysis were 306 children (ASD:  $n = 34$ , general:  $n = 272$ ). All parents participated in the study 2 completed the Autism Social Skills Assessment for Parents (ASAP) which developed in study1 and parents who had children with ASD also filled in the Social Responsiveness Scale (SRS-2, in Japanese; Kamio et al., 2013). To examine test-retest reliability and the standard error of measurement (SEM) of the scale. 148 (ASD:  $n = 28$ , general:  $n = 120$ ) parents were asked to complete the questionnaires one month later.

### Results

STUDY1: Item property were estimated based on the graded response model in item response theory and particular lower items in item difficulty values were selected (20 items). Test information function showed the ASAP had better measurement accuracy for children with lower level of ability.

STUDY2: The internal consistency was high for the total sample ( $\alpha = .93$ ), and ASD sample ( $\alpha = .90$ ). Criterion-related validity was confirmed sufficiently by showing negative correlations with autistic traits ( $r = -.70$ ,  $p < .001$ ). Comparison of the ASAP total score between ASD sample ( $M = 54.63$ ,  $SD = 11.35$ ) and general sample ( $M = 64.34$ ,  $SD = 10.46$ ) revealed that the scale has clinical validity adequately ( $t = 5.35$ ,  $p < .001$ ,  $d = .92$ ). Test-retest reliability by calculating intra-class coefficients was high for the total sample ( $ICC = .85$ ) and ASD sample ( $ICC = .84$ ). Standard error of the measurement was also calculated for the total sample (5.31) and ASD sample (5.31) and ASD sample (4.96).

#### **Discussion**

Analyses using IRT revealed that the ASAP has good measurement accuracy for children with ASD. Moreover, evaluation its measurement property based on COSMIN suggested that the ASAP has high reliability and validity to measure social skills for children with ASD.

### **Development and Initial Evaluation of REBTonAD - A Transdiagnostic Program for Anxiety and Depressive Disorders in Youth**

**Costina-Ruxandra Păsărelu & Anca Doborean, Babeş-Bolyai University, Romania**

#### **Introduction**

Anxiety and depressive disorders, also known as internalizing problems, are the most prevalent mental health problems in children and adolescents. Disorder-specific interventions are effective in reducing the targeted problems, however, there are significant differences in effects on the non-targeted condition (e.g., either smaller or nonsignificant). Transdiagnostic prevention programs could overcome such limitations given the fact that their content target multiple conditions at the same time.

#### **Method**

Participants were 83 children recruited from two Romanian schools ( $Mage = 12.77$ ,  $SD = .75$ ; 45.8% boys). We developed the intervention protocol based on Rational Emotive and Behavioral Therapy (REBT). The program consisted of six modules delivered over three weeks, each module enhanced with a video-based content.

#### **Results**

Results indicated for the primary outcome (internalizing problems as assessed by the Strengths and Difficulties Questionnaire – Internalizing problems subscale) a significant change from pre-intervention to postintervention assessment ( $t = 2.93$ ,  $df = 80$ ,  $p = .004$ ). Furthermore, children's satisfaction with the intervention was high. In conclusion, our findings indicated that a video-based transdiagnostic program implemented in a school format is feasible to be used as a prevention tool for adolescents' internalizing problems.

#### **Discussion**

In conclusion, our findings indicated that a video-based transdiagnostic program implemented in a school format is feasible to be used as a prevention tool for adolescents' internalizing problems. This is the first study investigating the efficacy of a transdiagnostic REBT program in reducing anxiety and depression in adolescents. Also, it is the first study that integrated REBT with technology in the format of a cartoon-based program efficient in reducing anxiety and depression outcomes in youths.

### **Adverse Effects of Psychotherapy in Children and Adolescents: A Systematic Review and Meta-Analysis**

**Linea Pretzmann, Camilla Funch Uhre, Valdemar Funch Uhre, Nicole Nadine Lønfeldt, Julie Hagstrøm, Sofie Heidenheim Christensen & Anne Katrine Pagsberg, Child and Adolescent Mental Health Centre, Denmark**

#### **Introduction**

While beneficial effects of psychotherapy for children and adolescents with psychiatric disorders has often been investigated and reviewed, knowledge of therapy-related adverse events is lacking. A growing consensus in the field suggests that 5 to 20 % of patients experience negative effects of therapy, and the rate of adverse events is seemingly higher for children compared to adults. The primary aim of this systematic review and meta-analysis is to gather the evidence on the prevalence, severity, and types of psychotherapy-related adverse events in children and adolescents with psychiatric disorders. Moreover, we will compare beneficial and adverse effects of different types of psychotherapy and examine which factors might be associated with the occurrence of adverse events (e.g. symptom severity, therapeutic techniques, therapist program fidelity, patient motivation, or family accommodation to the child's symptoms).

#### **Method**

We follow the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) and the Cochrane Handbook for Systematic Reviews of Interventions. We systematically search for eligible trials on CENTRAL, MEDLINE, PsycINFO, and Web of Science. We include randomised controlled trials (RCTs) with children and adolescents (age  $\leq 18$ ) with any psychiatric disorder, which compare psychotherapy versus a control intervention and report adverse events to psychotherapy. We will include RCTs irrespective of language, setting, publication status, and publication year. We will accept any psychotherapy, irrespective of type and format. To avoid potential confounding from adverse reactions to medication, we exclude interventions which systematically combine psychotherapy and pharmacological intervention. We will assess all included trials for risk of bias and evaluate the certainty of the evidence using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach.

#### **Results**

We plan to present preliminary results of the systematic review at the poster session. Our results will include the following outcomes: 1) proportion of participants with one or more serious adverse event (defined as death, life-threatening event, hospitalization, persistent or significant loss of function or disability), 2) proportion of participants with one or more non-serious adverse event (defined as any adverse event, not classified as a serious adverse event), 3) symptom severity score at end of treatment measured on any validated symptom severity scale, 4) remission from diagnosis at end of treatment (defined as no longer fulfilling diagnostic criteria for the diagnosis targeted in the trial, established with a clinical interview).

#### **Discussion**

We use stringent methodology, following the PRISMA guidelines, the Cochrane Handbook for Systematic Reviews of Interventions, and the GRADE guidelines. However, our review will have several limitations. Importantly, no current consensus or guideline exists for the monitoring and reporting of adverse events in psychotherapy trials. This will likely result in inclusion of measures of adverse events that are of low comparability across trials. In addition, many trialists may not have reported on the occurrence of adverse events. To address this issue, we will contact all trial authors and ask for any data on adverse events that might not have been reported in the trial publications.

## **Improving Access to Evidence-Based Treatment for Anxiety and Depression in Adolescents: Development of a Brief Identification Tool**

**Jerica Radez, Tessa Reardon, Polly Waite, Faith Orchard, Cathy Creswell & Ray Percy, University of Reading, United Kingdom**

### **Introduction**

Anxiety and depressive disorders are the most common mental health disorders in adolescence. Cognitive Behavioural Therapy (CBT) is the most well-established treatment for anxiety and depression in young people, but only a minority access CBT. A failure to identify anxiety and depression when they first emerge presents a significant barrier to treatment access. Existing screening questionnaires are lengthy, making them impractical for routine use in community settings (e.g. schools, GP appointments). The purpose of this study is to develop and evaluate a short (10-15 item) self- and parent-report questionnaire to assess symptoms of DSM-5 anxiety and depressive disorders in adolescents.

### **Method**

The study combines two large (>200) samples of adolescents (age 11-18), and their parents: a community sample recruited through local secondary schools and a clinic-referred sample recruited through a University-based research clinic. Participants completed the Revised Child Anxiety and Depression Scale (RCADS) and the Mood and Feelings Questionnaire (MFQ); and the clinic-referred sample participated in a diagnostic interview. To develop the brief identification tool, we examine the functioning of RCADS and MFQ items. The short scale's internal consistency, concurrent, convergent and divergent validity are evaluated, and ROC analyses are used to establish sensitivity, specificity and optimal cut-off scores.

### **Results**

The psychometric properties of the new short questionnaire will be reported, together with corresponding findings for the full-length RCADS for comparison purposes. Results of independent samples t-tests will identify any potential gender and age differences. Findings from the ROC analyses will illustrate the capacity of the short questionnaire to accurately identify young people with anxiety and/or depressive disorders.

### **Discussion**

This new brief questionnaire has the potential to improve early identification of anxiety and depression in adolescents. Its brevity and easy administration will make it feasible for use in school and primary care settings, and self- and parent-report versions will facilitate application in situations where only a single informant is available. Future research should evaluate the new questionnaire's capacity to monitor change in symptoms over time and in response to treatment.

## **Implementing CBT in Public Mental Health Services for Adolescents: Results from a Comprehensive Service Development Program in the Capital Area of Finland**

**Klaus Ranta, Helsinki University Hospital, Finland**

**Janne Frimodig, Tommi Järvi & Mauri Marttunen, University of Helsinki, Finland**

### **Introduction**

Number of developmentally sensitive, evidence-based CBT models for major mental disorders in the adolescent age group has increased during last decades. However, availability of these treatments in public services lags behind development of the programs and growing evidence of their benefits. Dissemination of evidence-based treatments to real-life services often faces problems such as lack of monetary resources for training or ideological/managerial barriers. We describe a program to increase the availability of CBT and other evidence-based treatments in public services for adolescents. As an example of benefits, we present serial outcome results from group cognitive therapy for social anxiety disorder (SAD).

### **Method**

A model of transforming earlier, nonspecific psychosocial treatments offered in the Hospital District of Helsinki and Uusimaa, Finland, to focused, disorder-specific interventions (FDSIs) is described. A multi-professional team approach was used in the implementation: selected professionals from different units of the Hospital District were brought together around regular clinical supervision, peer support, and training for each FDSI. Organizational statistics on the provision of FDSIs and all other psychosocial interventions were examined. Outcomes from the developing cognitive group treatment for SAD were assessed from 2015 onwards using Social Phobia Inventory (SPIN) as the main measure.

### **Results**

The program was launched in 2014 and expanded in scope 2015-2019. At present, 11 FDSIs for all main mental disorders, all manualized or following set therapeutic principles, are delivered using method-specific supervision. These include CBT for depression, psychotic-like experiences and anxiety disorders, TF-CBT, and group CT for SAD, among others. The relative proportion of FDSIs out of all psychosocial interventions has increased from a mean of 5% (2016) to 22% (2018) at the most advanced site. Outcomes from group CT for SAD have improved: pre-post effect size from 5 groups (n=23) was  $d=0.94$ ; SPIN mean(SD) 43,6(11.6) vs. 29,5(13.8) in 2018.

### **Discussion**

The Hospital District of Helsinki and Uusimaa, with Helsinki University Hospital its center, launched a comprehensive program for increasing CBT and other evidence-based treatments across all major types of mental disorders for adolescents in 2014. Thus far, we have succeeded in increasing the availability of evidence-based treatments in public secondary level adolescent mental health services by arranging treatments around centrally coordinated, area-wide multi-professional teams who are trained and supervised together rather than directing treatments from locally-led units. As the example of group CT for social anxiety disorder shows, acceptable clinical outcomes are achieved.

## **The Moderating Role of Sleep in the Relationship Between Social Isolation and Internalising Problems in Early Adolescence**

**Cele Richardson, Ella Oar, Jasmine Fardouly, Natasha Magson, Carly Johnco, Miriam Forbes & Ronald Rapee, Macquarie University, Australia**

### **Introduction**

Depression and anxiety commonly develop in early adolescence, and social isolation may be a unique risk factor for internalising symptoms during this developmental period. However, optimal sleep may protect adolescents from the emotional sequela of social isolation. The present study aimed to investigate whether sleep moderates the relationship between social isolation and symptoms of anxiety and depression in early adolescence.

## **Method**

Five hundred and twenty eight early adolescents (M= 11.18yrs, SD=0.56, range: 10-12 yrs, 51% male, 82% Caucasian, 7% Asian, 1% Middle Eastern, 10% other) completed online questionnaires assessing social isolation, sleep duration, daytime sleepiness and symptoms of generalised anxiety, social anxiety, separation anxiety and depression. Sleep duration was also measured through parental report.

## **Results**

Sleep duration moderated the effect of social isolation on symptoms of generalised anxiety, social anxiety and depression, but not separation anxiety. Daytime sleepiness emerged as an additional sleep-related risk factor in the relationship between social isolation and depressive symptoms.

## **Discussion**

Socially isolated early adolescents, with shorter sleep duration (and higher daytime sleepiness, for depression) reported the highest symptoms of anxiety and depression. Therefore, sleep may be an important modifiable risk factor to target, in order to prevent the onset of socioemotional disorders in adolescence.

## **Attention Deficit/ Hyperactivity Disorder and Task-Related Heart Rate Variability: A Systematic Review and Meta-Analysis**

**Andreea Robe, Anca Dobrean, Ioana A. Cristea & Costina-Ruxandra Păsărelu, Babeş-Bolyai University, Romania**

**Elena Predescu, Iuliu Hațieganu University of Medicine and Pharmacy Cluj-Napoca, Romania**

## **Introduction**

Research suggests that Attention deficit/hyperactivity disorder (ADHD) is associated with autonomic nervous system dysregulation, but the effect sizes vary substantially across studies in magnitude and direction.

## **Method**

A systematic search was done using for electronic databases: PsycINFO, PubMed, Web of Science and Scopus, in order to identify case-control or cohort studies reporting measures of vagally-mediated HRV, after a task demand, among individuals with ADHD relative to healthy subjects.

## **Results**

Thirteen articles comprising a total of 869 patients with ADHD and 909 healthy participants were included. As compared to controls, ADHD patients had reduced vagally-mediated HRV, corresponding to a small effect size (Hedge's  $g = 0.209$ ; CI 95% 0.01 to 0.40). Heterogeneity was high ( $Q(18) = 76.59$ ,  $p < 0.001$ ;  $I^2 = 77\%$ ). There was some evidence of small study effects. Task type, respiration rate assessment and associated comorbid disorders were statistically significant moderators.

## **Discussion**

These findings provide evidence for the associations between ADHD and autonomic dysregulation. Future studies addressing HRV reactivity are needed.

## **Case Series Analysis: Effectiveness and Feasibility of a Low Intensity Sleep Intervention with Adolescents in a Secondary Mental Health Service**

**Rebecca Rollinson, Isabel Price, Timothy Clarke, Jonathan Lyons, Brioney Gee & Ben Carrol, Norfolk and Suffolk NHS Trust, United Kingdom**

## **Introduction**

There is increasing evidence of an association between sleep and mental health difficulties in both adolescents and adults. Sleep may also play a causal role in the development of mental health problems, as well as facilitate improvements in mental health difficulties (Freeman et al, 2017). Sleep interventions based on CBT principles have good evidence of effectiveness with adults and adolescents in the general population. However a recent meta-analysis by Gee et al (2018) cited the lack of research on improving sleep in adolescents with existing mental health difficulties. This current study is a case series analysis examining a low-intensity sleep intervention with young people experiencing mental health difficulties. It aims to evaluate the feasibility and accessibility of a brief (six session) CBT/ACT based sleep intervention and to evaluate its effectiveness in improving sleep and psychological distress using routine clinical outcome measures.

## **Method**

Participants are service users (expected n of 12 to 15) seen within a secondary care Youth Mental Health team in Norfolk and Suffolk NHS Trust. The team works with young people aged between 14 and 25 years of age who present with a broad range of significant mental health difficulties.

Service users will be referred by their care co-ordinator and included in the case series if they are experiencing significant sleep difficulties that are not transient in nature and for which they are seeking help. Service users experiencing psychosis will have been offered an intervention but not included in this case series.

The intervention and assessments will be carried out by an assistant psychologist. Elements of the intervention will be matched to an individualised formulation of each young person's sleep difficulties.

## **Results**

Sleep and psychological distress will be assessed at baseline, end point and follow up using the Insomnia Severity Scale; the rCADS (under 18s) or CORE (over 18s); and a Goal Based Outcome Monitoring tool. Feasibility and accessibility of the intervention will be assessed via rates of referral, intervention uptake and completion, a sessional adherence log and service user feedback form.

## **Discussion**

The study is ongoing with data collection due to be complete by the end of March 2019.

## **Efficacy of Cognitive-Behavioral Therapy (CBT) for Children with ADHD and with Emotion Dysregulation**

**Diane Purper-Ouakil, CHU Montpellier Service MPEA Saint Eloi, France**

**Lucia Romo\*, Université Nanterre Laboratoire CLIPSYD, France**

## **Introduction**

Attention-Deficit Hyperactivity Disorder (ADHD) is a complex neurodevelopmental disorder associated with significant impairment on social, academic and familial functioning (Efron & al., 2014). ADHD is recognized as the most prevalent psychiatric disorder in childhood and is considered as a public health problem.

ADHD is frequently associated with emotion dysregulation (ED) characterized by excessive and inappropriate emotional reactions compared to social norms, uncontrolled and rapid shifts in emotion and the allocation of attention focused to emotional stimuli (Shaw & al., 2014). Few studies have focused in psychosocial interventions to improve ED in children with ADHD. Researchers emphasize the interest of Cognitive-Behavioral Therapy (CBT) in multimodal interventions of ADHD symptoms and comorbidities (Battagliese & al., 2015).

#### **Method**

The main objective evaluates the efficacy of a parent-child program of CBT compared to corporal mediation program on emotional and behavioral elements in children with ADHD and ED, 6 months after intervention. Secondary objectives are to evaluate the impact of this program, short-term (at the end of CBT) and at 6 months after the intervention, on socio-communicative capacities, quality of life and overall functioning of the child and on parental stress.

68 subjects ages 7-13 with ADHD and ED will be recruited and were randomly assigned to CBT group or Control group. The CBT group benefits from an intervention based on the program "Mieux gérer sa colère et ses frustrations" (Massé & al., 2011) of 15 sessions for children. The Control group participates in corporal mediation intervention of 15 sessions for children. The two Parent groups benefits from a CBT intervention based on "Mieux vivre le TDAH à la maison" (Massé & al., 2011) of 8 sessions distributed once every 15 days.

#### **Results**

The research is currently underway. 41 participants were recruited with 85,4% of boys. 87,8% of children presented a comorbid diagnosis (70,7% Oppositional Disorder, 43,9% anxiety disorders and 24,3% sleeping disorders). At initial evaluation, evaluator reports difficulties in overall functioning by children, but most identified by the family (C-GAS: 51,8 □ 8,5; 70 indicate normal functioning). The Child Behavior Checklist (CBCL-Dysregulation Profile), tool to identify children with poor emotional and behavioral self-regulation, indicates a mean of 217,8 (□ 21,6), also a severe emotional dysregulation (>210, more than 2 SD above the mean).

#### **Discussion**

The first results are expected for current August 2020.

### **Investigating the Effectiveness of Disciplinary Strategies on Non-Compliance, Parent-Child Relationship and Individual Factors Involved**

**Georgiana-Maria Roșca & Oana-Alexandra David, Babeș-Bolyai University, Romania**

#### **Introduction**

Researchers in the field of parenting have investigated various parenting disciplines in an attempt to identify the positive and negative effects on children's development. Many such studies have contradictory conclusions. At present, there are a number of current perspectives that vary widely (Larzelere Knowles, Henry & Ritchie, 2018). Furthermore, Larzelere, Gunnoe, Roberts & Ferguson (2017) expresses concern over the absolutist (or almost absolutist) statements regarding the exclusive use of an approach and related strategies (e.g the positive one, excluding other types of behavioral strategies). Larzelere et al. (2018), concludes that it is necessary to overcome the recommendation of universal parental strategies.

For this reason we propose a clinical randomized study in order to examine the effects of two parental disciplinary strategies, explanation/reasoning and withdrawal of a privilege on non-compliance with their preschool children (3-7 years) and their outcomes.

#### **Method**

A sample of non-clinic children and their parent will be randomized into one of the three groups (explanation/reasoning, withdrawal of a privilege or control) and observed in laboratory settings under three situations: child led play, parent led play and clean-up task. Also, it will examine the role of other parent-child factor, such as parent-child relationship, temperament of mother, temperament of child, type of non/compliance.

#### **Results**

The results are not available. The study is in the process of recruiting participants. We estimate N= 84 diades (N=28/group). We expect the results will indicate that both strategies have an effect for child non/compliance, but taking into considerations specific characteristics of the parent-child relationship and individual factors (e.g temperament).

#### **Discussion**

Specialized recommendations for parenting issues should move beyond universal disciplinary advice and making a personalized profile to match both sides needs (for parent and child).

### **Treating a Child With an Unspecified Eating Disorder: The Integration Between CBT and Positive Narrative Strategies**

**Chiara Ruini, Elisa Albierti & Francesca Vescovelli, University of Bologna, Italy**

#### **Introduction**

Presenting Problem:

A 10-year-old Caucasian male child who attended the fifth grade in school suffered from difficulties in swallowing and had avoided eating specific food (e.g., meat, pasta) since six months. He was referred to a psychological consultation by his paediatrician.

#### **Method**

Case Conceptualisation and Intervention: the child was evaluated with the Schedule for Affective Disorders and Schizophrenia for School Age Children–Present and Lifetime Version (KSADS-PL) and the Children Global Assessment Scale (CGAS) and was diagnosed with a unspecified eating disorder and mixed anxious-depressive disorder with a score between 41 and 50 (marked problems) at the Kellner's Global Scales for Illness Severity (GSIS). The child was also administered the following self-rated questionnaire: Revised Children's Manifest Anxiety Scale (RCMAS); Cognitive Triad Inventory for Children (CTI-C); Children's Somatization Inventory–Child Report Form (CSI); Psychological Well-Being Scale (PWB Scales–brief form).

A new sequential multicomponent treatment (cognitive behavioral therapy followed by wellbeing- enhancing narrative strategies) was applied for reducing symptoms and improving well-being. Both distress and well-being were assessed at baseline, posttreatment, and 3-, 6-, 12-m

#### **Results**

Considering self-report questionnaires, somatization and depressive symptoms significantly decreased. Well-being showed an increasing trend, in personal growth particularly. The Reliable Change Index (RCI) for the different scales and the majority of values concerning distress and well-being were found to be higher than the threshold value of 1.96, suggesting significant clinical improvements. However, some symptoms tended to get worse at the follow-up, coherently with the complexity of the clinical condition, but without reaching the diagnostic threshold for a full disorder.

## Discussion

This new sequential psychotherapeutic approach, which integrated standard cognitive behavioural therapy with narrative strategies addressed at promoting well-being in a child patient diagnosed with an unspecified eating disorder, was able to reduce symptoms and to foster his resources and positive behaviours. The patient himself, his parents, and teachers confirmed these improvements.

## Acceptability and Usefulness of Providing Feedback on Parenting in Web-Based Interventions

Wan Hua Sim, Monash University, Australia

Anthony Jorm, University of Melbourne, Australia

Katherine Lawrence & Marie BH Yap, Monash University, Australia

### Introduction

Parents are routinely asked questions about their parenting, yet there is a dearth of knowledge on how parents might perceive feedback on their parenting. This study examines the acceptability and usefulness of providing web-based, tailored parenting feedback as part of a larger parenting program for the prevention of child anxiety and depression. We hypothesised that compared with parents who received a standardised factsheet, parents who received tailored parenting feedback would report greater satisfaction with and usefulness of the content received. In addition, parents who received the tailored feedback were also expected to report being more likely and more confident in their ability to change parenting based on the content received.

### Method

Data were collected as part of the baseline assessment in a randomised controlled trial ('Parenting Resilient Kids'; ANZCTR Trial ID ACTRN12616000621415). Three hundred and fifty-five parents of children between 8-11 years old in Australia completed a set of web-based questionnaires that include a new parenting scale developed for a self-assessment of parenting risk and protective factors for child anxiety and depression. To tailor feedback for parents, an algorithm and a feedback flowchart that incorporates various combinations of responses to a parenting scale were innovatively programmed. Specifically, the feedback report provides each parent with an overview of their parenting strengths and areas for development, as well as brief strategies designed to motivate behaviour change. Upon completing the questionnaires, half of the participants (experimental group) was presented with an individually tailored parenting feedback report. The other half of the sample (active control group) received a standardised factsheet. Of the 355 parents, 253 (121 experimental; 132 control) subsequently responded to additional questions about the tailored feedback or standardised factsheet that they had received. Using a 7-point scale, parents provided ratings on how much of the content they have read, their satisfaction with and perceived usefulness of the content, how likely and how confident they were in their ability to change parenting based on the content received.

### Results

As hypothesised, parents who received the tailored parenting feedback provided significantly higher ratings on satisfaction with (Hedges'  $g = .40$ , 95% CI [.19, .80]) and perceived usefulness ( $g = .60$ , 95% CI [.45, 1.09]) of the content received. Further, parents who received the tailored feedback reported being more likely ( $g = 1.42$ , CI [1.68, 2.34]) and more confident in their ability to change their parenting ( $g = 0.83$ , CI [.84, 1.54]) based on the content received. However, parents who received the standardised factsheet reported having read more of the content than parents who received the tailored parenting feedback report ( $g = -.47$ , CI [-.88, -.30]).

### Discussion

Providing parents with feedback on their parenting practices after a self-assessment could help parents to gain an understanding of their strengths and relative gaps in parenting. Implications on the delivery of tailored parenting feedback to improve parent engagement will be discussed.

## Pathways to Perceived Stress in Caregivers of Individuals with Autism Spectrum Disorder: The Role of Behavioural Problems and Parental Mental Health Symptoms

Wei Jie Soh, Tze Jui Goh & Min Sung, Institute of Mental Health, Singapore

### Introduction

Caregivers of individuals with autism spectrum disorders (ASD) have reported higher parenting stress, psychological distress and increased mental health problems than other clinical groups (Barroso et al., 2018; Argumendes et al., 2018). Studies have identified ASD severity, child's behavioural and emotional problems as contributors to parental stress. Studies in children with ASD are mixed in outlining the mechanisms through which child's externalizing or internalizing problems impact caregiver's mental health and perceived levels of stress. Furthermore, there may be independent contribution of standalone caregiver depressive or anxiety disorders on stress levels experienced by caregivers. Therefore, it is useful for treatment providers to tease apart the different pathways linking child-related problems, caregivers' mental health and perceived stress for more targeted interventions. Using both clinician-rated and parent-report instruments, this study aims to clarify the impact of ASD

### Method

The analysis is part of a larger study on epigenetics in individuals with ASD from the Child Guidance Clinic, Institute of Mental Health (Singapore). 91 parents (Mothers= 82, Fathers= 9) and 91 children with ASD ( $M=79$ ,  $F=12$ ) between the ages of 6 and 18 years old ( $Age=11.3$ ,  $SD=3.42$ ) completed questionnaires measuring ASD symptoms (Social Responsiveness Scale - SRS), child's problem behaviours (Child Behaviours Checklist - CBCL, Children's Yale-Brown Obsessive-Compulsive Scale - CYBOCS) and parent well-being (e.g., Adult Self Report - ASR, Parent Perceived Stress Scale - PPSS). The Autism Diagnostic Interview-Revised (ADI-R) was also administered, from which items assessing verbal rituals, compulsive or ritualistic behaviours were used in the analysis.

### Results

Autistic symptoms on the SRS, externalizing and internalizing problems (CBCL) and the severity of verbal rituals were positively correlated with caregivers' depressive but not anxiety symptoms. Externalizing and internalizing problems behaviours, but not autistic symptoms, were positively correlated with parent perceived stress. In the final hierarchical regression model, child's problem behaviours (internalizing and externalizing problems, verbal rituals) and parent mental health symptoms (anxiety only) were significant predictors of parent perceived stress accounting for 38.4% of the total variance. Parent depressive symptoms, but not anxiety, mediated the relationship between behavioural problems (both internalizing and externalizing symptoms) in individuals with ASD and parent perceived stress.

### Discussion

Problem behaviours of individuals with ASD may have an impact on caregivers' mental health symptoms and perceived levels of stress via different pathways. The presence of verbal rituals and caregiver's anxiety symptoms appeared to have independent contribution to overall perceived stress experienced by parents. Contrary to existing studies (Siu et al., 2018), autistic symptoms were not associated with

caregiver's stress. This may be due to the caregivers' perception of their ability to manage the child's ASD-specific behaviours. A combination of child and parent-focused support may likely ameliorate stress levels of caregivers. Future studies could explore the role of caregiver's anxiety and child's compulsive behaviours in influencing parental well-being.

### **Development and Validation of the Korean Classroom Problem Behavior Scale – Elementary School Version (CPBS-E)**

**Wonyoung Song, Konyang University, South Korea**

**Eun Jin Chang & Miryeung Han, Korea Baptist Theological University, South Korea**

**Kwang-Sun Cho Blair, University of South Florida, USA**

**Ga Bin Lee, Konyang University, South Korea**

**Dong-Hyung Lee, Pusan National University, South Korea**

**Sung-Doo Won, Keyo Medical Foundation Keyo Hospital, South Korea**

#### **Introduction**

This study was conducted to develop and validate the Korean Classroom Problem Behavior Scale for elementary school students, designed to be used in implementing Cognitive-Behavioral Therapy (CBT) and Positive Behavior Support (PBS). When implementing PBS, it is essential to identify the intervention goal for increasing positive behavior. It is also necessary to identify the goal for decreasing problem behavior in order to enhance student social-emotional and behavioral outcomes. When implementing a PBS, a few screening measures have been developed to identify students needing secondary or tertiary behavior intervention, such as Brief Behavior Rating Scale (Gresham et al., 2010), Systematic Screener for Behavior Disorders (Walker & Severson, 1990), and Student Risk Screening Scale (Drummond, 1994). Although these measures have been widely used in North American, using them in other cultures requires consideration of its appropriateness, technical adequacy, and usability.

#### **Method**

Considering that Korean school systems and educational methods differ from that of Western, there may be unique classroom problem behaviors to Korean students. Accordingly, the current study aimed to develop a new Korean screening measure focused on specific problem behaviors, designed for use by elementary school classroom teachers to identify students who need more behavior interventions. An initial questionnaire with more than 100 items, based on the common Office Discipline Referral (ODR) checklists, 'Green Mileage' which is Korean school penalty points system, and the Child Problem-Behavior Screening Questionnaire-II (Lee, 2018), was developed to measure classroom problem behaviors. The initial questionnaire was reduced to 63 items that were assessed to have appropriate content validity ratio scores based on face validity as assessed with 12 researchers and content validity as assessed with 10 in-service teachers.

#### **Results**

The preliminary scale with 63 items consisted of classroom problem behaviors such as problem behavior related to class preparation behavior, class disruptive behavior, inattentive behavior, aggressive behavior, and withdrawn behavior. The scale also included outside-classroom problem behaviors that may negatively impact classroom functioning. In validating the scale, elementary school teachers from a convenience sample of 9 schools were recruited who completed the screening measure on their classroom students (n=154). Based on the results of the validation process, the questionnaire was finalized with 50 items. Split-half reliabilities and internal consistencies of these items were verified. In addition, stability of factor structure was verified, based on the structural equation model. For convergent and discriminative validity, correlations between the CPBS-E and TOCA-C (Koth, Breadshaw & Leaf, 2009) and between the CPBS-E and the CBCL-TRF (Achenbach, 1991) were examined.

#### **Discussion**

Analysis results indicated that Cronbach  $\alpha$  for full scale of CPBS-E was .98. Reliability of classroom problem behaviors was .97 and reliability of outside-classroom problem behaviors was .96. All subscales of each domain also showed high reliability (.84 to .95). In examining the criterion validity, the scale's correlation with TOCA-C was high (.82), and its correlation with the total behavior problems (.87), internalization (.61), and externalization (.86) of CBCL-TRF were also high. The correlation with positive behaviors, such as academic performance (-.38), behaving appropriately (-.67), and happiness (-.40) was low or negative. Thus, the convergent and discriminative validities of CPBS-E were found to be acceptable. The findings indicate that the CPBS-E can be used with confidence in measuring classroom problem behaviors of Korean elementary school students.

### **Impact on Stress Response and Resilience of Cognitive Behavioral Technique in Adolescence**

**Takahito Takahashi, University of Miyazaki, Japan**

**Shin-ichi Ishikawa, Doshisha University, Japan**

**Shoji Sato, University of Miyazaki, Japan**

#### **Introduction**

Findings of studies that have quantitatively examined the association between resilience and mental health outcomes are consistent with suggestions that the strengthening of resilience may reduce mental health problems in children and adolescents (Luthar & Cicchetti, 2000). Cognitive behavioral technique has been found to be effective in school-based interventions, but its effect on stress response and resilience improvement is not adequately understood. It is necessary to examine the preventive effect of these interventions not only by examining the treatment result such as improvement of symptoms of anxiety or depression, but also by measuring the improvement of protective factors such as stress response and resilience. Based on the above, the purpose of the present study was to examine the effect of the cognitive behavioral technique on stress response and resilience in adolescents.

#### **Method**

The intervention group consisted of 43 second-year Japanese junior high school students (13–14 years old) who attended the program. The program comprised 5 group sessions (50 min) of a cognitive behavioral program. The program content comprised (a) the link between beliefs, feelings, and behaviors; (b) cognitive restructuring skills; (c) behavioral activation. To verify the effectiveness of the intervention, the self-report stress response (Okayasu & Takayama, 1999), resilience (Ishige & Muto, 2005) and the automatic thoughts inventory for children (ATIC; Sato & Shimada, 2006) were used to assess members of the intervention group pre-and post-intervention.

#### **Results**

To investigate the effects of a cognitive behavioral program, each outcome measure was compared pre-and post-intervention. Data were analyzed using hierarchical modeling (HLM) via a linear mixed model in R 3.4.0. A significant difference in the stress response was observed, indicating that the intervention group had lower measures post intervention. With regard to resilience, no significant difference was

found between the pre-posttest. Additionally, on the ATIC, negative view of self and hopeless thoughts were lower post-intervention than they were pre-intervention.

#### **Discussion**

These results suggest that the cognitive behavioral program may be an effective technique for use among junior high school students. Specifically, significant improvements were found in stress response and automatic thoughts. However, there was no effect on resilience. Further, the results of this study suggest that the technique is not effective for resilience. Overall, these results increased knowledge about which outcome the cognitive behavioral technique is affecting.

### **The Relationship Between Foster Behavior and Job Satisfaction and Burnout of Workers in Japanese Social Care Institutions for Children**

**Ayako Takii & Daisuke Ito, Hyogo University of Teacher Education, Japan**

#### **Introduction**

There are two types of foster care, one carried out in homes and one carried out in institutions. In Japan, institutional foster care comprises over 80% of foster care services (Ministry of Health, Labour and Welfare, 2015). There are also reports that more than half of children in foster care institutions experienced some types of abuse. Because abused children are said to exhibit very complicated symptoms such as reactive attachment disorder, disinhibited social engagement disorder, and complex post-traumatic stress disorder (PTSD), care is extremely difficult. Regarding child rearing, it has been reported that the mental health of caregivers influence children's behavior and emotions (Kahn, et.al, 2004). Therefore, it is conceivable that the mental health condition of the workers at the institutions may affect the health condition of the children in foster care institutions. Furthermore, it is reported that the turnover rate of workers at foster care institutions in 0

#### **Method**

to 3 years is high (Masuzawa, et.al, 2016). Frequent changes of caregivers have been reported to adversely affect the attachment formation of the children (Tizard, et.al, 1978), which inhibits the improvement of the children. Therefore, we aimed to examine the relationship between the foster care behavior of workers in social care institutions for children, and the psychological state of the workers, which may influence the improvement of the children. The findings obtained in this research are expected to clarify how to carry out duties in the institutions, how to effectively engage children, and will be helpful for the future development of staff training programs.

Method: The Fostering Behavior Scale at Social Care Institutions for Children (Takii & Ito, 2018), the modified version of Positive Emotion to Job (a factor of the Job Satisfaction Measurement Scale) (Muya, et. al, 2014), and the Japanese version of the Maslach Burnout Inventory (MBI; Kubo & Tao, 1992) were administered to 456 workers of social care institutions for children (173 men, 280 women, 3 unknown, with mean age $\pm$  SD of 35.39 $\pm$ 11.19 years). The survey was conducted under the ethical code of The Japanese Psychological Association.

#### **Results**

Results: Correlation coefficients between five factors of the Fostering Behavior Scale, Positive Emotion to Job, and three subscales of the MBI were examined. "Observation of the situation of children and supporting relationships based on that," "Cooperative empathic involvement in problem solving with a view to the future," "Sharing of daily time and experiences," and factors of fostering behavior showed positive correlation with positive emotion to job and personal accomplishment. Also, some factors of fostering behavior showed positive correlation with emotional exhaustion and depersonalization.

#### **Discussion**

Although it is stressful for the workers to care for the children, it is suggested that it is possible to maintain job satisfaction and dedication to their personal accomplishment by performing appropriate fostering behavior. One of the limitations of this research is the type and the number of institutions which were represented in this study cannot reflect the proportion of types of social care institutions for children in Japan.

### **Effects of a Teacher's Behavior-Specific Praise on the Academic Engagement of a Child with Autism Spectrum Disorder in a General Education Classroom**

**Masako Tanabe, Yumi Kaneyama & Hiroshi Sato, Kwansai Gakuin University, Japan**

#### **Introduction**

Previous studies suggest that teachers' behavior-specific praise (BSP) had often resulted in an increase in children's academic engagement. BSP involves verbal praise based on the children's academic engagement, with a specific mention of the positive behavior. For example, Niwayama and Matsumi (2016) indicated that teachers' use of BSP increased the rate of the children's academic engagement. However, there are currently relatively few studies focused on children with autism spectrum disorder (ASD) within general education classrooms. Therefore, this study aimed to examine the effectiveness of a teacher's BSP in promoting the academic engagement of a child with ASD within a general education classroom.

#### **Method**

The study was conducted in a fourth-grade general education classroom in a Japanese elementary school. The participants included the teacher of the class and 29 students including a child with ASD. ABA research design was used for the study. In the baseline phase, the use of the teacher's BSP, as well as the children's academic engagement, were recorded by trained observers during various 45-minute classes. In a 45-minute class, the observers recorded whether each student showed positive behavior per 10 minutes and counted the number of times the teacher used BSP. Praises that were not audible to all of the students were not recorded. In the intervention phase, the participating teacher was instructed to use BSP and to report the number of times he used it, by the first observer and a peer teacher. The teacher was praised by the peer teacher for his increased use of BSP. The procedure used during the intervention phase was designed based on Niwayama et al. (2018).

#### **Results**

The teacher's use of BSP increased in the intervention phase when compared to the baseline phase (Tau = 1.06,  $p < .01$ ). The rate of academic engagement by the child with ASD also increased in the intervention phase (Tau = 0.64,  $p < .10$ ), although the average rate of all of the children's academic engagement did not change (Tau = 0.10, n.s.). In the follow-up phase, the use of the teacher's BSP decreased when compared to the intervention phase (Tau = -1.00,  $p < .01$ ). The rate of the child with ASD's academic engagement did not change in the follow-up phase, when compared against the intervention phase (Tau = -0.275, n.s.).

## **Discussion**

The results suggest that BSP is effective for increasing the academic engagement of a child with ASD. It was implied that BSP has the potential to reduce the amount of individual support needed from the teacher for children with ASD and that, by extension, it could increase the support that teachers are able to offer to other children. Future studies should compare the effectiveness of BSP for children within other general education classrooms, and collect more data.

## **Applying a Transdiagnostic Modular Approach to Treating Comorbid Posttraumatic Stress Disorder and Depression in Children's Community Mental Health**

**Emilee H. Turner, Priya McLennan, Brad J. Nakamura & Charles W. Mueller, University of Hawaii at Manoa, USA**

### **Introduction**

A mixed-ethnicity adolescent female with diagnoses of Post-Traumatic Stress Disorder (PTSD) and Persistent Depressive Disorder (PDD) was referred to community mental health services following a suicide attempt.

### **Method**

In order to address the patient's various symptoms, treatment providers adopted a transdiagnostic, modularized Cognitive Behavior Therapy approach. A modular approach allows for on-going assessment and individualizing treatment to address interference and client symptoms. MATCH-ADTC (Modular Approach to Treatment for Children with Anxiety, Depression, Trauma and Conduct problems; Chorpita & Weisz, 2009) was selected because it has previously demonstrated effectiveness in two randomized effectiveness trials in community settings (Chorpita et al., 2017; Weisz et al., 2012). MATCH-ADTC is made up of various units that may be administered independently. In this case, the therapeutic interventions included psychoeducation, the development of a trauma narrative, cognitive restructuring, motivational interviewing, activity scheduling, self-monitoring, relaxation, and problem-solving.

### **Results**

Data collected included SUDS ratings before, during, and after trauma narrative exposure activities and subjective mood ratings both during and between sessions. Treatment outcome data included, Child and Adolescent Functional Assessment Scale (CAFAS), Revised Children's Anxiety and Depression Scale (RCADS), Revised Children's Anxiety and Depression Scale-Parent Version (RCADS-P), and Ohio Scales scores.

### **Discussion**

The patient's self-reported in-session fear ratings related to traumatic stress decreased on 15 items from 8 to 0 respectively throughout the creation of her trauma narrative over the course of six weeks. The patient's self-reported in-session mood ratings related to her depressed mood increased from a baseline of "3" to an end of treatment rating of "8" (with higher scores indicating better mood; scale from 0-10). CAFAS score decreased significantly from 60 to 0 over the course of treatment (with higher scores indicating more impairment). Parent ratings on the RCADS-P T-scores (measures of anxiety and depression in which higher scores = higher levels of anxiety/depression) decreased over the course of treatment (49-42). Her Ohio Scales problem scores (higher scores = greater degree of problems) decreased slightly over treatment from 4 to 2.

## **On How the Heart Speaks. Emotion Dysregulation, Temperamental Vulnerability, and Parental Depression in Adolescents: Correspondence Between Physiological and Informant-Report Measures**

**Marie-Lotte Van Beveren, Sven Mueller & Caroline Braet, Ghent University, Belgium**

### **Introduction**

Although numerous studies reveal altered respiratory sinus arrhythmia (RSA) among children, adolescents, and adults who exhibit emotion dysregulation, effects of temperamental vulnerability and parental mental health on RSA remain unclear.

### **Method**

We evaluated the relationship among emotion regulation, RSA, and RSA reactivity in a pooled sample of 25 vulnerable and 30 resilient adolescents (mean age = 13.7 years; 60% girls), including associations with temperamental vulnerability and parental depressive symptoms. Participants watched a neutral film clip while their resting RSA was recorded, and then completed a reward and frustration task, using an affective Posner paradigm. Temperament and emotion regulation were assessed via self- and parent-report, and parents reported on their own depressive symptoms.

### **Results**

Low resting RSA was associated with temperamental negative emotionality, whereas greater RSA reactivity to frustration was associated with maladaptive emotion regulation. No significant relations were found between RSA and parental depressive symptoms.

### **Discussion**

This study elucidates the role of RSA as a biomarker of individual differences in emotion dysregulation and temperamental vulnerability, and stresses the importance of considering multiple units of analyses, as well as functional domains, when studying emotional responding and regulation in adolescents.

## **A Meta-Analysis of the Worldwide Prevalence of Mental Disorders in Preschool Children**

**Mira Vasileva & Ramona Graf, University of Bremen, Germany**

### **Introduction**

It has been recognized that preschool children can develop mental disorders that might manifest differently than in older children or adolescents. However, little is known about the prevalence of mental disorders in preschool children.

### **Method**

We systematically searched the literature in the databases Web of Science, PsycINFO, and Medline. A series of meta-analyses were conducted to estimate the pooled worldwide prevalence of mental disorders of children who are 6 years old or younger. We estimated the prevalence for any disorder and for specific mental disorders separately.

### **Results**

A total of eight epidemiological studies reporting representative data on N = 8525 children from six countries met the inclusion criteria. The worldwide pooled prevalence of any mental disorders was 20.8%, 95% CI [15.5 - 27.3]. The pooled worldwide prevalence of oppositional disorder was 4.4%, 95% CI [2.4 - 7.8], of attention-deficit hyperactivity disorder was 2.8%, 95% CI [1.4 - 5.5], of depression was 1.5%, 95% CI [0.9 - 2.3], and of any anxiety disorders was 6.3%, 95% CI [2.4-15.7].

## **Discussion**

The prevalence was higher for externalising disorders, which might be due to difficulties in the assessment of internalising symptoms in very young children. Overall, the findings indicate that there are a significant number of preschool children suffering from mental disorders who need appropriate age-adapted interventions.

## **The Role of Parenting Practices in the Development of Internalizing Problems in Preterm Born Infants**

**Leonie Vreeke, Lilly Bogicevic, Marjolein Verhoeven & Anneloes Van Baar, Utrecht University, the Netherlands**

### **Introduction**

About 1 of every 10 infants in the United States is born preterm, before 37 weeks of gestation (Centers for Disease Control and Prevention, 2016). Recent studies indicate that preterm born children are at risk for developing internalizing problems (e.g., De Jong et al., 2012). However, although the prevalence of internalizing problems in preterm born children appears to be higher than in full-term children, not all moderately preterm children develop such problems. Based on the transactional model of development, the aim of this study was to investigate the role of early parenting practices in relation to internalizing problems in preterm born children. The differences between preterm born and full-term born children was studied, as well as their role (mediation vs. moderation) in the development of internalizing problems.

### **Method**

Longitudinal data were collected from mothers of 104 full-term and 126 preterm born children in the Netherlands. Mothers filled out questionnaires on four parenting dimensions (warmth, stimulation, structure and discipline) when their child was 12, 18 and 24 months old and on internalizing problems of the child when it was 36 months old.

### **Results**

Preterm born children showed more internalizing problem behaviour than full term children at three years of age. Positive parenting practices moderated the relation between gestational age and problem behaviour.

### **Discussion**

This study stresses the important role of parenting behaviour in in preterm born children, and gives directions for parenting interventions.

## **Business as Usual? A Case Series to Illustrate Hypothesised Areas in Which the Treatment of Emetophobia in Young People Should Differ from Standard CBT for OCD**

**Sasha Walters, University of Reading and Berkshire CAMHS Anxiety and Depression Team, United Kingdom**

**Cathy Creswell, University of Reading, United Kingdom**

### **Introduction**

Emetophobia is a debilitating disorder which has a significant impact on the individual and their family and can result in a loss of all meaningful occupation. Emetophobia is consistently identified as a hard to treat disorder (Veale and colleagues, 2009; 2016). Risk of self-neglect through reduced intake is high and motivation to engage in therapy can be low due to inflated perception of risk and perceived awfulness of feared consequences. It is often misdiagnosed as OCD or hypochondriasis but standard treatment protocols for these disorders typically yield high dropout rate or poor treatment response (Kobori, 2011). In a randomised control trial, of a specific treatment for emetophobia, Riddle-Walker et al (2016) reported clinical improvement in 50% of the sample compared to only 16% of the waitlist control group, demonstrating treatment efficacy but highlighting the need for improvement. In addition, despite typical reports of childhood onset (Riddle-Walker et al, 2016), there is limited research into treatment efficacy specifically in child and adolescent populations (Fix, Proctor & Gray, 2016). The current study aimed to build on the emerging evidence to evaluate outcomes following an adapted CBT protocol in an adolescent case series and highlight areas for development.

### **Method**

A modified CBT intervention was delivered with 5 young people attending specialist Child and Adolescent Mental Health Services with an initial presentation of severe, long-standing OCD with a core fear of vomiting, and previous poor response to treatment. The intervention consisted of manualised CBT for OCD involving psychoeducation, in-and between-session Exposure with Response Prevention (ERP) and a thorough relapse prevention plan. Informed by Veale's (2009) theoretical paper, additional components to the manual included 1) a standardised CBT approach to address panic, specifically interoceptive exposure to help illustrate the physiological effects of anxiety including nausea, 2) reliving and re-scripting of trauma memories, 3) direct exposure to vomit, 4) behavioural experiments to challenge coping and rescue beliefs and 5) family sessions to encourage the development of autonomy and reduce excessive reassurance seeking and provision. All young people had been prescribed SSRI medication prior to starting treatment.

### **Results**

Using the Children's Yale Brown Obsessive Compulsive Scale as a measure of symptom severity, all young people achieved remission of clinical symptoms, increased insight, improved global functioning with increased independence and significantly improved CGI scores.

### **Discussion**

Emetophobia in an adolescent population is responsive to a CBT intervention. Full symptom recovery and improved quality of life can be attained with the combined use of CBT and SSRI medication. It is suggested that core features of sensitivity to gastrointestinal symptoms (Boschen, 2007), emotional conditioning (Veale, 2009), impaired belief in ones ability to cope coupled with inflated reliance on rescue (Salkovskis, 1985) maintain symptom severity in emetophobia and should be directly targeted to increase efficacy of CBT treatment. Conclusion: This preliminary study provided initial support for the applicability of Veale's treatment approach in a child and adolescent population and highlights areas that require more thorough exploration in order to develop a standardised protocol and improve treatment outcome for young people.

## **Applying the Metacognitive Model to Children with Generalised Anxiety Disorder: Evidence from a Clinical Sample**

**Julia White & Maree Abbott, The University of Sydney, Australia**

**Jennifer Hudson & Lauren McLellan, Macquarie University**

### **Introduction**

Anxiety disorders are the most common mental health conditions amongst children internationally, with approximately 3% experiencing Generalised Anxiety Disorder (GAD) each year. Wells' metacognitive model proposes that GAD is triggered and maintained by positive and negative beliefs about worry. A substantial body of evidence supports the key predictions of the model in adults, and emerging evidence

suggests that it may also be applicable to children as young as seven years. However, most research to date has involved community or transdiagnostic samples, so it remains unclear whether the metacognitive model is applicable to children diagnosed with GAD.

#### **Method**

Children aged 7-12 years ( $n = 150$ ) and their primary caregiver were assessed with the Anxiety Disorders Interview Schedule for DSM-IV and completed a battery of self-report questionnaires prior to commencing treatment, including measures of negative automatic thoughts (Children's Automatic Thoughts Scale), worry (Penn State Worry Questionnaire for Children), metacognitive beliefs (Metacognitions Questionnaire for Children – Revised) and anxiety symptoms (Spence Children's Anxiety Scale and Children's Anxiety Life Interference Scale).

#### **Results**

Path analysis will be used to examine the proposed mediating roles of: 1) positive beliefs about worry in the relationship between negative automatic thoughts and worry; and 2) negative beliefs about worry in the relationship between worry and GAD symptomatology.

#### **Discussion**

The results will be compared with the outcomes of similar studies of adults with GAD, and the developmental, theoretical and clinical implications will be discussed.

### **The Development and Validation of the Korean Implementation Fidelity Checklist of Tier 3 School-Wide Positive Behavior Support (IFC-T3)**

**Sung-Doo Won, Keyo Medical Foundation Keyo Hospital, South Korea**

**Eun-Jin Chang, Korea Baptist Theological University, South Korea**

**Kwang-Sun Cho Blair, University of South Florida, USA**

**Dongmi Nam, Korea Baptist Theological University, South Korea**

**Wonyoung Song, Konyang University, South Korea**

**Donghyung Lee, Pusan National University, South Korea**

**Miryeung Han, Korea Baptist Theological University, South Korea**

#### **Introduction**

School-Wide Positive Behavior Support (SWPBS) provides three-tiered interventions and supports as an efficient behavioral intervention program for students. Specifically, Tier 3 support is for students with severe problem behavior that had not been addressed by Tier 1 or 2 interventions and includes a functional assessment to guide development of an individualized intervention. Accordingly, Tier 3 support in the Korean school system has been implemented mainly in special-education schools and later spread to regular schools, demonstrating positive outcomes such as the increase of prosocial behaviors and the improvement of academic achievement. In general, implementation fidelity refers to the degree to which an intervention or program is carried out as intended. Nevertheless, there is not any implementation fidelity scale suitable for the Korean school system which could assess the implementation of Tier 3 support and measure the best application and outcome of SWPBS.

#### **Method**

The Korean Implementation Fidelity Checklist (IFC-T3) to measure the implementation of Tier 3 support for Korean elementary schools was based on fidelity measures developed in the U.S. and a series of benchmarks of SWPBS implementation for Korean schools (Chung, 2011). Finally, the IFC-T3 consisted of a 37-item, 6-factor as a teacher-reported fidelity measure. In the first step, 10 experts reported that the content validity of the IFC-T3 was within adequate range. In the second step, 109 teachers (31 men and 78 women with mean age  $\pm$  SD of  $37.83 \pm 9.62$ ) who have implemented SWPBS completed the school climates questionnaire, the discipline practice measure, the intensive individual-based strategies of PBS measure (Cho & Cho, 2017) as well as the IFC-T3.

#### **Results**

Contrary to our expectations, the analysis resulted in five 5 factor (establishing individualized support teams, assessing problem behavior and implementing individualized supports, planning crisis management, monitoring progress and assessing the quality of individualized supports, providing supports by linking to mental health services) structure with 34 items instead of 37 items (KMO MSA = .859, Bartlett's Test of Sphericity  $\chi^2 = 7498.358$ ,  $df = 561$ ,  $p < .001$ ). The internal consistencies of the IFC-T3 were good (full scale  $\alpha = .968$ , 6 factor  $\alpha = .891 \sim .960$ ). In addition, a good convergent validity was clearly shown by significant correlations with the intensive individual-based strategies of PBS measure ( $r = .468$ ,  $p < .001$ ) as well as the discipline practice measure ( $r = .424$ ,  $p < .001$ ). However, there was relatively weak association with the school climates measure ( $r = .280$ ,  $p < .01$ ), suggesting that the IFC-T3 had good discriminant validity.

#### **Discussion**

These results indicate that the newly developed fidelity measure could be an adequate and usable tool in Korean school system to assess the implementation of Tier 3 support. Other implications and suggestions will be fully discussed.

### **Telehealth Parent Training for Children with Neurodevelopmental Disorder: Intervention for Parent-Child Verbal Interaction**

**Junichi Yamamoto, Keio University, Japan**

**Natsumi Ishikawa, University of Tokyo Hospital, Japan**

**Yuka Ishizuka, University of Tsukuba, Japan**

#### **Introduction**

A lot of research found that parent training program increased the positive behavior of children with neurodevelopmental disorder and their parents and reduced negative behavior of them. There are barriers, however, concerning the dissemination of the program. Telehealth is a method that enables children and parents to receive professional services and support at distant place. In the present study, we developed telehealth program using iPad; first the parent uploaded the movie of the interaction between the child and the parent at home, second the therapist and the parent talked about the interactions monitoring the uploaded video and the therapist coached how to interact with the child. The purpose of the present study was to evaluate the effect of developed telehealth parent training.

#### **Method**

Children with neurodevelopmental disorder and his mother participated. They showed the behavior problems at home, such as tantrum and shouting. At the intake session, the therapist talked with the mother and determined target behaviors and the mother was instructed to give

positive reinforcement to the child's positive behaviors and adherence. The mother received the telehealth intervention sessions at their home using an iPad. Consultation with Skype on iPad were conducted for 4 sessions in a month. Prior to weekly video consultation, the mother uploaded the videos on child-mother interactions to a cloud and the therapist checked these videos before weekly consultation. The mother received 60-min online consultation sessions once a week.

#### **Results**

All of the speech of the therapists and parent was video recorded and transcribed as written text. After 4 telehealth parent training sessions, the verbal responding of the mother about the child's appropriate behaviors, provision of positive interaction with the child, and adherence increased. And, the verbal responding of the mother about the child's negative behaviors and negative emotion drastically decreased.

#### **Discussion**

The result indicated that telehealth parent training promoted positive child-parent interactions and decreased negative interactions and emotion by low-dose intervention. The questionnaire showed high satisfaction. Since telehealth program includes the video scenes of the direct child-parent interaction at home, this facilitates the specific advice from the therapist.

### **The Effect of Emotional Regulation Skills Intervention for Adolescents' Relationship**

**Noguchi Yuka, Kambara Kohei, Kira Yugo, Shigematsu Jun, Matsumoto Misuzu, Hako Suzuka & Ogata Akiko, Hiroshima University, Japan**

#### **Introduction**

For adolescents, maintaining positive relationships among their peers is an important resource to improve their mental health. Given this, anger is a matter of concern because it may cause adolescents to behave aggressively towards their peers and lead their relationships to worsen.

#### **Method**

We divided 100 adolescent Japanese high school students into two groups (intervention and control group) and conducted three sessions to improve their emotional regulation skills. In the first session, we taught the adolescents how to recognize their anger. In the second session, we taught the participants how to stop their angry emotions from increasing, and in the final session, we taught relaxation techniques to modify anger. We also assigned homework in every session to promote the use of the skills in daily life. To confirm the adolescents' treatment compliance, we excluded those adolescents who did not complete the assigned homework from our analysis. We conducted two-way mixed ANOVA (Group: intervention vs control, Time: pre (before first session) vs post (after final session)).

#### **Results**

The results showed that adolescents in the intervention group significantly improved in their inter-relationship maintenance skills from pre-intervention to post-intervention, whereas the participants in the control group showed no improvement. This result suggested that the emotional regulation skills intervention was effective.

#### **Discussion**

That is, these interventions taught the participants emotion regulation skills that may have encouraged the adolescents to maintain their relationships with their peers because it led them to think calmly and choose an appropriate strategy to handle their anger, taking into account both their own feelings and the other person's feelings.

### **The Association Between Parenting, Self-Compassion, Friendship and Depression in Chinese Adolescents**

**Mengya Zhao & Anke Karl, University of Exeter, United Kingdom**

**Peng Wang, Shandong Normal University, China**

#### **Introduction**

Self-compassion, i.e., being kind to oneself in difficult times (Neff, 2003), has proven beneficial for emotional well-being, e.g., decreasing depression, in adults (e.g., Raes, 2011) and adolescents (e.g., Bluth et al., 2016). Although there is some evidence for its beneficial role for interpersonal functioning in adults as indicated by better resolving of relationship conflicts (Yarnell & Neff, 2013), there is limited research about the association between self-compassion and social functioning, i.e., friendship, in adolescents. It is also not well understood how an individual's early family or care giver experience (Neff & McGehee, 2010) are associated with trait-level self-compassion. Based on previous research on attachment (e.g., Jiang et al., 2017), it can be hypothesized that parenting is important for the formation of self-compassion in adolescence, to date there is limited research exploring the association between parenting and self-compassion. The current study therefore aimed to explore the association between parenting, self-compassion, friendship and depression in a sample of Chinese adolescents.

#### **Method**

A cross-sectional survey study was conducted in 567 Chinese adolescents (M age = 13.41, SD age = 1.71; 43.9 % girls) using a revised brief version of Alabama Parenting Questionnaire (Shelton et al., 1996) to assess parenting, a short form of the Chinese version of Self-compassion Scale (Zhao et al., in preparation) to assess self-compassion, twelve items from the Network of Relationships Inventory (Furman & Buhrmester, 1985, 2009) to assess friendship quality and the short form of Mood and Feelings Questionnaire (Angold et al., 1995) to assess depression.

#### **Results**

Using structure equation modelling we identified a model that significantly explained levels of depression. In particular, as expected, there were negative associations between positive parenting and depression, and self-compassion was negatively associated with depression. Also, as hypothesized, positive parenting was positively associated with self-compassion and friendship. In addition, adolescents with higher self-compassion tended to report lower levels of conflicts with friends. Contrary to our expectation, however, conflict with friends was not associated with depression and positive friendship experience was positively associated with depression.

#### **Discussion**

The current research implies the importance of self-compassion on mental well-being and social skill development in Chinese adolescence.

## **Adverse Childhood Experiences and Family Resilience Among Children with Autism Spectrum Disorder and Attention Deficit/Hyperactivity Disorder**

**Kim Zlomke, Mallory Schneider, Jessica VanOrmer, Nicholas Fadoir & Phillip Smith, University of South Alabama, USA**

### **Introduction**

Youth diagnosed with attention deficit/hyperactivity disorder (ADHD) and/or autism spectrum disorder (ASD) report higher rates of adverse childhood experiences (ACEs) in comparison to neurotypical youth. Exposure to early adversity has been associated with a variety of negative factors including parental distress and family dysfunction. A family's ability to bounce back from negative life circumstances, or resilience, is predicated by overall family functioning. Children with neurodevelopmental disorders such as ADHD or ASD may present with unique behavioral stressors which may impact family functioning and resilience. The relationship between ACEs and family resilience has not been explicitly examined in youth with neurodevelopmental disorders and research has failed to examine the effect of comorbidity on ACEs or family resilience. The purpose of the present study was to extend the literature by including youth with comorbid ASD+ADHD and to examine family resilience by both diagnostic category and the presence of ACEs.

### **Method**

Participants included 2,208 children between the ages of 6-17 from the 2016 U.S. National Survey of Children's Health (Mage = 12.28, SD = 3.35; 69.2% male; 79.2% white). Participants were randomly selected based on diagnostic group, with the resulting sample including those with parent reported diagnoses of ASD (21.6%), ADHD (27.2%), comorbid ASD+ADHD (24.1%), or no presence of neurodevelopmental disorder (27.2%).

### **Results**

A one-way ANCOVA examined the main effect of diagnostic group on number of ACEs endorsed while controlling for demographic variables, including child gender, ethnicity, age, and Family Poverty Level ratio. The resulting significant main effect ( $F(3, 2200) = 15.90, p < .001, \eta^2 = .02$ ) suggests that the total number of ACEs differed by diagnostic group (ADHD > ASD, ASD+ADHD, Neurotypical). A 4 (diagnostic group) x 3 (0, 1, or  $\geq 2$  ACEs) ANCOVA examined the main effects and interaction on family resilience while controlling for demographic variables. Univariate analyses revealed a significant main effect of diagnostic group on family resilience,  $F(3, 2192) = 8.76, p < .001, \eta^2 = .01$ , suggesting family resilience differed by diagnostic group (ASD+ADHD < ASD, ADHD, Neurotypical). When controlling for diagnostic group, univariate analyses revealed a significant main effect of ACEs on family resilience ( $F(2, 2192) = 12054, p < .001, \eta^2 = .01$ ). Parents of a child with 1 ACE reported higher family resilience compared to families of children with no history of ACEs or with  $\geq 2$  ACEs.

### **Discussion**

Given that family resilience may serve as a protective factor to stressors, this research is a needed step to examine resilience among families of vulnerable youth. Overall, the results from the current study indicate that ADHD youth may be at particular risk for experiencing higher rates of ACEs and for having lower levels of family resilience when comorbid with ASD. This is problematic given that in the present study youth who experienced two or more ACEs had significantly lower levels of family resilience. Thus, youth with ADHD may be at higher risk for adverse outcomes following ACEs and; thus, more family-based resources and interventions are needed to support youth with comorbid ASD+ADHD and their families.

## **Clinical Dissemination and Implementation of EBTs from the Ground Up: How to Develop a Multi-Disciplinary, Multi-Site CBT "Clinical Dissemination Practice". The Case Example of The Child & Family Institute**

### **Adam Weissman**

Established in 2011 as the very first "Clinical Dissemination Practice" (CDP), The Child & Family Institute (CFI) was founded on four core unifying missions: 1) Student Training, 2) Community Outreach and Advocacy, 3) Interdisciplinary Behavioral Health, and 4) Multi-State, Multi-Site Clinical Dissemination, all with a common goal of raising awareness and integrating local/regional resources and collaborations to disseminate best practices/evidence-based treatments (EBTs) for youth throughout the Northeastern United States, and eventually, nationwide. To achieve this goal, we have developed a unique "Clinical Practice Dissemination and Implementation" (CPDI) model, rooted in these 4 missions.

#### **1) Student Training**

Stage one of CFI's CPDI model was to train local doctoral students and pre-licensure psychologists-in-training in EBTs for youth emotional, behavioral, attention, and tic/habit disorders to increase the number of evidence-based providers in the regions we serve and the provision of lower-fee services to help reach the broader community. To do this, we developed in-house Pre- and Post-Doctoral Fellowship Training Programs in Clinical Psychology rooted in a modular-based CBT approach (e.g., MATCH-ADTC; Chorpita & Weisz, 2009; as well as evidence-based protocols for Selective Mutism; Kotrba, 2014; Obsessive-Compulsive Disorder; March, 2006; Tic and Habit Disorders; Woods, 2008, and the full array of youth psychiatric disorders and related issues). Our directors also carved out pro bono supervisory roles early on at local doctoral programs to help train students more broadly in EBTs. Over the past eight years, many of our students have gone on to start their own clinical practice and training institutes throughout the country (e.g., [www.marincabt.com](http://www.marincabt.com)).

#### **2) Community Outreach & Advocacy**

The second stage of CFI's CPDI model was to develop a community outreach, consultation, and advocacy program and platform to create broader opportunity for community education about CBT/DBT, and EBTs more broadly. As part of this program, CFI presents and consults frequently to schools, parents/families, clinicians, and community organizations in the regions we serve. We also bring renowned speakers to the communities we serve to help further our mission of clinical practice dissemination, beyond the scope of what CFI can necessarily provide (our 2019 speakers have included Drs. Bob Leahy, Dennis Tirsch, and Dean McKay). In addition, CFI's directors reside on city, county, and state-wide CBT and psychology association governance boards in the regions we serve, and utilize these platforms to forge collaborative efforts, host community-wide events, and advocate for best practices with youth from both a clinical and public policy standpoint.

#### **3) Interdisciplinary Behavioral Health**

The third stage of CFI's CPDI model was to partner with local experts in other behavioral health specialties outside of clinical psychology to create an integrated behavioral health institute, promoting best practices for youth, not only within the field of clinical psychology, but also occupational therapy, speech therapy, holistic health and nutrition, psychiatry, neuropsychology, educational consulting, academic remediation, and more. In doing so, our two-pronged goal was to create an ongoing dialog with, and educate, the other behavioral health providers in our region about EBTs for youth, as well as to provide more integrated behavioral health programming and coordinated care for families in our region requiring multiple ongoing services.

#### **4) Multi-State, Multi-Site Clinical Dissemination**

The final stage of CFI's CPDI model, currently underway, is multi-state, multi-site development to promote greater geographic dissemination and implementation of EBTs, in an effort to reach the needs of more geographically diverse communities, with an emphasis on those with limited access to EBTs. To accomplish this, we have collaborated with local practitioners and organizations, community by community in the Northeastern United States/Tri-State Area (NY, NJ, and CT to start) to assess the mental health landscape and access and/or barriers to EBTs for the full range of youth mental health conditions. We have since developed 3 central offices in Scarsdale, NY, midtown Manhattan, and Park Slope, Brooklyn, and 3 satellite offices in Bergen County, NJ, Greenwich, CT, and Mt. Kisco, NY with tentative plans on the horizon for a West Coast office and a remote/online Florida practice (to begin). We also strategically engage in specialized niche program development based on the unique needs of each community (e.g., "Brave Voices" Selective Mutism Program, Habit Reversal Training, Adoption/Attachment Service, Virtual Reality Therapy, etc. in communities where no such services exist). Finally, we have also developed steep sliding scale services and a scholarship fund to increase access to services in our middle-lower SES communities.

Preliminary feedback from clients, students, collaborators, local organizations, stakeholders, and the broader communities in the regions we serve has been overwhelmingly positive. As we continue to build upon these four core missions, we launch our fifth mission, via this presentation, to teach, consult, and train new EBT practitioners how to develop their own CDP (Clinical Dissemination Practice), using our CPDI model, to further disseminate EBTs for youth, as well as evidence-based practitioners and program/site development, nationwide.

### **Competent Parents – Satisfied Children? Short- and Long-Term Effects of the Positive Parenting Program (Triple P) on the Health-Related Quality of Life**

**Max Supke, Wolfgang Schulz & Kurt Hahlweg, Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany**

#### **Introduction**

Health-related quality of life (HRQoL) can be defined as "how well a person functions in their life and his or her perceived well-being in physical, mental, and social domains of health" (Hays & Reeve, 2017, p. 570). It is assumed that infants, toddlers and preschoolers benefit the most from competent parenting, because of the developmental plasticity of the infant brain. The multicultural-accepted and evidence-based Positive Parenting Program (Triple P; Sanders, 2012), which aims to increase the parental knowledge, skills and confidence, tries to achieve positive effects for the participating parents and their children.

#### **Method**

This study examined whether the children of parents, who participated during the kindergarten age of their child in the Triple P-courses, showed short- (1, 2, 3 years) and long-term effects (10 years) in their HRQoL. Additionally, the stability of the childish HRQoL and the degree of conformity of parental assessment are reported.

To investigate these hypotheses children from N = 246 families from the project Future Family III (Hahlweg & Schulz, 2018) were analyzed. For the analysis of the parental information only families (N = 170) with both spouses were studied (EG = 105, CG = 65; ageMother = 36, SD = 4; ageFather = 39, SD = 5). The HRQoL-data was collected through interviews with the mothers, fathers and children using the KINDLR (Ravens-Sieberer & Bullinger, 1998). Pearson's r and t-Tests were computed.

#### **Results**

After 1 year ( $p = .42$ ,  $d = 0.11$ ) the children of the EG reported higher HRQoL-scores, while after 2 ( $p = .55$ ,  $d = 0.08$ ) and 3 years ( $p = .40$ ,  $d = 0.10$ ) the children of the CG showed higher scores. The retest-reliability was  $r_{1-3years} = .38$ . The mothers in the EG reported a higher HRQoL-score of their children after 1 ( $p = .53$ ,  $d = 0.10$ ) and 2 years ( $p = .65$ ,  $d = 0.08$ ). The retest-reliability for mothers was  $r_{1-2years} = .37$ . After 10 years the children ( $p = .09$ ,  $d = 0.21$ ) and the mothers ( $p = .14$ ,  $d = 0.23$ ) of the EG reported higher HRQoL-scores, while the fathers ( $p = .34$ ,  $d = 0.15$ ) of the CG rated their children higher. The degree of conformity was  $r_{Kid-Mother} = .56$ ,  $r_{Kid-Father} = .52$  and  $r_{Father-Mother} = .62$  after 10 years.

#### **Discussion**

While the participation showed minimal effects in the short-term follow-ups, it could be demonstrated that the children and mothers showed small long-term effects ( $d > 0.20$ ) in their HRQoL. Triple P mothers reported higher scores for their children at all follow-up assessment points. In the early years, the HRQoL of children seems to be a stable feature. Finally, the degree of conformity was high between all family members after 10 years.

Implications for CBT:

The participation in Triple P-courses should be recommended, since it seems to have long-term effects on the childish HRQoL. Furthermore, interventions for children focussing the HRQoL should be executed in the early years, because it seems to be a stable feature.

### **Pakistani Chapter to CBT at Crossroad: A Randomized Trial of a Group Self System Integrated Cognitive Behavioral Intervention and Mechanisms in Prevention of Major Depressive Disorder in an At-Risk Sample of High School Adolescents**

**Nazia Ishfaq, Government College University Lahore, Pakistan**

**Aroob Fatima, FMH College of Medicine and Dentistry, Pakistan**

**Naeem Leghari, Nishter Medical University and Hospital, Pakistan**

**Farah Malik, Tazvin Ijaz, Mahwesh Arooj & Ayesha Majeed, Government College University Lahore, Pakistan**

#### **Introduction**

Self-Regulation is a prognostic variable for major depression. Interventions in self-regulation may prevent the onset of new cases of major depression. This investigation attempted to prevent Major depressive Disorder through self-system integrated with cognitive therapy in a sample of high school adolescents with an elevated risk of disorder.

#### **Method**

Adolescents at risk for future depressive disorder by means of having elevated depressive symptomatology were selected with a two-stage case-finding procedure. The Siddiqui Shah Depression Scale (SSDS) was administered to 1139 students; adolescents with elevated SSDS scores were interviewed for DSM V diagnostic status. Subjects with current depressive diagnoses were referred to non-experimental services. The remaining 137 consenting subjects were considered at risk for future depression and randomized to either a self-system group prevention intervention or a "usual care" control condition. Subjects were reassessed for DSM-V diagnostic status after the intervention and at 6- and 12-month follow-up points.

#### **Results**

Survival analyses indicated a significant 12-month benefit from the prevention program, with depressive disorder total incidence rates of 12.7% for the intervention, versus 26.5% for the control condition

## Discussion

Depressive disorder can be successfully prevented among adolescents with an elevated future risk. This is the first report of such a trial of CBT at turning point from South Asia and further studies are needed to generalize these findings.

## Coaching in Parent-Child Interaction Therapy: Sequential Analysis of Interaction Between a Mother of Child with Autism Spectrum Disorder and a Therapist in Child-Directed Interaction Coaching

Yumi Kaneyama & Hiroshi Sato, Kwansai Gakuin University, Japan

Miyuki Sato, Kyoto University of Education, Japan

### Introduction

Parent-Child Interaction Therapy (PCIT) is an evidence-based behavioral parent training program (McNeil & Humberg-Kigin, 2010). PCIT includes in vivo feedback, referred to as “coaching” (Shanley & Niec, 2010). The first phase of PCIT is called Child-Directed Interaction (CDI). In the CDI phase, coaching is conducted to increase parental skill in the use of reflections, child-focused descriptions, and genuine, specific praises (called PRIDE skills) and decrease their use of questions, commands, and criticisms (Barnett et al., 2014). Ginn et al. (2017) suggested that CDI coaching was effective for children with autism spectrum disorder (ASD). However, less PCIT literature focuses on the interaction between therapists and parents in CDI coaching. Therefore, this study focused on CDI coaching to assess which therapist and parent behaviors would improve the parent’s PRIDE skills.

### Method

Participants were a mother-child dyad. The child was six years old and was diagnosed with ASD by a doctor. The therapist was a clinical psychologist who joined a PCIT initial workshop and was provided supervision by a licensed clinical psychologist. This study examined CDI sessions 2 and 3 based on a previous study (Barnett et al., 2014). The therapist’s behaviors were coded by the CDI Observational Assessment of Coaching Highlights (COACH system; Funderburk et al., 2017), and the mother’s behaviors were coded by the Dyadic Parent-Child Interaction Coding System-III (DPICS-III; Eyberg et al., 2005). A sequential analysis (Bakeman & Quera, 2011) was conducted to examine the functional relationship between the therapist’s and the mother’s behaviors. The adjusted residual (Z) was calculated. Z is positive if the observed behavior is greater than chance and negative if the observed behavior is less than chance (Bakeman & Quera, 2011).

### Results

The main results are as follows. In the therapist-mother interactions, the therapist’s prompting of skills appeared to increase the mother’s behavior descriptions ( $Z = 1.93, p < .05$ ).

After the therapist provided labeled praise, the mother used more reflection and questions (reflection’s  $Z = 1.66, p < .10$ ; questions’  $Z = 1.66, p < .10$ ). In the mother-therapist interactions, the mother’s reflection appeared to increase the therapist’s labeled praise ( $Z = 2.74, p < .01$ ). In addition, unlabeled praise by the mother showed a higher probability of being preceded by the therapist’s prompting ( $Z = 2.74, p < .01$ ).

### Discussion

This study assessed the function of interactions between a therapist and a mother. In therapist-mother interactions, the study showed that the mother produced behavior descriptions more easily than other PRIDE skills after the therapist’s prompting. In addition, praise by the therapist had the potential of increasing reflection and questioning by the mother. Results suggest that in the mother-therapist interactions, the labeled praise and prompting that the therapist provided after the mother’s behavior was used with the intention of increasing the mother’s use of PRIDE skills.

## A Randomized-Controlled Trial of UTalk: An Innovative Approach to Preventing Adolescent Peer Victimization and Reducing Social Anxiety and Depression

Annette La Greca & Jill Ehrenreich-May, University of Miami, USA

Laura Mufson, Columbia University, USA

### Introduction

Social anxiety disorder (SAD) and depression develop during adolescence and are often comorbid, chronic, and impairing. Yet, few adolescents with SAD or depressive disorders receive treatment, highlighting the need for broadly-accessible interventions, such as those delivered in schools, to prevent SAD and depression. Moreover, interventions to reduce interpersonal peer victimization (IPV) (e.g., being rejected, excluded, or embarrassed by peers) among older adolescents (14-18 years) are lacking, although IPV occurs frequently and is a key factor contributing to SAD and depression. Thus, we developed and evaluated UTalk, a unified school-based approach to reducing adolescent IPV and symptoms of SAD and depression.

### Method

We conducted a randomized-controlled trial of UTalk, targeting adolescents with elevated IPV and subclinical symptoms of SAD or depression. The 12-week intervention combined effective CBT strategies for anxiety (e.g., social exposures) and interpersonal strategies for depression (e.g., teaching communication skills) and focused on peer relations. After screening, 49 adolescents (71% girls) were randomized to UTalk ( $n=26$ ) or education/support (ES;  $n=23$ ), an active-control condition. Primary outcomes were obtained from adolescents and independent evaluators (masked to condition) at baseline, post-intervention, and 6-month follow-up. Adolescents assigned to UTalk and ES met for 2 individual and 10 group sessions (5–8 adolescents) during school.

### Results

Most adolescents (82%) completed the intervention, attending an average of 10 sessions, and satisfaction was high. Multivariate analyses (intent-to-treat) evaluated the effects of time, condition, and their interaction on primary outcomes, revealing that adolescents assigned to UTalk showed significant declines in SAD, depression, and IPV (all  $p$ ’s $<.05$ ; effects were medium to large). UTalk effects were maintained or improved at 6-month follow-up ( $p$ ’s $<.05$ ). Moreover, adolescent IPV declined to levels comparable to those of community adolescents. Improvements were noted for adolescents assigned to ES; however, UTalk was more effective than ES in reducing depression ( $p<.05$ ) and social anxiety ( $p<.08$ ) for girls.

### Discussion

Although evaluation is needed with a larger sample, it appears that a preventive school-based intervention such as UTalk, which combines CBT strategies with an interpersonal approach, is feasible to administer in schools, with high satisfaction, and significant benefit. UTalk takes a novel approach to prevention, focusing on adolescents experiencing peer victimization. Adolescents experiencing peer victimization are two to three times more likely to develop an anxiety disorder than non-victimized adolescents and more likely to develop multiple internalizing disorders as adults (Stapinski et al., 2014). Overall, UTalk is a promising intervention that warrants continued study.

## **The Mindful Parenting Program Initiative in Budapest, Hungary: Preliminary Findings from the First Group of Parents**

**Marianna Szabo, University of Sydney, Australia**

**Monika Miklosi, ELTE PPK Pszichológiai Intézet Budapest, Hungary**

**Maria Gallai, Heim Pál Gyermekkorház Mentálhigiéniai Központ Budapest, Hungary**

### **Introduction**

Mindfulness based interventions are becoming widely accepted in Western societies as a representing a 'third wave' of cognitive behavioural treatments. Research evidence is also accumulating to show the effectiveness of Mindful Parenting training (MPT). MPT has been shown to reduce parental stress and improve parent and child well-being in several studies (e.g. Bögels and Restifo, 2013). In Eastern European countries, however, such interventions have not been readily available to date. The present study explored the experiences of the first group of parents taking part in a Mindful Parenting program introduced in Hungary.

### **Method**

Parents of children with behavioural or developmental disorders were referred to the program by their treating physicians. They participated in an 8-week Mindful Parenting program held at an outpatient public hospital in Budapest. The program was a brief version of the Mindful Parenting program developed by Bögels and Restifo (2013), adjusted to parents' reported time commitments and practical difficulties to attend mental health services. Rate and cause of drop-out, non-attendance, adverse events, and frequency of home practice were recorded. Parents completed self-report questionnaires at pre-treatment, post-treatment and 8-week follow-up, reporting on general and parental mindfulness, self-efficacy, psychological well-being, and cognitive emotion regulation. At 16 weeks post-baseline, semi-structured interviews with five participants were carried out to explore their experiences.

### **Results**

Thirteen parents were referred and seven opted to participate after an initial interview. During the 8-week program, drop-out and non-attendance rates were low, no adverse events were reported. Most parents engaged in home practice at least 3-4 times a week. At post-test, general-self efficacy, satisfaction with parental role, and the use of the cognitive emotion regulation technique of perspective taking and positive reappraisal showed improvement of medium to large effect sizes. However, no changes were observed in general mindfulness, and only the Listening to the child with full attention subscale of the mindful parenting scale indicated improvement. However, at 8-week follow-up, both general and parental mindfulness, general and parental self-efficacy, parental well-being, and the use of all adaptive emotion regulation strategies increased and parental stress decreased, showing medium to large effect sizes.

### **Discussion**

Our study indicates that a brief version of Bögels and Restifo's (2013) mindful parenting program is perceived to be acceptable and beneficial for Hungarian parents of children with externalising disorders. A larger clinical trial to assess the program's effects against a control group is now warranted.

## **The Impact of Behavioural Activation Treatment on the Symptom of Anhedonia in Depression: A Qualitative Study**

**Rebecca Watson, Kate Harvey, Laura Pass, Ciara McCabe & Shirley Reynolds, University of Reading, United Kingdom**

### **Introduction**

Behavioural Activation (BA) treatment aims to improve mood by increasing positive reinforcement of healthy behaviours through identifying and increasing engagement in valued activities. Due to the focus of BA treatment on increasing positive affect and motivation, it would be expected that this treatment approach may be effective for those experiencing anhedonia (loss of interest and pleasure), however, this idea has not been explored. Therefore, the current study aimed to explore the impact of BA on the symptom of anhedonia in adolescent depression.

### **Method**

Clinical participants were recruited from a Child and Adolescent Mental Health Service after taking part in Brief Behavioural Activation treatment for depression. Thematic Analysis (TA) was used to identify and analyse patterns of meaning in the data-set, highlighting the most salient clusters of content. Constant comparative techniques were used to analyse the data, based on Braun and Clark's (2006) six stage thematic analysis method. This includes becoming familiar with the data, line by line coding, combining codes into potential themes, and reviewing themes.

### **Results**

Participants fell into three different categories – a) those who found treatment very helpful and anhedonia (as well as other symptoms) were alleviated, b) those who found treatment had a small positive effect, but all core issues still remain (typically low motivation), and c) those who did not find treatment helpful at all, and anhedonia (and other symptoms) were still present. Unsurprisingly, those who had benefited from BA were able to reflect and discuss their experiences, where as those who had felt no benefit from treatment were very difficult to engage, giving very brief responses to questions and unable to reflect on their experiences in any depth.

### **Discussion**

Behavioural Activation is an important and potentially beneficial treatment approach for adolescent depression. Further research should explore ways to alleviate motivational difficulties in this population.

## **Family, Relationship & Sexual Issues**

### **Marital Happiness Through "Ifs" and "Buts"?: Is the Divorce Probability After 5 and 25 Years Predictable on the Basis of Conjunction Usage in Marital Conflicts?**

**Max Supke, Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany**

**Joachim Engl & Franz Thurmaier, Institut für Forschung und Ausbildung in Kommunikationstherapie in München, Germany**

**Wolfgang Schulz & Kurt Hahlweg, Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany**

### **Introduction**

The quality of language communication between partners is a determining factor for divorce. Function words (e.g. conjunctions), which are short linkers between words, serve as markers of emotional state and cognitive styles. Conjunctions (e.g. if, but, as) are used to connect sentences usefully and establish a relationship between them. However, psychological functions of this word class were barely investigated until now. The purpose of this study was to gain first empirical findings about the usage of conjunctions in marital conflicts. This study

examined whether the divorce probability of married couples after five and 25 years could be predicted on the basis of the number of used conjunctions.

#### **Method**

To investigate these hypotheses 172 conflict-conversation-transcripts from N = 65 non-distressed couples (age: M = 27 years, SD = 5; months together: M = 43, SD = 26) were linguistically analyzed (“Linguistic Inquiry and Word Count: LIWC2015”; Pennebaker, Booth, Boyd & Francis, 2015). As a preparation for their marriage 46 of these couples took part in the communication training “Ein Partnerschaftliches Lernprogramm“ (EPL; Job, Thurmaier, Engl & Hahlweg, 2016). Logistic regression models were computed.

#### **Results**

The number of conjunctions turned out to be a significant predictor for the divorce probability (many conjunctions = protective factor) after five (OR = 0.63,  $p < .001$ ) and 25 years (OR = 0.75,  $p = .007$ ).

#### **Discussion**

The number of conjunctions represents an indicator for complex, coherent marital discussions. Spouses understand each other better, since they explain their point of view in a detailed way. In the long run an insightful framework for marital discussions is created and the divorce probability decreases.

Literature:

Job, A.-K., Thurmaier, F., Engl, J. & Hahlweg, K. (2016). EPL and its adaptations: Research and implementation in Germany and beyond. In J. J. Ponzetti (Ed.), Evidence-based approaches to relationship and marriage education (pp. 197-216). New York: Routledge.

Pennebaker, J. W., Booth, R. J., Boyd, R. L. & Francis, M. E. (2015). Linguistic Inquiry and Word Count: LIWC2015. Austin, TX: Pennebaker Conglomerates (www.LIWC.net).

### **Third Wave of CBT in Couple Therapy - an Overview**

**Veronika Dacerová & Kateřina Bartošová\*, Masaryk University, Czech Republic**

**Sandra Gembčiková, Psychosomatická klinika Praha, Czech Republic**

#### **Introduction**

The aim of this research was to map current knowledge in the field of third wave of cognitive behavioral psychotherapy(CBT) in conjunction with couple therapy.

#### **Method**

This poster brings an overview of the results of 29 studies that were selected based on systematic selection using Boolean operators and keywords in the EBSCO and Scopus databases in the period 1998-2018.

#### **Results**

A comprehensive summary of existing empirical research and findings in the chosen area is provided. Analysis of selected studies brings answers to the questions, what was the role of certain approaches of the third wave of CBT in pair therapy and what can be done in further research

#### **Discussion**

Most valid studies have been identified within the approach of Integrative Behavioral Couple Therapy. These studies described the mechanism of change and the fundamental influence of this intervention on marital satisfaction, stability in relationship and communication. At other approaches of the third wave of cognitive behavioral psychotherapy, only 0-3 valid articles were found.

### **Dysfunctional Cognitive Beliefs as a Sustaining Factor of Involuntary Celibacy**

**David Minarčík & Kateřina Bartošová\*, Masaryk University, Czech Republic**

**Jana Schwarzová, University Hospital in Ostrava, Czech Republic**

#### **Introduction**

This paper's main focus is on involuntary celibacy and sexual inexperience in adulthood in the context of Beck's dysfunctional beliefs theory.

#### **Method**

A survey research using Personality Belief Questionnaire – Short Form (PBQ-SF) and Brief Sexual Attitudes Scale (BSAS).

#### **Results**

106 respondents participated, men who are involuntary celibates scored significantly higher on PBQ-SF in general and also on scales which are connected to avoidant and paranoid personality disorders. They are also more permissive in their sexual attitudes and at the same time are more focused on instrumentality rather than communion.

#### **Discussion**

We hypothesize that dysfunctional beliefs might be one of the most important sustaining factors that prevent people from getting sexual experience and leaving involuntary celibacy.

### **Psychological Adjustment of Women Who Gave Birth to Infants Adopted by Other Families: The Role of Openness of Adoption and Perceived Social Support**

**Meghan Cody & Bailey Goodman, Mercer University College of Health Professions, USA**

#### **Introduction**

Research on the psychological adjustment of women who have given birth to an infant adopted by another family is much more limited than that on other members of the “adoption triad” (Wiley & Baden, 2005). The current study sought to examine stressor-related psychopathology (posttraumatic stress and complicated grief symptoms) among mothers who had placed children for adoption.

#### **Method**

Participants were recruited via social media and email groups and were eligible if they were over the age of 18, had given birth to a child in the United States who was placed in a domestic adoption, and if the adoption had occurred without the influence of child protective services. Participants (N = 155) completed a 30-minute online survey consisting of questions related to demographics, adoption characteristics, social support at the time of the adoption, and current psychopathology symptoms. Openness of adoption was characterized based on the participant's report of whether contact with the child and the adoptive family was allowed (open) or not allowed (closed) at the initiation of

the adoption and currently. Four distinct groups were formed: Always Open (n = 82), Always Closed (n = 22), Changed to Open (n = 35), and Changed to Closed (n = 16).

#### **Results**

Participants in the Always Open group reported higher total perceived social support at the time of the adoption than those in the other three groups,  $F(3, 33.55) = 14.58, p < .001, \text{partial } \eta^2 = .23$ . In order to examine post-stressor symptoms tied to the adoption, a MANOVA was run with scores on the Impact of Events Scale-Revised (IES-R) and Prolonged Grief Questionnaire (PG-13) as the dependent variables. There was a significant difference in symptoms of PTSD and complicated grief based on adoption openness group,  $F(6, 288.00) = 4.13, p < .001$ ; Wilk's  $\Lambda = 0.85, \text{partial } \eta^2 = .08$ . Results showed that the Always Closed and Changed to Closed groups reported higher levels of PTSD symptoms on the IES-R,  $F(3, 7.83) = 4.31, p < .001; \text{partial } \eta^2 = .08$ .

#### **Discussion**

Similarly, the Always Closed and Changed to Closed groups reported higher levels of complicated grief symptoms on the PG-13 than the Always Open group (although the Changed to Open group did not differ from the other three on this measure),  $F(3, 983.44) = 6.51, p < .001; \text{partial } \eta^2 = .12$ . When perceived social support was included as a covariate in a MANCOVA, there was no longer a statistically significant difference in PTSD and complicated grief symptoms between the adoption openness groups,  $F(6, 282) = 1.91, p = .08, \text{Wilk's } \Lambda = 0.92, \text{partial } \eta^2 = .04$ . In summary, mothers who participated in open adoptions showed lower PTSD and complicated grief symptoms, but when covarying social support at the time of adoption, these effects were no longer significant.

### **Relationships and Couples Dynamics Within the Stages of Change Model: Theoretical Considerations and Application of the Stages of Change Model Within Relationship Dyads**

**Vandana Deshmukh, Holistic Clinical Psychology Services, Australia**

#### **Introduction**

Introduction: Relationship difficulties account for psychological distress and are also correlated with significant mental health issues including the experience and management of mood disorders, anxiety disorders, chronic pain and addictive disorders. The transtheoretical model suggested by Prochaska and Diclemente has been explored and validated within the framework of addictive disorders and gambling and applies to the foundation of motivational interviewing and therapy. However, this model has never been tested within a framework related to dyads, experiencing relationship difficulties, within couple and significant other relationship interactions.

#### **Method**

Testing this model within a case study related to relationship difficulties facilitating assessment and treatment.

#### **Results**

Motivational strategies present clarity towards the stages of interaction within a relationship. This is a preliminary study to explore the hypothesis. The study also proposes further exploration of the stages of interactional dynamics within a relationship.

#### **Discussion**

The transtheoretical model may provide further direction to motivational interviewing skills and intervention within a relationship therapy process.

### **The Mediator Role of Interpersonal Emotion Regulation Between Couple Satisfaction and Intrapersonal Emotion Regulation, Attachment Style, and Cognitive Empathy**

**Floean Ionut Stelian & Costina Ruxandra Pasarelu, Babes Bolyai University, Romania**

#### **Introduction**

Background: It is known that emotion regulation, cognitive empathy, and attachment style play an important role in couple satisfaction. Interpersonal emotion regulation is a newer direction of emotion regulation research. Interpersonal emotion regulation refers to the strategies a person employs in order to regulate someone else's emotions. Little is known about the role of interpersonal emotion regulation in couple. Objective: The objective of our study is to test interpersonal emotion regulation as a mediator between couple satisfaction and cognitive empathy, intrapersonal emotion regulation, and attachment style.

#### **Method**

Via online announcements on Facebook, 105 participants enrolled to take part in the study. Seventy-eight percent were females, the mean age was 21 years old ( $SD=4.49$ ), and the average relationship length was 28 months ( $SD=33.17$ ). All participants had been in a relationship for at least three months. Participants received an email with a link to fill in five scales which were in a google form. The couple satisfaction was measured with Couple Satisfaction Index (CSI; Funk & Rogge, 2007), intrapersonal emotion regulation, with Deficit in Emotional Regulation Scale (DERS; Gratz, & Roemer, 2004), interpersonal emotion regulation, with Managing the Emotions of Others Scale (MEOS; Austin & O'Donnell, 2013), cognitive empathy, with Perspective Taking Scale (PTS; Pélouquin, Lafontaine & Brassard, 2011), and attachment style, with The Experiences in Close Relationship Scale (ECR)-short form (Wei, Russell, Mallinckrodt, & Vogel, 2007).

#### **Results**

We tested three mediation models corresponding to our three hypotheses. In order to test our hypotheses, model 4 from PROCESS v3.2.01 was used in SPSS (Bolin, 2014). In line with our hypotheses, our main findings are that (1) interpersonal emotion regulation mediates the effect of intrapersonal emotion regulation on couple satisfaction; (2) interpersonal emotion regulation mediates the effect of avoidant attachment style on couple satisfaction; (3) interpersonal emotion regulation mediates the effect of cognitive empathy on couple satisfaction.

#### **Discussion**

Even though the role of emotion in couple satisfaction was extensively researched, most of the attention was directed to the way people regulate their own emotions. This study shed light on how interpersonal emotion regulation affects couple satisfaction. The importance of interpersonal emotion regulation was underlined and a future study should experimentally assess its role in couple functioning.

### **Value of Sexuality and Intimacy in Later Life: A Qualitative Pilot Study**

**Gabriela Gore-Gorszewska, Jagiellonian University, Poland**

#### **Introduction**

Intimacy and sexuality accompany people throughout their lives. As research show, there is no definite age above which erotic needs and desires disappear. The key to successful counselling and therapy is to understand the diversity in seniors' perception of the subject,

unfortunately life-span psychology's knowledge on sexuality in older age is limited. The aim of this pilot study was to determine the importance of sexuality and intimacy for older adults and to introduce their views into a scientific debate.

#### **Method**

An original pen-and-paper questionnaire was used to obtain the qualitative and quantitative data regarding participants' intimate life. Respondents of the mixed methods survey consisted of 109 individuals aged 50-89 ( $M=62.5$ ;  $SD=8.3$ ). 57% of them were women, 43% men. Half (50%) were married, 22% living with a partner, 28% declared being single or widowed.

#### **Results**

Sexuality and intimacy were rated relatively high in the average respondents' view (7.5 on a scale of 1-10). Three main categories of justification given for high value scores (7-10) were: a fundamental human need, significance in a relationship, welfare of an individual. Lower scores were accompanied by statements about: other aspects more important (4-6), changes in role of sexuality in a lifespan, health issues (3-6), sex is not for old people (1).

#### **Discussion**

Qualitative analysis indicates that seniors acknowledge the positive influence of sexual activity on an individual, both physically and psychologically. Good sex is recognised as the source of life energy and motivational factor, improving individual's health, well-being and self-esteem. Numerous seniors emphasize sexuality's impact on building and strengthening the bond between partners.

A part of Polish older cohort is more tolerant and open-minded than would be expected from a community perceived as religious and traditional. The study shows that sexuality in its physical, psychological and emotional dimension is a significant component of life for some older adults, and therefore should not be ignored neither in research, education, nor in healthcare programmes.

DeLamater J. (2012). Sexual expression in later life: a review and synthesis. *J Sex Res*; 49: 125-41.

Graf AS, Patrick JH. (2014). The influence of sexual attitudes on mid- to late-life sexual well-being: age, not gender,

Implications: The study shows that sexuality is a significant component of life for some older adults -knowledge and understanding of this area seems valuable in a process of successful therapy or counselling.

### **"Yuck, They Are Kissing!": Disgust Towards Sex-Relevant and Sex-Irrelevant Stimuli Across Different Stages of Adolescence and Its Implications for Sexual (Dys)Functioning**

**Jessica Hinzmann, Charmaine Borg, Janika Heitmann & Peter J. de Jong, University of Groningen, the Netherlands**

#### **Introduction**

For prepubertal youth, sexual stimuli and activities elicit disgust and avoidance ("Yuck, they are kissing!"), yet in adolescence this avoidance shifts to sexual approach. One possible explanation is that disgust decreases in adolescence. However, this is not in line with dominant views about disgust's main function as a disease-avoidance mechanism. Current theories predict that the increased risk of pathogen transmission that is intrinsically related to sexual behaviors will be paralleled by a growth in disgust intensity. With this project we aimed to gain first insights into the largely ignored transition from disgust-induced avoidance to sexual approach that may contribute to sexual (dys)functioning.

#### **Method**

Two cross-sectional studies ( $N = 224$ ) were conducted in Germany and Poland. Participants were divided into three groups based on their age [preadolescence (9-11 years), early adolescence (12-14 years), middle adolescence (15-17 years)]. They received a self-report measure including 48 sex-relevant (e.g., kiss on mouth) and sex-irrelevant (e.g., share toothbrush) written scenarios with pictures to visualize the content. The scenarios involved sources of disgust that varied in their degree of familiarity (parents, best friends, strangers). For each scenario, participants rated their experienced disgust and happiness (control emotion) on a visual analogue scale.

#### **Results**

Overall, disgust responses were higher in early adolescence than in preadolescence, and lower in middle than in early adolescence. Additionally, disgust was overall weaker when the source of disgust was a familiar person compared to an unfamiliar person. Specifically, when parents were the source, sex-relevant disgust was higher in the groups of early and middle adolescents than in the group of preadolescents. Sex-relevant disgust elicited by a stranger or best friend, however, was lower in middle than in early adolescence.

#### **Discussion**

Overall disgust was higher in early adolescence compared to preadolescence which might reflect a defense mechanism that protects against health risks related to increased autonomy in adolescence. However, the finding that disgust overall and specifically sex-relevant disgust elicited by a stranger or best friend was lower in middle than in early adolescence is consistent with the view that repeated confrontation with disgusting stimuli might attenuate disgust, which could contribute to healthy sexual functioning. The heightened sex-relevant disgust in middle adolescents when parents were the source might reflect a functional avoidance mechanism of inappropriate sex mates.

### **Would I Stay, or Would I Go? The Impact of Context, Bodily Sensations, and Sex on Approach and Avoidance Tendencies**

**Leanne Kane, Julia Marinos & Andrea Ashbaugh, University of Ottawa, Canada**

#### **Introduction**

Anxiety appears to sometimes facilitate, inhibit, or have no effect on sexual arousal (Kane et al., submitted manuscript). A possible explanation for this difference may be how males and females interpret the similar bodily sensations provoked by anxiety and sexual activity (e.g., increased heart rate, sweating). Interpretation of the meaning of such sensations may vary by context and impact tendencies to stay in or escape from the situation. For instance, a person could interpret a racing heart differently if this symptom takes place during an exam versus while they are kissing their partner, potentially impacting whether they stay in or escape that situation, even though it is the identical sensation. However, no study to our knowledge has investigated whether context, type of bodily sensation, and the person's sex influence approach and avoidance tendencies.

#### **Method**

Participants ( $n=48$  females;  $n=56$  males) completed an online study wherein they read 18 vignettes describing different combinations of contexts (i.e., sexually arousing, threatening, or neutral situations) with sensations experienced in the context (i.e., sexual arousal, autonomic arousal, sadness). For each vignette, participants indicated how likely they were to stay and leave the situation (0 Not at all likely to 4 Extremely likely).

#### **Results**

Patterns of results were similar across sexes; therefore, corrected means and 95% confidence intervals (O'Brien & Cousineau, 2014) were computed for the whole sample. In neutral contexts, participants reported being more likely to stay if the sensations described were sexual arousal ( $M=2.68$ , 95% CI [2.51, 2.85]) compared to autonomic arousal ( $M=0.55$ , 95% CI [0.42, 0.68]) or sadness,  $M=1.00$ , 95% CI [0.87,

1.14]. In erotic contexts, participants reported being more likely to stay if the sensations described were either sexual arousal ( $M=3.51$ , 95% CI [3.89, 3.63]) or autonomic arousal ( $M=2.91$ , 95% CI [2.75, 3.07]) than sadness ( $M=1.99$ , 95% CI [1.84, 2.14]). In threatening contexts, participants were unlikely to stay in the situation regardless of the type of sensation described (sexual arousal:  $M=0.48$ , 95% CI [0.36, 0.60]; autonomic arousal:  $M=0.12$ , 95% CI [0.03, 0.21]; sadness:  $M=0.41$ , 95% CI [0.31, 0.52]). This pattern of results was inverted for likelihood to leave ratings.

#### **Discussion**

These results suggest that approach and avoidance tendencies are not only influenced by context but also by the sensations experienced in that context. It is possible that sexual and autonomic arousal sensations appear more appealing in erotic contexts, whereas in other contexts the autonomic arousal sensations become aversive. The vignette nature of the study limits generalizability; more research is needed on the impact of context and sensations on approach and avoidance tendencies. Cognitive-behavioral implications for the understanding of anxiety's role in sexual problems will be discussed.

### **The Association Between Ambiguous Loss on Positive Parenting Behavior in North Korean Defector Mothers: Sequential Mediating Effects of Depression and Parenting Stress**

**KyongAh Kim, HyunJung Heo & Hyein Chang, Sungkyunkwan University, South Korea**

#### **Introduction**

As of 2017, 70% of North Korean defectors living in South Korea are women (Ministry of Unification, 2017), and most of them have families or raise children in South Korea. North Korean defector mothers are reported to have high parenting stress that can interfere with positive and effective parenting behavior. This study focused on the unique aspect of North Korean defectors' psychological experience that may be conceptualized as Ambiguous Loss (AL) that has been defined as an unclear loss in view of incongruence between physical and psychological presence or absence (Boss, 1999). AL has been known to compromise individuals' psychological health (e.g., depression; Boss, 2004), and thus is also likely to contribute to difficulties in competently performing parent roles. Thus, this study aimed to examine processes by which AL may become associated with parenting behavior, with a particular focus on an indirect pathway that involves depression and parenting stress as sequential mediators.

#### **Method**

Participants were 100 North Korean defector mothers who left some of their families in North Korea, and who are now raising children in South Korea (Mean age = 41.3 years,  $SD = 7.16$ ). The boundary ambiguity, depression symptoms, parenting stress, and positive parenting behaviors were measured using self-report questionnaires. Using SPSS Macro, a sequential mediation model was estimated in which AL predicted positive parenting behavior via depression and parenting stress. For a more rigorous analysis, we controlled for number of past loss experiences, the time lapse of separation, and the number of families left in North Korea.

#### **Results**

Results indicated that AL was sequentially and significantly associated with high levels of depression ( $\beta = .26$ ,  $p < .05$ ) and parenting stress ( $\beta = .54$ ,  $p < .001$ ), which in turn predicted lower levels of the consistency factor of positive parenting behavior ( $\beta = -.15$ ,  $p < .01$ ). Additionally, the association between AL and parenting stress were significant ( $\beta = .20$ ,  $p < .05$ ) whereas the relationship between depression and consistency of positive parenting behavior were nonsignificant ( $\beta = -.05$ , ns.). Furthermore, the indirect effect of AL on positive parenting (consistency) through a sequential mediation of depression and parenting stress was significant [95% CI: -.0539, -.0036]. The indirect effect of AL on positive parenting (consistency) via parenting stress was also significant [95% CI: -.0757, -.0010]. However, the mediating effect of depression on the relationship between AL and positive parenting (consistency) was not significant [95% CI: -.0400, .0175].

#### **Discussion**

This study expands prior research on AL and suggest that AL may also interfere with individuals' positive parenting behavior, particularly its consistency. An intriguing finding was that AL seems to have effects on parenting stress and behavior that are independent of its effects on individuals' depression. Contrasting results for consistency vs. warmth factors of positive behavior also suggest that AL may have more specific effects on certain aspects of parenting behavior. This study offers clinical implications for promoting North Korean defector mothers' family functioning by highlighting AL as a promising target for intervention.

### **Elements of Mindful Parenting Related to Mothers' Stress Response and Childcare Happiness**

**Yuki Mizusaki, Nanako Matsuiwa, Komi Kato & Hiroshi Sato, Kwansai Gakuin University, Japan**

#### **Introduction**

The concept of mindful parenting comprises several aspects (Duncan et al., 2009, Mizusaki et al., 2018). Mizusaki et al. (2018) reported five factors of mindful parenting in a Japanese sample: observing, describing, non-reacting to inner experience (NI), non-reacting to children (NC), and distancing. However, it is unclear which aspect of mindful parenting can lead to improvement in parent mental health. The purpose of this study was to investigate what factors of mindful parenting may relate to stress response and happiness in Japanese mothers.

#### **Method**

A total of 190 mothers (M age = 36.13 years,  $SD$  age = 4.54 years, range = 23 to 48 years) with preschool children completed the Five Facet Mindful Parenting Questionnaire (FFMPQ; Mizusaki et al., 2018), Stress Response Scale (SRS-18; Suzuki et al., 1997), and the short-form of Childcare Happiness Scale (CHS; Shimizu et al., 2010). The SRS-18 measures multiple psychological stress responses and has three subscales: depression-anxiety, irritability-anger, and helplessness. The CHS measures frequency of positive emotions experienced during childcare and has three subscales: bond with children, joy of parenting, and gratitude to husband.

#### **Results**

The results were divided into four groups based on a non-hierarchical cluster analysis. Group 1 ( $n = 56$ ) had above average scores for observing, NC, and distancing, and below average scores for describing and NI. Group 2 ( $n = 67$ ) had above average scores for describing, observing, NC, and distancing, and below average scores for NI. Group 3 ( $n = 50$ ) had above average scores for NI, and below average scores for observing, describing, NC, and distancing. Group 4 ( $n = 17$ ) had above average scores for NI, and below average scores for observing, describing, and distancing. The score for NI of group 4 was lesser than the standard deviation value. A one-way analysis of variance was conducted (groups as independent variables and SRS and CHS as dependent variables). Multiple comparisons were made. All subscales of SRS were significantly different (group 4 > group 3, group 2 > group 1). The gratitude to husband score was also significant (group 2 > group 3, group 2 > group 4, group 1 > group 4)

## **Discussion**

Group 1 had the lowest stress response and group 4 had the highest stress response and lowest childcare happiness. When mothers leave their negative thoughts or emotions unsolved and overreact to their children's behavior, stress response may increase and positive emotion toward their husband may decrease.

## **What Happens when You Throw Cognition in the Mix? A Bigger Picture for Female Orgasm**

**Fabiana Paradinha, Universidade de Lisboa, Portugal**

**Cátia Oliveira\*, Universidade Lusófona do Porto and Cuf Porto Hospital, Portugal**

### **Introduction**

An orgasm in women is a multidetermined and complex psychophysiological process, that results in a full body experience (Sayin, 2012). Recently, studies have also been considering the role of cognitive variables – including beliefs, cognitive schemas and automatic thoughts – on sexual function and dysfunction (Nobre & Pinto-Gouveia, 2008). However, due to the many variables involved, female orgasm tends to be studied under a specific perspective, which neglects some factors in favour of others. As so, it is not yet clear how psychological, physiological and cognitive determinants interact throughout the female sexual response.

### **Method**

Aiming to contribute to a more complete and integrated comprehension of female orgasm, we reviewed cognitive variables that have been linked to sexual functioning and hypothesized their placement along with psychological and physiological factors.

### **Results**

The result is a prototypical model for the female sexual response, that offers a schematic representation of the interplay and modulation among psychological, physiological and cognitive determinants. This circular model is based on scientific accepted mechanisms, accounts for the singularity of each one's experience and can accommodate both functional and dysfunctional experiences. Additionally, this model does not conflict with other similar models and can easily be updated, thus being suited to be used across research fields and in clinical assessments.

### **Discussion**

This work highlights the existent interplay among psychological, physiological and cognitive determinants, and its importance. However, the nature and extent of these interactions are still unclear and in need of more empirical evidence. Hopefully, this integrative work will allow for a more consistent, systematized and transversal research regarding female sexual response and orgasm.

## **What Makes the Difference Between Female Orgasmic Experiences? Analyzing the Differences Between Multi-Orgasmic, Single-Orgasmic and Anorgasmic Women**

**Sonia Pieramico, Universidade Lusófona do Porto, Portugal**

**Cátia Oliveira\*, Universidade Lusófona do Porto and Cuf Porto Hospital, Portugal**

### **Introduction**

As science has demonstrated, sexuality has a significant impact on human lives, as it influences the level of comfort with oneself and with a partner (Graham et al., 2004; Mark & Jozkowski, 2013; Woertman & Van den Brink, 2012). Experiencing orgasms for women is considered a sexual peak experience, and is of significant importance as achieving the climax is associated to more positive affect during sexual activities (Tavares, 2016), more satisfaction with mental health (Brody, 2007b) and more marital happiness (Gebhard, 1966). There are different types of female orgasms (Tavares, 2016; Masters & Johnson 1966, 1970; Davison, et al., 2009; Khaddouma, et al., 2015; Darling et al., 1991), but there is a lack in scientific research concerning the comparison of these.

### **Method**

The present study aims to explore the differences between women that experience either singular orgasms, multiple ones or suffer from anorgasmia. More specifically, we will investigate differences between women that experience one of these three types of orgasm on mindfulness, body image, sexual sensation seeking, communication with partner and sexual satisfaction. In order to conduct this study, an online survey, using various questionnaires will be performed, using 300 participants of female gender, equally divided between groups of different climax experiences.

### **Results**

It is expected that the three categories of women will show significant differences on the several variables, while it is assumed that the multiorgasmic group will show the highest level of sexual sensation seeking compared to the other two groups, as well as a more positive body image, better partnered communication, higher levels of mindfulness and better sexual satisfaction. On the other hand, anorgasmic women are expected to score the lowest on these elements. As the collection of data is still in progress, results will be available in July.

### **Discussion**

The present study will contribute to the conceptualization of female orgasm and will contribute to a better understanding of the difficulties related to this phenomenon. Eventually, the results may have specific implications for the assessment and treatment of orgasmic disorders.

## **Sociodemographic and Biopsychosocial Factors in Women with Sexual Pain**

**Diana Ferreira, Universidade Lusófona do Porto, Portugal**

**Cátia Oliveira\*, Universidade Lusófona do Porto and Cuf Porto Hospital, Portugal**

### **Introduction**

Sexual pain can be defined as persistent pain that affects many women in their sexual activity. Although research shows that this is a phenomenon influenced by biological and psychosocial factors, many health professionals continue to present a reduced and medicalized view of it. More and more arguments that argue that sexual pain is best explained through a biopsychosocial perspective.

### **Method**

This study aims to explore different biopsychosocial variables such as sociodemographic and medical variables, variables related to the phenomenon of pain, sexual activity, pregnancy and contraception in women with and without sexual pain. The sample will be collected through online questionnaires, nationally and internationally. It is intended to collect a sample with a total of 400 women over the age of 18: 200 women with sexual pain and 200 women who do not present this difficulty.

## **Results**

The results of this study may contribute to a deeper exploration of different biopsychosocial variables associated with sexual pain, allowing and reinforcing the need for a broader understanding and evaluation of this difficulty. As the collection of data is still in progress, results will be available in the congress.

## **Discussion**

In this way, it is intended to contribute to the improvement of the intervention protocols and the change of attitudes of the different health professionals, regarding sexual pain.

## **Validation of the Significant Other Response to Sexual Pain Scale in Portugal**

**Sara Oliveira, Universidade Lusófona do Porto, Portugal**

**Cátia Oliveira\*, Universidade Lusófona do Porto and Cuf Porto Hospital, Portugal**

### **Introduction**

Sexual pain is a complex and chronic problem that affects many women and their partners. Relationship factors seem to contribute to the aggravation or maintenance of this problem.

### **Method**

The main objective of this study is to validate and test the psychometric characteristics of the Portuguese version of the Significant Other Response Scale, a subscale of the West Haven-Yale Multidimensional Pain Inventory (WHYMPI). It is also intended to investigate how the different dimensions of this questionnaire predict the sexual functioning of women with this problem. An online sample of 300 women with sexual pain, and older than 18 years old will be recruited. All participants in the study will respond to online questionnaires, including a self-reported measure of sexual functioning (FSFI; Rosen et al., 2000) and the Significant Other Response Scale (Rosen et al., 2010).

### **Results**

The results of this study will be presented at the time of the congress, since the collection of data is still in progress. We expect that the results show that the scale is suitable for use within the Portuguese population in both clinical and basic research.

### **Discussion**

This study will contribute to the validation of adapted instruments in Portuguese population and to the study of sexual pain, relationship factors and sexual functioning.

## **Association Between Sexual Beliefs and Sexual Functioning**

**Patricia M. Pascoal, University of Lisbon and Universidade De Lusofona de Humanidades e Tecnologias, Portugal**

**Pedro J. Rosa, Universidade Lusófona de Humanidades e Tecnologias, Portugal**

**Elizabet Silva & Pedro Nobre, Universidade do Porto, Portugal**

### **Introduction**

According to Cognitive- emotional models of sexual response, dysfunctional sexual beliefs are vulnerability factors for sexual dysfunction. However the possible association between levels of agreement with beliefs about sexual functioning and levels of sexual functioning remains unexplored. This cross-sectional study aimed to test the mediating role of cognitive distraction on the relationship between dysfunctional sexual beliefs about sexual functioning shared by men and women and sexual function.

### **Method**

A total of 124 male and 297 female Portuguese (N=421), aged 18 to 68 years (M=27.55, SD=9.35) cisgender heterosexual involved in a monogamous relationship participated in the study. We used the Beliefs About Sexual Function Scale, the Cognitive Distraction Scale and the Female Sexual Functioning Index as well as the International Index of Erectile function as outcomes. The hypothesized mediation model was tested using a bootstrapped cross product of coefficients approach.

### **Results**

Dysfunctional sexual beliefs, cognitive distraction and sexual functioning were significantly correlated in men and women. Results showed a significant negative, indirect effect between dysfunctional sexual beliefs and women's sexual function through cognitive distraction but not men's.

### **Discussion**

Despite increasing the existing knowledge on the association of sexual beliefs and sexual functioning by finding a relationship between sexual beliefs and cognitive distraction during sexual activity, the study only demonstrated the existence of mediation in the female group. Although this result supports the emotional cognitive model of sexual functioning, the lack of mediation in men raises questions that future research should clarify, especially whether these results can also be found in populations with a diagnosis of sexual dysfunction.

## **Cost or Benefit? The Relation of Helping and Well-Being.**

**Marcia Rinner, Andrea Meyer & Andrew Gloster, University of Basel, Switzerland**

### **Introduction**

Human beings are prosocial beings. Studies have shown that the act of helping can be both a benefit and also at costs for the helper. It is important to assess in which context helping is beneficial, as this can be crucial for the personal well-being of all individuals (e.g. couples, therapists, and patients) and harnessed in therapy.

### **Method**

This study assessed helping behavior within couples using event sampling methodology (ESM). In total 120 couples (240 individuals) recruited from the general population were asked to answer questions about their current helping behavior on a smartphone for a week during their daily life.

### **Results**

Overall, participants reported > 1000 times about their helping behavior. Preliminary results show that, participants reported on average helping others about 20% of their time and primarily doing this with no reported self-interest. Results will test how frequency of helping behavior as assessed via ESM is related to well-being. Furthermore, we will examine how positive reinforcement from the partner (acknowledging the helped behavior) further influence the association between helping and well-being.

## **A Schema-Based Model of Factitious Child-Parent Attachment Suppression ('Parental Alienation Syndrome') in Parents with Cluster B Personality Traits a Theoretical Model Based on Case Studies from Clinical Practice and the Literature**

**Florian Ruths, SLAM, United Kingdom**

### **Introduction**

Background: The development of adult emotional disorders and personality disorders may be underpinned by a range of childhood unmet needs enhancing the development of emotional disorders. Encouraging a child to disown the other parent, consequently suppressing their attachment to the rejected parent is a critical form of emotional abuse, known as Parental Alienation Syndrome (PAS, Gardner 1988). The syndrome describes the separation of the 'rejected' parent from their children by an 'alienating' or 'favoured' parent. That separation is always being portrayed as the choice of the child, but is in fact induced ('factitious') by the alienating parent. The syndrome is complex and remains contentious among mental health professionals and legal experts alike.

Conceptualising child-parent attachment suppression as a form of emotional coercion can be helpful for CBT/schema therapists: it makes the painful experience of growing up with only one parent more understandable and acceptable as not being the child's fault; it can help the victim of this form of abuse to be less likely to subconsciously re-produce the same coping with their children; and, it may help the patient to develop some empathy for the alienating parent.

### **Method**

In a form of childhood retrospective analysis through interviewing adult victims of alienation, Amy Baker (2007, 2010) addresses PAS. She describes in great detail the subtlety of emotional pressures and threats that these people experienced during their childhood, that lead them to disown a parent that they previously loved.

Equally, as a second methodology as establishing the phenomenology, in schema therapy, with the help of imagery involving traumatic memories, strategies of alienation are remembered and described in detail by patients who suffered this form of emotional abuse. It becomes apparent that the alienating process itself may be a form of dysfunctional schema coping mode: the favoured parent is meeting their own unmet emotional needs, and consciously or unconsciously, depriving the child of their needs.

The case studies presented by Baker are analysed from a schema perspective. Hypothesis are created which behavior represents what form of dysfunctional coping mode, and what unmet core emotional needs of the parent, as well as what schemas may be underlying the behavior.

The presenter will also present a couple of his own case studies of patients with personality disorders displaying alienating behavior, as well as case studies of patients that were victimized as children by a parent with personality disorder and disowned the rejected parent.

### **Results**

The phenomenology of factitious attachment suppression and its framing in schema terms are being established both from Baker's cohort and the case studies presented.

Impact of PAS on child, now adult: The impact of this form of emotional abuse is devastating for the child as an adult: in schema terms, core needs around attachment are systematically not being met. The child was not able to have the rejected parent as a source of attachment, protection, guidance, playfulness and healthy limit setting. At the same time, the child was denied the core need of being allowed to express their love for the rejected parent freely.

From these unmet core needs, a range of dysfunctional schemas may develop in the child. The dysfunctional schemas of the favoured parent cannot be compensated for by the rejected parent.

Induction of attachment-suppression as a coping mode of the alienating parent: The favoured parent used dysfunctional coping deliberately or unconsciously: as an example, through overcontrolling over-compensator mode, bully-attack mode (towards rejected parent), as well as detached self-soothing mode (through acquiring the unshared loyalty of the child), the favoured parent uses dysfunctional coping modes in response to schema activation during the parenting and separation process.

The different modes will be presented in detail.

### **Discussion**

PAS can have devastating long-term effects in adulthood, for example emotional disorders or personality problems. Conceptualising PAS as child-parent attachment suppression and as a form of emotional coercion in a schema framework can be helpful to see the whole syndrome in a new light. Irvine (2018) and her approach to schema-based therapeutic approaches is discussed.

From a perspective of prevention and schema reduction in cluster B patients, compassion and understanding for all parties can be found in a schema-based approach. A deepening of the understanding may aid the rejected parent, the abused child and the suppression-inducing parent alike. It can help the children of a victim of this form of abuse to be less likely to subconsciously re-exposed to this the same maladaptive parenting style.

The presenter hypothesises that the term 'parental alienation' with its judgmental connotation of 'perpetrator-victim' and assuming 'malicious' intent may entrench the positions and add more harm to all parties involved.

### **References**

- Baker, A.J.L. (2007). *Adult children of parental alienation syndrome-breaking the ties that bind*. W.W. Norton. New York & London.  
Baker, A.J.L. (2010). "Adult recall of parental alienation in a community sample: Prevalence and associations with psychological maltreatment." *Journal of Divorce and Remarriage*, 51, 16-35.  
Irvine L.E. (2018). *Seeing Parental Alienation Syndrome Through the Lens of Schema Therapy: Proposals for Treatment*. Online Bulletin of the ISST Dec 2018.

## **CBT-Based Online Self-Help Program for People Who Have Sexual Interest in Children**

**Nina Vaaranen-Valkonen, Save the Children, Finland**

**Nina Nurminen, Criminal Sanctions Agency, Finland**

### **Introduction**

Child sexual abuse is widely acknowledged as a global public health problem causing serious human suffering for children. Child sexual abuse is rarely a sudden, spontaneous act, but rather an outcome of a long process consisting of different phases. The research data indicates that the first thoughts of sexual interest in children are often recognized in adolescence. This is why it is important to reach people, who have sexual interest in children but have not acted upon them.

Save the Children, Finland has in cooperation with the Finnish Criminal Sanctions Agency and the Hospital District of Helsinki and Uusimaa (HUS) created a CBT based online self-help program for people who are worried about their sexual interest in children. The program can be used anonymously and free of charge.

## **Method**

The aim of the CBT based online self-help program is to engage people who are worried about their sexual interest, thoughts, feelings or actions towards children and/or use of online child sexual abuse images so called child pornography. The program challenges misbeliefs and thoughts as well as feelings regarding sexual actions towards children. The program offers CBT based exercises and tools for controlling harmful behavior and it provides information on where to seek more support and help if needed. The self-help program is based on cognitive behavioral theory and evidence based medicine practices used in treatment with sexual offenders. It focuses on misbeliefs and thoughts as well as behavior and emotions. The self-help program consists of three parts:

1. What does it mean to have sexual interest in children? 2. How can I control my behavior if I have sexual interest in children? 3. The way forward: How to maintain adapted behavioral and cognitive changes and where to find more help

## **Results**

The primary intervention of the self-help program is to stop child sexual abuse from happening in the first place. The program enables people who are worried about their sexual interest towards children and/or use of online child sexual images (child pornography) to increase their self-awareness and control of their problematic and harmful behavior. The program has many exercises and information on related issues for example co-morbidity mental health disorders such as anxiety and substance abuse. The self-help program offers information, psycho-education and exercises to control and change behavior, thoughts and emotions as well as how to seek support and help. The program can be used also among professionals and psychotherapist working with sexual offenders to prevent recidivism.

## **Discussion**

The CBT based online self-help program is an innovative way to reach out for those who might have sexual thoughts about children. The innovation to deliver the program and help precisely where the problem is, on the Dark Web, is ground-breaking: Between December 2018 and February 2019 over 700 people have visited the self-help program every day.

## **Psychosocial Support for Male Partners of Women Admitted to Mother and Baby Units**

**Anja Wittkowski & Beth Ruffell, The University of Manchester, United Kingdom**

**Debbie Smith, Leeds Trinity, United Kingdom**

### **Introduction**

Although research has highlighted the need to support male partners of women admitted to specialist MBUs, little is known about the type of support men want and how they wish support to be delivered. This study explored what support male partners of women admitted to Mother and Baby Units (MBUs) wanted in terms of content, delivery and timing.

### **Method**

Ten men whose partner was admitted to a MBU in the United Kingdom or Australia participated in semi-structured interviews. Data were analysed using Thematic Analysis.

### **Results**

Five themes were identified: 1) A smoother journey to and from the MBU, 2) Feeling included, 3) Uncertainty about 'what is going on', 4) Barriers to support and 5) Facilitators of support. Men identified what practical, emotional and social support they would have found beneficial and shared ideas on best deliveries models for support.

### **Discussion**

This qualitative study was the first of its kind to specifically explore the type of support male partners of MBU patients would like to be offered in terms of content, delivery and timing. Participants expressed the need to be included and involved in care decisions regarding their spouse and infant and to be offered advice from professionals. They also highlighted barriers to accessing support and offered solutions to minimise those. In terms of clinical implications, we recommend a support package, which could be developed for MBUs to improve outcomes for male partners and their family.

## **The Influence of Parental Cognitive Features on Child-Rearing Behavior**

**Haruna Yoshida, Waseda University, Japan**

**Shunsuke Nonaka, Tokyo Future University, Japan**

**Nao Komiyama, Yuki Karube & Hironori Simada, Waseda University, Japan**

### **Introduction**

Functional child-rearing behavior, which encourages children's adaptive behavior is said to be well performed when cognition of contingency (COC), which makes parents understand children's behavior as the result of child-rearing behavior, is high. Moreover, self-monitoring (SM), the factor for establishing a good relationship with others, is considered to encourage child-rearing behavior more effectively by increasing the parent's COC. However, little research has been conducted on whether SM of parents increases COC and affects child-rearing behavior. Therefore, this study examined the influence of parental SM and COC on functional child-rearing behavior.

### **Method**

We targeted 379 mothers (mean [standard deviation] age = 37.0 [4.7] years) who were major caregivers of infants aged 3 to 6 who were enrolled in kindergartens and nursery schools in the suburbs of Tokyo, Japan. The mothers were administered questionnaires measuring their level of functional child-rearing behavior, SM, and COC. The study protocol was approved by a local ethics committee. A part of the data of this study was duplicated from the report of Yoshida et al. (2018); however, this report presents analysis results based on different research objectives, as have been outlined above.

### **Results**

Hierarchical multiple regression was performed with subscale scores in functional child-rearing behaviors as objective variables and SM in Step 1, COC in Step 2, and interaction terms in Step 3 as explanatory variables. Consequently, the increase of R<sup>2</sup> due to input of interaction term was significant ( $\Delta R^2 = .04, p < .01$ ) to the functional communication score, which is a subscale of functional child-rearing behavior. Moreover, interaction terms were significant ( $\beta = .19, p < .01$ ). Performing a simple gradient showed that functional communication becomes higher as COC is higher even when SM is low ( $\beta = -.28, p < .01$ ).

### **Discussion**

The results of this study indicate that even if the SM of the parent is low, if the COC is high, it is possible for him or her to carry out child-rearing behaviors such as functional communication, which can increase adaptive behaviors in children. In terms of child-rearing support in

the future, it is considered that the assessment of whether adequate COC has been acquired, rather than the degree of SM of parents, can carry out more effective support that promotes functional child-rearing behaviors according to the actual reaction of the child.

## **The Effect of Mindfulness Interventions on the Parenting Stress of Mothers of Children with Developmental Disabilities** **Mayuri Yoshioka, Yuki Mizusaki, Saki Oku & Hiroshi Sato, Kwansai Gakuin University, Japan**

### **Introduction**

Recently, it was reported that Japanese culture is an environment where parenting stress is easy to accumulate. It is known that when the mental health of a caregiver is poor, it affects the mental and physical health of children. Parenting stress is reported to be strongest in the pre-school period and therefore, early support is necessary. It is also clear that mothers of children with developmental disorders have higher levels of parenting stress, and accordingly, they need further parenting support.

In previous studies, mindfulness training has been examined and promoting mothers' mindfulness has been shown to be effective in improving parenting stress. However, the effect of mindfulness interventions on Japanese parents remains unclear.

Therefore, the purpose of this research is to examine the effect of mindful parenting interventions on mothers of children with developmental disabilities in Japan.

### **Method**

The participants were ten mothers of children with developmental disabilities attending a development support facility. The final analysis targeted six mothers (aged 41-50, SD = 4.00). In the intervention program, mindful breathing and behavioral parent training were performed. The program was held once a week for 90 minutes, for a total of six sessions, in two groups consisting of approximately four mothers. We conducted psychological education and mindfulness training in the first three sessions and then psychoeducation and parent training in the latter three sessions. The participants were guaranteed anonymity and the protection of their personal information.

The participants completed the Five Facet Mindful Parenting Questionnaire (FFMPQ; Mizusaki et al., 2018), Stress Response Scale-18 (SRS-18; Suzuki et al., 1997), and Parenting Scale (PS; Arnold et al., 1993). The participants completed these before the intervention (Pre) and one week after the intervention (Post).

### **Results**

A total of six mothers completed the program and paired t-tests were conducted to compare the pre- and post-treatment scores. The FFMPQ scores increased from Pre to Post ( $t(5) = -2.090, p = .091$ ), the Depression-Anxiety of the SRS-18 scores decreased from Pre to Post ( $t(5) = 2.196, p = .08$ ), and the Irritability-Anger of SRS-18 scores did not decrease from Pre to Post ( $t(5) = 1.701, ns$ ), but a high intervention effect was evident (Cohen's  $d = .728$ ). In addition, the helplessness scores in the SRS-18 did not decrease from Pre to Post ( $t(5) = -0.255, ns$ ), the laxness scores in the PS did not decrease from Pre to Post ( $t(5) = 0.07, ns$ ), and the over-reactivity of the PS scores did not decrease from Pre to Post ( $t(5) = 0.518, ns$ ).

### **Discussion**

It was found that mindful parenting reduces the stress response of mothers and increases the mindfulness of mothers. From this, it was demonstrated that mindful parenting is effective for reducing parenting stress of mothers of children with developmental disabilities in Japan.

## **Online Couple and Family Therapy Demands: New Concepts and Considerations**

**Shoshana Hellman, Private practice, USA**

**Arnon Rolnick\*, Rolnick's Clinic, Israel**

In recent years there is an increase of online therapy provided by clinics and therapists but mostly for individuals. Very little was written about online family therapy.

There are specific issues for couple therapy and use of video therapy. This poster includes some consideration for remote couple and family therapy.

1) Seating arrangements: Should the couple use the same computer and camera or should they use separate computers?

Most approaches consider the seating arrangement as very important: On the one hand, we want the couple to talk to each other. On the other hand, we want the couple, as a unit, to face the therapist as well. Apparently, the school of thought in couple and family therapy determines the seating arrangement online:

In general, video therapy enables the therapist to observe the couple's faces in a very detailed way. Each of the partners sees the therapist's face in detail as well. Therefore, there is a unique advantage in sitting close to the camera. However, sitting like this prevents perceiving the body expressions.

2) Who the therapist refers to?

In an in-person setting, where everyone is in same room, it's very clear whom the therapist is referring to. The therapist's head and body face either one partner or the other. Using video, the therapist should be aware that the couple cannot perceive where he or she is heading, so the therapist should find ways to indicate it, sometimes simply by mentioning the name of the person s/he is addressing.

3) Real life and crisis situations:

The fact that therapy can be conducted at the couple's premises, opens the opportunity for the couple to demonstrate real life situations and crises even more than in the therapist's office, and allows the therapist to intervene while seeing these real-life situations. However, in extreme cases (e.g. when violence or real threat is involved), the therapist should prepare in advance someone in the couple's neighborhood to intervene.

4) When there are two therapists.

Sometimes we prefer to have two therapists: The therapists represent different voices and sometimes prefer to argue among themselves.

Enabling patients to refine their own attitudes and insights. The fact that therapists are of a different gender enables the heterogeneity of views. This combination is even more challenging in a distance. Should the two therapists be in the same room? How can they interact with each other?

## Poster Session 7 (9.00-11.30)

### New Developments - English Programme

- 1 **Hybrid Cognitive Behavioral and Art Therapy Intervention for Depression and Anxiety Symptoms in Family Caregivers of Children with Cancer: Preliminary Results**  
Olga Isabel Alfaro, Universidad Iberoamericana A.C, Mexico
- 2 **Facebook, Instagram and Snapchat French Adaptation of the Physical Appearance Comparison Scale (PACS)**  
Claire Arnaud, Université de Lille, France
- 3 **Usability of Psycho-Educational Online Stress Management Program for University Students**  
Ana Babić Čikeš, University of Osijek, Croatia
- 4 **French Validation and Adaptation of a State-Measure of Body-Image: The Body Image State Scale**  
Luc Bardi, Université de Lille, France
- 5 **Online vs. Real-Life. A Network Approach to Social Interaction and Mood: Results of the BeMIND Study**  
Teresa Bolzenkötter, Freie Universität Berlin, Germany
- 6 **The Role of the Body in Mindfulness-Based Stress Reduction**  
Jessica Bosch, Witten/Herdecke University, Germany
- 7 **'Building Blocks of CBT': Development of Brief Psychological Interventions Using Components of CBT**  
Stephanie Casey, Cambridgeshire and Peterborough NHS Foundation Trust, UK
- 8 **CBT for Complex Depression: Single Case Analysis of an Integrated Treatment**  
Rachel Elliott, Cambridge Adult Locality Team, UK
- 9 **The Influence of Anticipatory Stress and Emotion Regulation on Sleep – Preliminary Results from a Smartphone Study**  
Victoria J. Firsching, University of Basel, Switzerland
- 10 **Assessment of the Efficacy and Usability of an App-Delivered Stress Management Intervention for Distance-Learning Students in Germany: Randomized Controlled Trial (Work in Progress)**  
Lara Fritsche, University of Hagen, Germany
- 11 **Guilt Induction Processes in Dementia Caregiving**  
Laura Gallego-Alberto, Universidad Autónoma de Madrid, Spain
- 12 **Measuring Therapy in All Practices**  
Dror Gronich, PsySession.com, Israel
- 13 **Pilot Study of a German Version of the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders in Adolescents**  
Raphael Gutzweiler, University of Koblenz-Landau, Germany
- 14 **Pediatric Pain. Remote Monitoring of Physiological Variables of Pain in Pediatric Oncology by I-Care. A Technological Proposal**  
Verónica Miriam Guzman-Sandoval, Universidad de Colima, Mexico
- 15 **Can Workplace Cognitive-Behavioral Group Intervention for Preventing Mental Health Issues Improve Work Functioning? A Systematic Review**  
Yuko Ihara, University of Tokyo, Japan
- 16 **Dispositional Mindfulness Moderates the Relationship Between Positive Affect and the Experience of Pleasure**  
Ayça Ilgaz, Yeditepe University, Turkey
- 17 **A Case Study of the Time-Varying Dynamics of Sleep During Cognitive Behavioural Therapy for Insomnia**  
Marianne Källström, Åbo Akademi University, Finland
- 18 **The Effect of the "K" Technique on Levels of Anxiety and Salivary Cortisol in Adolescents with Cognitive Challenge**  
André Kolb, Universidade Federal do Rio Grande do Sul, Brazil
- 19 **Early Maladaptive Schemas in Relation to DSM-V Pathological Personality Traits and Internal Dialogicality**  
Małgorzata Łysiak, The John Paul II Catholic University of Lublin, Poland
- 20 **Patient and Public Involvement in a Service Evaluation of CBT-Based Interventions**  
Rachel Maciag, Cambridge and Peterborough NHS Foundation Trust, UK
- 21 **Examining the Experiences and Views of Non-Qualified Staff Delivering Cognitive Behavioural Therapy-Based Interventions**  
Rachel Maciag, Cambridge and Peterborough NHS Foundation Trust, UK
- 22 **Smartphone CBT-Based Ecological Momentary Interventions to Improve Mental Health**  
Marta Marciniak, University of Zurich, Switzerland
- 23 **"Leave the Anger Behind Bars" – Computerized CBT for Excessive Anger in Prisoners – Preliminary Report**  
Dragana Markanovic, Croatian Association for Behavioral-Cognitive Therapies, Croatia
- 24 **Success: Beliefs and Behaviors- The Importance of Resigning Success**  
Renata Mello, Universidade Aberta Portugal, Portugal
- 25 **Alcohol Intoxication Impairs the Bystander Risk Detection in a Hypothetical Sexual Assault: A Field Investigation**  
Alita Mobley, University of Arkansas, USA
- 26 **New Approach to Assessing the Influence of the Surrounding Architectural Enclosed Space on Human Mental Activity**  
Uliana Moskvitina, Belgorod State National Research University, Russia
- 27 **The Reliability and Validity of the Korean Version of the State Mindfulness Scale**  
Seunghye Noh, Yeungnam University, South Korea
- 28 **Divided Psychotherapy and the Internet: Integration Using Hybrid Models**  
Liat Noiman, The Open University of Israel and Rolnick's Clinic, Israel
- 29 **Which Emotional Processes are Impaired in Alexithymic Patients? A Comparison Between a Clinical and a Non-Clinical Sample**  
Ana Nunes da Silva, University of Lisbon, Portugal
- 30 **Alexithymia and Change Process: Two Case Studies**  
Ana Nunes da Silva, University of Lisbon, Portugal

- 31 **Validation of the German Young Positive Schema Questionnaire (YPSQ) and the Positive Schema-Domain Network in the General Population and Psychiatric Patients**  
Andreas Paetsch, Max Planck Institute of Psychiatry (First Author), Germany
- 32 **A Case for Compassion: Development of a Compassion-Focused Therapy Group for People with Moderate to Severe Mental Health Difficulties**  
Katherine Parkin, Cambridge Adult Mental Health Locality Team, UK
- 33 **Autonomous Cars: New Territory for CBT Interventions**  
Arnon Rolnick, Rolnick's Clinic, Israel
- 34 **The Conscious and Unconscious in Aaron T. Beck's Cognitive Theory – A Historical Perspective.**  
Monika Romanowska, University of Gdansk, Poland
- 35 **Targeting Procrastination Using Psychological Treatments: A Systematic Review and Meta-Analysis**  
Alexander Rozental, Karolinska Institutet, Sweden
- 36 **Changes in the Social Mind Through Therapy for OCD**  
Maike Salazar Kämpf, Leipzig University, Germany
- 37 **Effectiveness of Treatment with Hypnosis and Catalepsy in Patients with Conversion Disorder**  
Judith Schaap, HSK Expertise Conversie, the Netherlands
- 38 **Anger in Chronic Pain: The Role of Self-Compassion**  
Anja Carina Schmitt, University Koblenz-Landau, Germany
- 39 **Personalized Lifestyle Advice Alters Affective Reactivity in Anhedonic Young Adults**  
Michèle Schmitter, Tilburg University, the Netherlands
- 40 **Latent Change Trajectories of Subjective Stress Throughout Cognitive-Behavioral Therapy: Evidence for a Transdiagnostic Construct**  
Eva Elisa Schneider, Johannes Gutenberg-University Mainz, Germany
- 41 **Developing an Instrument to Assess Symptom Networks and Functional Relations for Individual Case Conceptualization with Experience Sampling Method: A Pilot Study**  
Saskia Scholten, University Koblenz-Landau, Germany
- 42 **Automating the Identification of Sudden Gains Within Psychological Therapy Datasets: A New R Package**  
Graham Thew, University of Oxford, UK
- 43 **Revamping Services: The Effectiveness of a Brief CBT-Based 'Initial Intervention' for New Clients Delivered by Junior Staff**  
Emma Travers-Hill, Kent and Medway NHS and Social Care Partnership Trust, UK
- 44 **Activating Resilience – The Personal Model of Resilience**  
Philipp Victor, Witten/Herdecke University, Germany
- 45 **Intentional Behavior and the Quality and Avoidance of Social Interactions**  
Jeanette Villanueva, University of Basel, Switzerland
- 46 **A Personalized Approach to Health Using Machine Learning Techniques of Multimodal Lifelog Data**  
Tetsuya Yamamoto, Tokushima University, Japan
- 47 **Does Dysfunctional Pride Lead to Impaired Performance on Analytic Task and Increase Risky Behaviour?**  
Oana David, Babes-Bolyai University, Romania
- 48 **A Systematic Review of the Psychometric Properties of Death Anxiety Self-Report Measures**  
Matteo Zuccala, University of Sydney, Australia
- 49 **Detecting Distress in Adolescents and Young Adults Using Big Data Analysis of Social Media**  
Stefanie Schmidt, University of Bern, Switzerland
- 50 **A Blended Psychological Resilience Training: Conceptualization and Pilot Results**  
Eliza Isabel Eckhardt, Deutsches Resilienz Zentrum (DRZ), Germany
- 51 **Self-Compassion Interventions and Psychosocial Outcomes: A Meta-Analysis of RCTs**  
Madeleine Ferrari, University of Sydney and Australian Catholic University, Australia
- 52 **Digital Assessment in Dance Movement Therapy as Part of a Creative Arts Therapies Participatory Assessment Approach**  
Lily Martin, Alanus University, Germany

## Trauma - English Programme

- 53 **Psychotraumatization and Treatment of Posttraumatic Stress Disorder in Patients with Newly Diagnosed Breast Cancer**  
Sanda Anton, University Hospital Osijek, Croatia
- 54 **Using Mixed Methodology in Nosological Research: The Case of Moral Injury**  
Andrea Ashbaugh, University of Ottawa, Canada
- 55 **Cognitive Behavioral Therapy in Agoraphobia and Posttraumatic Stress Disorder: A Case Study**  
Nida Ates, Istanbul Kultur University, Turkey
- 56 **Sleep as Predictor of Intrusive Symptoms?**  
Yasmine Azza, University of Zurich, Switzerland
- 57 **Changes in Intolerance of Uncertainty During Inpatient Treatment for Posttraumatic Stress Disorder**  
David Berle, University of Technology Sydney, Australia
- 58 **Reductions in Intrusive Memory Frequency for Analogue Trauma Following Cognitive Task Engagement**  
David Berle, University of Technology Sydney, Australia
- 59 **Resilient Program, a Therapist Assisted Online Intervention to Promote Resilience After a Disaster – The Therapists' Experiences**  
Vera Bekes, Yeshiva University, USA and Laval University, Canada
- 60 **Perceived Injustice Mediates the Relationship Between Trauma Type and PTSD Symptoms**  
David Berle, University of Technology Sydney, Australia
- 61 **Developing Integrated Treatment Platforms for At-Risk Sexual Minority Men**  
Michael Boroughs, University of Windsor, Canada

- 62 **Treating Adults with Childhood Trauma: Patients Talk About Their Treatment Experience when Receiving Trauma Focused Therapy Without Stabilisation**  
Katrina Boterhoven de Haan, University of Western Australia, Australia
- 63 **The Effectiveness of Cognitive Behavioral Therapy on the Treatment of Post-Traumatic Stress Disorder**  
Ekin Çakır, Utrecht University, the Netherlands
- 64 **An Overview of Reviews on Resilience and Protective Factors in Post-Traumatic Stress Disorder**  
Carolina Campodonico, University of Manchester, UK
- 65 **Investigating Trauma Processing; the Development of Data-Driven Processing and its Impact on Cognition.**  
John-Paul Corrigan, Northern Health and Social Care Trust, UK
- 66 **Reduced Gray Matter Volume in the Left Prefrontal, Occipital, and Temporal Regions as Predictors for Posttraumatic Stress Disorder: A Voxel-Based Morphometric Study**  
Jan Christopher Cwik, Universität zu Köln, Germany
- 67 **Is Written Trauma Exposure Effective in Reducing Symptoms of Posttraumatic Stress in Adults? A Systematic Review**  
Rachelle Dawson, Australian National University, Australia
- 68 **Mothers' Emotions After Pediatric Burn Injury: Longitudinal Associations with Posttraumatic Stress- and Depressive Symptoms**  
Marthe Egberts, Association of Dutch Burn Centers and Utrecht University, the Netherlands
- 69 **Fear Conditioning Generates Intrusive Memories - A Study on the Impact of Social Support Interactions on Conditioned Threat**  
Lisa Espinosa, Karolinska Institutet, Sweden
- 70 **Fear Conditioning as an Explanation for Intrusive Memories: An Experimental Study**  
Laila K. Franke, University of Salzburg, Austria
- 71 **Is it Possible to Introduce Effective PTSD Prevention Program for Firefighters?**  
Patrycja Gajda, University of Warsaw, Poland
- 72 **Perfectionism and Worry as Moderators for the Relationship Between Obsessive-Compulsive and Posttraumatic Stress Symptoms**  
Sydney Hirst, Vancouver Island University, Canada
- 73 **The Role of Gender, Negative Appraisals, and Perceived Social Support in the Emergence of Posttraumatic Stress Symptoms.**  
Sydney Hirst, Vancouver Island University, Canada
- 74 **The Effects of Gender and Anxiety Sensitivity in the Relationship Between Obsessive Compulsive Symptoms and Posttraumatic Stress.**  
Sydney Hirst, Vancouver Island University, Canada
- 75 **Have We Underestimated the Prevalence of PTSD and Major Depression in Countries with a Recent History of War? Discrepancies Between Epidemiological Surveys and Global Health Estimates of the WHO**  
Thole Hoppen, Westfälische Wilhelms-Universität Münster, Germany
- 76 **Neural Correlates of Psychotherapy in PTSD Related to Child Maltreatment: Study Design and Experimental Procedures**  
Stefanie Jaenicke-Reissig, University of Giessen, Germany
- 77 **The Network Structure of Post-Traumatic Stress Disorder Across the Lifespan and the Role of the Youth-Reported and Parent-Reported Symptoms**  
David Johnston, University of Cambridge, UK
- 78 **Self-Perceptions of Women in the Aftermath of Sexual Trauma**  
Hadar Keshet, Bar-Ilan University, Israel
- 79 **A Pilot Study of a Single-Session Psychoeducational Intervention for Acute Trauma Survivors in South Korea: Follow-Up After Six Months.**  
Daeho Kim, Hanyang University, South Korea
- 80 **Who Receive Trauma-Focused Psychotherapy, Medication, or Both?: Findings from Outpatients with Posttraumatic Stress Disorder in South Korea**  
Daeho Kim, Hanyang University, South Korea
- 81 **Victimization Myths and the Victims of Sexual Violence in Korea**  
Sunyoung Kim, University of Hawaii, USA
- 82 **Mindfulness and Compassion: A Comparison of PTSD Patients, Depressive Patients and Healthy Controls Using a Multi-Method Approach**  
Stella Kümmerle, Goethe University, Germany
- 83 **The Impact of Recent Kerala Floods: The Post-Traumatic Psychological Distress and Recovery Among Adolescents**  
Roshin John Kunnel, University of Basel, Switzerland
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## Poster Session 7: New Developments and Trauma

### New Developments

#### Hybrid Cognitive Behavioral and Art Therapy Intervention for Depression and Anxiety Symptoms in Family Caregivers of Children with Cancer: Preliminary Results

Olga Isabel Alfaro, Universidad Iberoamericana A.C, Mexico

Bertha Ramos del Río, Universidad Nacional Autónoma de México, Mexico

Celia Mancillas, Universidad Iberoamericana A.C., Mexico

Ivonne Torres, Instituto Mexicano de Psicoterapia de Arte, Mexico

##### Introduction

We investigated the effect of applying a group hybrid cognitive behavioral and art therapy (GCB-Art) intervention with family caregivers of children with cancer (FC) within the Mexican health care system. We report the first part of a randomized controlled trial.

FC are usually impacted in their mental health. Depression and anxiety are their most common symptoms. FC rarely receive mental health treatment in Mexico. The aim of the study is to determine the effects of a GCB-Art intervention for reducing depression and anxiety symptoms in FC of children with cancer compared to a group cognitive behavioral intervention (GCB).

##### Method

Randomized controlled trial of hybrid GCB-Art versus GCB and group treatment as usual (TU). Setting: oncology service of a pediatric hospital in Mexico Method: FC (N= 33) were randomized to receive GCB-Art (n=11), GCB (n=12) and TU (n=10). Symptoms were assessed with the Beck Depression Inventory –II and the State-Trait anxiety inventory in baseline and after treatment. A 6-month follow up is scheduled in march 2019. Interventions: GCB-Art and GCB comprised 8 weekly group therapy sessions designed and delivered by experimented and trained clinicians. TU comprised 8 weekly group sessions that are regularly delivered by the psychologists of the hospital.

##### Results

The BDI-II scores improved in both GCB-Art (Mdn=7, SD= 4.9) and GCB (Mdn= 8, SD=4.9) groups compared to the TU group (Mdn=20, SD=10.1),  $X^2= 14.8$ ,  $p= .006$ . State anxiety scores improved in the GCB-Art intervention (Mdn= 34, SD=6) compared to GCB (Mdn=36, SD= 9.7) and TU (Mdn= 42, SD=14.6),  $X^2= 10.27$ ,  $p= .005$ . The GCB-Art intervention had a big size effect for reducing depression (PS=.97) and state anxiety symptoms (PS= 1.04); the GCB intervention reduced depression symptoms with a moderate size effect (PS= .44). No changes were found in the depression and anxiety symptoms in the TU group.

##### Discussion

Results suggest that incorporating art strategies to a CB based group intervention could help improving the outcomes for depression and anxiety symptoms. The effects of the hybrid intervention were positive particularly for anxiety symptoms. Making art is related to brain activity changes, it can help people to create mindful states in an easier way than verbal or writing activities (Bolwerk, Mack-Andrick, Lang, Dörlfrer & Maihöfner, 2014). The results are encouraging although further research is needed to consider it as a possibility of treatment. We are waiting for the follow-up assessment to conclude about the effects of the CB-Art intervention

#### Facebook, Instagram and Snapchat French Adaptation of the Physical Appearance Comparison Scale (PACS)

Claire Arnaud, Luc Bardi & Céline Bages, Université de Lille, France

Frédéric Langlois, University of Quebec in Trois-Rivières, Canada

Amélie Rousseau, Université de Lille, France

##### Introduction

Physical appearance comparison is derived from social comparison. It is the process by which individuals will compare their physical appearance with others'. It has been associated to lower self-esteem and body satisfaction. The Physical Appearance Comparison Scale (PACS; Thompson, Heinberg, & Tantleff, 1991) was developed to assess how much individuals compare their physical appearance with others' in everyday life. The aim of this study is to validate and adapt this scale to social networks context. Indeed, social comparison is highly prevalent on social networks (Fardouly & Vartanian, 2015; Lup, Trub & Rosenthal, 2015). So far, no scale has been used to study the impact of specific social network (Facebook, Snapchat or Instagram) on appearance comparison. However, we assume that social comparison is carried out in a different way on social networks. Indeed, interactions in this context are often indirect or delayed. We chose these three sites for their popularity among young people.

##### Method

Participants are women aged between 18 and 30. Items from the Physical Appearance Comparison Scale (PACS; Thompson, Heinberg & Tantleff; 1991) were modified to measure the tendency to use social comparison on Facebook, Snapchat or Instagram. It is planned to administer it twice, with a 2 weeks gap between administrations, alongside other scales and questionnaires, in order to verify its test-retest reliability, and its convergent and concurrent validity. Each participant will complete one of the three scales adapted to social networks (Facebook, Snapchat or Instagram) at time 1 and will repeat this same scale at time 2.

##### Results

We expect that those scales will be sensitive enough to detect within-individual variations in participants' use of physical appearance comparison on social networks, and that its psychometric characteristics will be similar to the original scale.

##### Discussion

This study will provide us with specific tools to assess the level of social comparison used on social networks. And it will allow us to study in detail the relationship between body dissatisfaction and social comparison on social media.

#### Usability of Psycho-Educational Online Stress Management Program for University Students

Ana Babić Čikeš & Ana Kurtović, University of Osijek, Croatia

##### Introduction

Psychological counseling center for student of University of J. J. Strossmayer in Osijek has developed a Psycho-educational online stress management program in an attempt to make psychological support more available to students. The program consists of 7 modules aimed at cognition factors and skills that have been shown effective in stress management (Introduction on stress and coping, Self-esteem and

perception of control, Expectations and self-criticism, Learning skills, Time management, Problem solving, and Social skills). We conducted a usability and efficiency study of the program.

#### **Method**

The program was administered as a part of regular class for 30 second-year psychology students. The students signed a written consent for their participation in the study and were given access to each module based on determined schedule (every one or two weeks depending on the length of each module). After completion, student evaluated each module on a scale ranging from 1 – completely disagree to 5 – completely agree, as well as gave specific feedback on aspects, which, in their opinion, needed improvement.

#### **Results**

Results show that students find the program informative (mean values for different modules ranged from 4.21 to 4.62) and usable (mean values from 3.76 to 4.77). They also evaluated it as easy to understand (mean values from 4.37 to 4.74), useful (mean values from 3.96 to 4.59), and overall interesting (mean values from 3.48 to 4.31). Apart from that, student also found the modules easy to navigate (mean values from 4.10 to 4.59), logical (mean values from 4.48 to 4.77), and of acceptable length (mean values from 4.00 to 4.31).

#### **Discussion**

The results of our study suggest that student respond well to the Psycho-educational online stress management program, and that, following changes based on students' feedback, the program should be introduced to students of University of J. J. Strossmayer in Osijek.

### **French Validation and Adaptation of a State-Measure of Body-Image: The Body Image State Scale**

**Luc Bardi, Claire Arnaud & Céline Bagès, Université de Lille, France**

**Frédéric Langlois, Université du Québec à Trois-Rivières, Canada**

**Amélie Rousseau, Université de Lille**

#### **Introduction**

During the last few years, much research has made clear that an important number of women suffered from body-dissatisfaction, an important component of Body-Image. Its relationship with eating disorders, such as bulimia and eating restrictions (Rodgers, Chabrol & Paxton, 2011), makes it a good predictor of those pathologies. Actually, Body-Image is usually measured in its trait form. Even if a good number of scales and questionnaires are made to measure it (Cash, Fleming, Alindogan, Steadman & Whitehead, 2002). Very few scales measure its state form. This constitutes a paradox because Body-Image has been studied in threatening contexts, such as cultural body-ideals (e.g. Betz & Ramsey, 2017). The lack of reliable and valid French state measures of Body-Image, to our knowledge, prevents us from studying those fluctuations in detail. In this study, we plan to validate, in French, a state measure of Body-Image: The Body Image State Scale (BISS), developed by Cash and collaborators (2002).

#### **Method**

The BISS was translated using a two-way translation method. It is planned to be administered twice to 18 to 30-year-old female participants, with a 2 weeks gap between administrations, alongside other scales and questionnaires, in order to verify its test-retest reliability, and its convergent and concurrent validity.

#### **Results**

We expect that our translation will be sensitive enough to detect within-individual variations Body-Image, and that its psychometric characteristics will be similar to the original.

#### **Discussion**

This study will allow us, in the future, to study in detail the fluctuations of body-dissatisfaction in relation to social media and perfectionism.

### **Online vs. Real-Life. A Network Approach to Social Interaction and Mood: Results of the BeMIND Study**

**Teresa Bolzenkötter, Freie Universität Berlin, Germany**

**Lars Pieper & John Venz, TU Dresden, Germany**

#### **Introduction**

Technological developments in recent years have created new ways of communication that have become a vital part of many people's lives. Especially among the youth, online communication via WhatsApp or Facebook is now part of daily routine. But while interactions taking place in real-life have consistently been related to increased well-being, we are far from understanding how the ubiquity of online communication is related to how we feel and behave. The aim of the current study, therefore, was to investigate the interplay between mood and social interactions taking place in real-life and online.

#### **Method**

The analysis was part of the Behavior and Mind Health (BeMIND) study on the development of psychopathology in adolescents and young adults from Dresden (Germany). As part of the Baseline assessment, N = 1062 participants aged 14-21 completed a four-day Ecological Momentary Assessment study. They provided information about their current mood as well as about how much time they had spent on real-life and online social interactions, respectively. Data were explored by the means of a network analysis.

#### **Results**

Results indicated that real-life interactions were not only more strongly but partly also differently associated with mood than online interactions. Importantly, while real-life interaction was related to how content and satisfied participants felt, online interaction was not related to these variables. Furthermore, how much time participants spent on online communication was positively associated to how much time they spent interacting in real-life.

#### **Discussion**

The findings suggest that online interactions should be no substitute for encounters taking place in real-life. Instead, online interactions might be beneficial when integrated as additional channel to communicate with friends and family and when using it to arrange face-to-face encounters in the future. Thereby, online interaction may enrich social lives and be positively related to well-being.

## **The Role of the Body in Mindfulness-Based Stress Reduction**

**Jessica Bosch & Johannes Michalak, Witten/Herdecke University, Germany**

### **Introduction**

Today, mindfulness based interventions are widely used and metaanalytic research demonstrates good effectiveness. However, there is still an ongoing debate about the mediators of these observed effects. Classic mindfulness based programs like the Mindfulness-Based Stress Reduction (MBSR) or the Mindfulness-Based Cognitive Therapy (MBCT) have a clear focus on the body due to the included and very central mindfulness practices like body scan, mindful breathing and yoga. Nevertheless little information exists about the role of bodily processes with regard to the effectiveness of these interventions. Previous studies demonstrated that the body awareness (also called interoceptive awareness) increases during a mindfulness intervention. About the question if this is a mediator of the intervention success persists disagreement.

### **Method**

However, most of the previous studies just used pre-post-data and investigated shortened mindfulness programs, except for de Jong et al. (2016) who investigated the body awareness of TAU + MBCT- and TAU-participants pre, post and one time during the intervention and could provide preliminary evidence that a heightened body awareness could possibly be a mechanism for mindfulness – but unfortunately they could conduct the mediation analysis only with a subset of 18 datasets. The present study wants to overcome those limitations and aims to investigate body awareness as a potential mediator of the effects of mindfulness-based interventions with advanced methods:

### **Results**

We intend to evaluate body awareness (mediator) and stress levels (outcome) in approximately 140 participants (from all over Germany) of an eight-week Mindfulness-Based Stress Reduction (MBSR) course compared to an eight-week control stress training (which is not mindfulness-based) on multiple measurement points (pre, post and two times during the intervention) using self-report measures (Perceived Stress-Scale-10 (PSS-10), Cohen & Williamson (1988) and the Multidimensional Assessment of Interoceptive Awareness (MAIA), Mehling et al. (2012))

### **Discussion**

Due to this improved methodology (higher temporal grain size and higher sample size) we expect to receive more clarity about the mediating variables of mindfulness-based interventions and to gain enhanced insight in the role of the body. This new knowledge could then be integrated in the development of future interventions.

## **'Building Blocks of CBT': Development of Brief Psychological Interventions Using Components of CBT**

**Stephanie Casey, Katherine Parkin, Maggie Page, Kim Masson, Emma Travers-Hill & Youngsuk Kim, Cambridgeshire and Peterborough NHS Foundation Trust, United Kingdom**

### **Introduction**

There is growing pressure on mental health services to offer more timely and cost-effective psychological interventions to increasingly more people (NHS England, 2015; O'Conner et al., 2017). Addressing issues of limited psychology resources, an innovative practice was developed from components of CBT and piloted, aimed at: 1) reducing patient symptoms and distress; and 2) better preparing patients for a course of CBT. Brief Psychological Interventions (BPIs) are manualised, short-term interventions (8-10 sessions), delivered by non-psychologists. This project evaluates the introduction of BPIs in community mental health teams in Cambridge, commissioned to work with patients with moderate to severe mental health conditions.

### **Method**

Based on pre-existing CBT components, three BPIs were developed: 1) Anxiety Management; 2) Distress Tolerance; 3) Behavioural Activation. Key CBT components are included (e.g. psychoeducation on maintenance cycles, avoidance, graded exposure, and relaxation), but have the resource advantage of being delivered by non-qualified mental health professionals. BPIs are offered to patients with various presentations (including PTSD, psychosis). Suitable patients are allocated for BPI within 4 weeks as opposed to waiting times of 12+ months for CBT. Clinical psychologists provide staff training and fortnightly supervision. Measures of anxiety (GAD-7), depression (PHQ-9), wellbeing (sWEMWBS), and functioning (WSAS) are completed pre- and post- intervention.

### **Results**

Pre- and post-intervention clinical outcomes from patients who engaged in BPIs (N=406) over a two year period (March 2017-19) will be reported. Data is based on 288 females and 118 males (mean age=34). Service outcomes will be presented which include details around patients who go on to receive CBT in secondary care and also those who were 'stepped down' to primary care (service for those with mild to moderate mental health conditions) for CBT. Other service outcomes including disengagement, hospitalisation and discharge to General Practitioners will be included.

### **Discussion**

BPIs offer a number of benefits but most importantly they enable more patients to promptly receive psychological intervention. Standalone BPIs indicate improvements in wellbeing but also allow services to identify patients who are likely to benefit further from longer-term CBT, either in primary or secondary care, or other sectors (e.g. charity-based services). Clinical psychologists in the team describe BPIs as building blocks for CBT, offering an introduction to psychological ways of thinking and to some key processes of CBT e.g. agenda setting, formulation and homework. Subsequently, CBT can be more productive and focus on more challenging aspects (e.g. cognitive restructuring).

## **CBT for Complex Depression: Single Case Analysis of an Integrated Treatment**

**Rachel Elliott, Cambridge Adult Locality Team, United Kingdom**

**Youngsuk Kim, Kim Masson & Maggie Page, Cambridge and Peterborough Foundation Trust, United Kingdom**

**Peter Armstrong & Stephen Barton, Newcastle CBT Centre (NTW Foundation Trust), United Kingdom**

### **Introduction**

Cognitive-Behavioural Therapy (CBT) is a well-established treatment for depression: empirically supported with a large number of randomised clinical trials (RCTs; Cuipers et al, 2014) and recommended in clinical guidance for moderate/severe depression (NICE, 2009, 2017). However, in RCTs approximately 20% of patients drop out or do not complete a full course of therapy (Cooper & Conklin, 2015) and, in common with other evidence-based treatments, relapse and recurrence are significant problems (Cuipers et al, 2013; Vittengl et al, 2007). Even after continuation treatment, only one in three depressed patients currently has a sustained recovery two years post-CBT (Driesson & Hollon, 2010). This evidence suggests there is a need to enhance the effectiveness of CBT, particularly for depressed patients who are

complex, such as those with severe symptoms, highly recurrent/ chronic presentations, co-morbidities, unsuccessful prior treatment and/or problems forming working alliances in therapy.

#### **Method**

Using the complexity framework developed by the Newcastle CBT Centre (Barton et al, 2017), an integrated approach to the treatment of complex depression has been developed that harnesses a range of treatment components from 1st, 2nd and 3rd wave CBT therapies (Barton & Armstrong, 2019). This approach pays greater attention to technical challenges, unique problem interactions and alliance barriers than is usually found in standard CBT. The model is based on a self-regulation model that emphasises the role of self-identity, memories, goals and motivation. There are ten treatment components and therapists are encouraged to personalise therapy to each individual case, using a case formulation to guide the therapy process.

#### **Results**

This study will conduct a prospective test of the integrated approach using a multiple baseline single case series across two treatment sites: the Newcastle CBT Centre (NTW Foundation Trust, UK) and the Affective Disorder Pathway (Cambridgeshire & Peterborough NHS Foundation Trust, UK). Fifteen patients will receive up to 30 sessions of CBT across a 12-month period, with analysis of change patterns in depression symptoms, self-regulation and affect. SCID-5 and PHQ-9 will be used for screening. ACES will be collected at baseline. PHQ-9, PANAS-brief and SRDQ-brief will be collected during treatment. WSAS, HRSD, BDI, BAI will be collected at baseline and post treatment. CTIP and WAI conducted during the acute and continuation phase.

#### **Discussion**

Research Questions:

1. How effective is integrated CBT for complex depression, as replicated across a series of single cases? This will be tested through meta-analysis of case-level effect size estimates.
2. Do therapists maintain acceptable levels of fidelity to the treatment components specified in Barton & Armstrong (2019)? This will be tested by measuring therapist adherence and competence in a sample of therapy sessions.
3. Are the treatment effects in successful cases mediated by changes in self-regulation? This will be tested by cross-correlation analysis of predicted change patterns in the subset of successful cases.

The project will have preliminary data for approximately 50% of participants by July 2019

### **The Influence of Anticipatory Stress and Emotion Regulation on Sleep – Preliminary Results from a Smartphone Study**

**Victoria J. Firsching, Jeanette Villanueva & Marcia B. T. Rinner, University of Basel, Switzerland**

**Charles M. Benoy & Sandra Brogli, University of Basel, Psychiatric Hospital, Switzerland**

**Andrea H. Meyer & Andrew T. Gloster, University of Basel**

#### **Introduction**

Up to 80% of patients with mental illness suffer from sleep disturbances. Adding to this are often high levels of stress and low emotion regulation capacity. How anticipatory stress and emotion regulation affect sleep quality of patients, both in in- and out-patient settings, has not yet been fully understood. Since improved sleep can assist the therapy process, this study aims to assess the influence of emotion regulation on the relationship between anticipatory stress on sleep. It is hypothesized that the influence of anticipatory stress on sleep is moderated by the level of emotion regulation in the evening, especially for patients reporting bad sleep quality.

#### **Method**

Data was collected using Experience Sampling Method (ESM) from participants of a transdiagnostic clinical trial. The sample consisted of  $n = 72$  in-patients and  $n = 37$  out-patients. They were given a smartphone during their first week of treatment on which they answered questionnaires six times a day. In the morning, they assessed their sleep quality from 0 = very bad to 100 = very good. In the evening, their anticipated stress level for the next day was assessed from 0 = not at all stressful to 100 = very stressful, as well as their emotion regulation, which was re-scaled from 0-100 with higher scores meaning more emotion regulation. For this study, the baseline data of sleep quality, anticipatory stress and emotion regulation is analyzed using multi-level modelling.

#### **Results**

Sleep, anticipatory stress, and emotion regulation was assessed 1568 times (completion rate of 68.24%). 48.62% of participants were female and mean age was 34.61 (SD = 13.24). The most common diagnoses were mood disorders (32.11%) and anxiety disorders (37.61%). Comorbidity was very high, 67.89% of the sample had at least two diagnoses. On average, sleep was rated  $M = 56.47$  (SD = 24.94), anticipatory stress was rated  $M = 44.29$  (SD = 28.41) and emotion regulation was rated  $M = 61.53$  (SD = 23.02). A multi-level model using sleep as dependent variable, and anticipatory stress, emotion regulation, and time as independent variables will be tested.

#### **Discussion**

The results aim at improving the understanding of sleep disturbances of the clinical population upon entering treatment. As this study used ESM data, the repeated measures allow to show the variance of sleep, stress, and psychological flexibility over one week and how they interact. It also aims at testing, if emotion regulation would be a possible skill that can be trained in therapy in order to increase the patients' sleep quality. Emotion regulation could support the ability to handle stress and can be conceptualized a secondary goal of therapy.

### **Assessment of the Efficacy and Usability of an App-Delivered Stress Management Intervention for Distance-Learning Students in Germany: Randomized Controlled Trial (Work in Progress)**

**Lara Fritsche, Jennifer Apolinário-Hagen & Jessica Kemper, University of Hagen, Germany**

**Marie Drüge, University of Zurich, Switzerland**

**Christel Salewski, University of Hagen, Germany**

#### **Introduction**

Given the increase of stress-related health problems among students, it is a key challenge for universities to provide theory- and evidence-based health promotion programs. Especially distance-learning students, facing multiple stressors (e.g., study plus work and family), could benefit from easily accessible, tailored app-delivered stress management programs. In the context of the GFs-project (Gesundheit Fernstudierender stärken; engl.: Strengthening Health of Distance-Learning Students) at the University of Hagen the need for programs targeting specific needs of this target group was confirmed via an online survey ( $N = 5721$ ). In view of the lack of evidence-based online programs in this setting, the aim of this study is to evaluate and optimize a novel self-help stress management smartphone app tailored to the needs of distance-learning students.

## **Method**

The efficacy and usability of the app-delivered self-help intervention will be assessed using a sequential explanatory mixed-methods design. In phase 1, a randomized controlled trial (RCT) will be conducted scoping on efficacy and usability. In phase 2, qualitative methods (participatory approach: focus group discussions with target group) will be applied in order to get deeper insights into the results of the RCT and to explore ideas for improvements. Distance-learning students of the University of Hagen will be included in the RCT; clinically depressed or suicidal students will be screened out. Eligible participants will be randomized to the intervention or waitlist control group. Participants in the intervention group will immediately receive access to the intervention via app stores. Baseline-, post- (six weeks after randomization), follow-up-measurement (11 weeks after randomization) and feedback to each module will be provided via the online platform Unipark. The multimodal stress training will consist of six modules (each one week; altogether six weeks) plus one repetition module (after four weeks). The primary outcome will be perceived stress; secondary outcomes will be physical and mental stress symptoms, self-efficacy, resilience, life satisfaction, prior experience with health apps and usability of the app.

## **Results**

We expect a significant reduction of perceived stress and physical and mental stress symptoms as well as an increase in self-efficacy, resilience and life satisfaction in the intervention group compared to the control group. Furthermore, we assume that the intervention will be willingly used by the target group. With the focus groups we will identify needs and preferences to improve usability.

## **Discussion**

This study will be the first to explore the efficacy and usability of a novel app-based program designed to increase access to a stress management intervention for distance-learning students. Prospectively, the intervention group will be compared to an active control group receiving psychoeducation. Prospectively, the app could be implemented in the setting as a blended learning format and integrated in the introduction courses for new students at the University of Hagen.

## **Guilt Induction Processes in Dementia Caregiving**

**Laura Gallego-Alberto & María Márquez-González, Universidad Autónoma de Madrid, Spain**

**Rosa Romero-Moreno, Universidad Rey Juan Carlos, Spain**

**Isabel Cabrera, Universidad Autónoma de Madrid, Spain**

**Carlos Vara-García & Andrés Losada, Universidad Rey Juan Carlos, Spain**

### **Introduction**

Caring for a relative with dementia has been linked to negative outcomes on caregivers' physical and psychological health. A frequently experienced emotion by caregivers is guilt. However, the studies analyzing guilt precipitating factors are scarce in caregiving literature. One possible way through which feelings of guilt can be generated is induction processes taking place in the caring process. Guilt induction processes can be defined as the attempts carried out by one person to promote the experimentation of feelings of guilt in another individual. In the present study, we describe the Guilt Induction in Caregivers Questionnaire (Care-Recipient factors; GICQ-CR) for assessing these type of processes, reporting preliminary descriptive data and information about its psychometric properties.

### **Method**

Participants were 172 dementia family caregivers. Face to face interviews were done assessing sociodemographic variables (e.g., gender, age), general guilt feelings, and anxious and depressive symptoms. In addition, a pool of items was included measuring the frequency of different induction attempts performed by the care-recipient. In addition to descriptive data and correlations, an exploratory factor analysis (EFA) was conducted.

### **Results**

The EFA of the items composing the GICQ-CR showed a three-factor solution. The factor 1 was labelled Global disqualification and explained a 36.56 % of the variance. Factor 2, labelled Criticism about the caregiver as the distress source, explained a 10.43% of the variance. Finally, 9.42% of the variance was explained by the third factor, labelled Criticism about self-care behaviors, with reliability indexes (Cronbach alpha) of 0.78, 0.70, and 0.70, respectively. The Cronbach's alpha for the total scale was 0.82. Positive and significant associations were found between the total scale and depression ( $p < .01$ ), anxiety ( $p < .001$ ), and general guilt feelings ( $p < .001$ ). The caregiver's age showed a negative association with the total scale ( $p < .05$ ). The first factor was positively correlated with general guilt ( $p < .001$ ), anxiety ( $p < .05$ ). The second factor showed positive correlations with general guilt ( $p < .001$ ), depression ( $p < .01$ ), anxiety ( $p < .001$ ). Finally, the third factor showed positive associations with general guilt ( $p < .001$ ), depression ( $p < .05$ ) and anxious symptomatology ( $p < .001$ ).

### **Discussion**

The results of this study provide preliminary support for the use of the GICQ-CR as a valid and reliable measure of care-recipients' factors that may induce caregivers guilt feelings. The association between these factors and caregivers' distress suggest potential clinical implications of the findings.

## **Measuring Therapy in All Practices**

**Dror Gronich, Yuval Oded & Arnon Rolnick, PsySession.com, Israel**

### **Introduction**

The Resonators © is an internet-based system designed to support various therapeutic disciplines on a few levels. Firstly it offers a way to maintain the momentum created in a given therapeutic session by letting the therapist and patient co-create a "Resonator"©; a reminder that encapsulates a therapeutic insight that is perceived meaningful, central and important.

### **Method**

The Resonator follows the patients in their daily life allowing them to maintain the therapeutic content in their consciousness, let it process between meetings and more often than not digest and change these insights over time. Resonators include images, audio and/or videos and supporting text - as well as tools to collect important information on patients' state. The system assumes that the process for creating these reminders is as important as the reminder itself as it provides the framework for therapist and patient to "resonate" and sync in the process. and hence the name "Resonators"©.

### **Results**

Resonate means sync and focus their (patient and therapist) understanding on what the issues are that they are working on, what the common language is to describe these issues and what may help the patients overcome their issue. Another aspect of resonance is the impact of the Resonator/reminder on the patient. The challenge is creating Resonators that are meaningful and provoking for the patient and as part of the

path for reaching that goal, the patient and therapist often go through a thorough process. Another aspect of the Resonators system, is the ability for a bi-directional communication between therapist and patient with the purpose of allowing to patient to report in-vivo during real life experiences.

### **Discussion**

Measurements and metrics in psychotherapy is a hot subject for many reasons. The famous of which is the need to evaluate effectiveness of treatment and more commonly cost effectiveness. Therapy processes that have success and well being factors are more easily accepted as evidence based and can more easily be lent for research. We will also discuss the change in therapy process due to measuring.

## **Pilot Study of a German Version of the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders in Adolescents**

**Raphael Gutzweiler, Daniela Schwarz & Tina In-Albon, University of Koblenz-Landau, Germany**

### **Introduction**

Cognitive behavior therapy is an efficacious treatment for adolescents with anxiety disorders. For adolescents with depressive disorders treatments are only moderate efficacious. Even less treatment studies are available for adolescents with comorbid anxiety and depressive disorders, although comorbidity is high. However, transdiagnostic processes are so far neglected. Further, the percentage of adolescents seeking treatment is much smaller than prevalence rates of these disorders.

### **Method**

In a pilot study, five adolescents with anxiety and/or depressive disorder, aged 16-19 years, were allocated to a transdiagnostic treatment after a diagnostic assessment. Screening consisted of a structured clinical interview with the adolescents (Kinder-DIPS) and several self-report questionnaires on mental health, especially anxiety and depressive symptoms (Youth Self Report; Spence Children's Anxiety Scale, Beck Depression Inventory) and emotion regulation strategies (Difficulties in Emotion Regulation Scale, DERS-18). Participants received CBT according to the Unified Protocol for the Transdiagnostic Treatment of Emotional Disorders in Adolescents (UP-A, Ehrenreich-May, Rosenfield, Queen, Kennedy, Remmes, & Barlow, 2017) translated into German and adopted to the national health care system of Germany. The UP-A is a flexibly administered treatment protocol, which can be delivered in 8 modules over 16-21 weeks.

### **Results**

This pilot study examined the practicability of the UP-A in a German population of adolescents. Moreover, pre-post treatment results of anxiety, depressive symptoms, and emotion regulation strategies will be reported.

### **Discussion**

Results of the preliminary efficacy of the pilot study of the German UP-A will be discussed. There is some need for changes in the program to better adopt the UP-A in the cultural setting and the German health care system. As it is difficult to achieve adolescents for psychotherapy, accessibility for adolescents should be increased. Therefore, the German UP-A will be implemented as an online therapy as the results of this pilot study strengthen the transdiagnostic approach.

## **Pediatric Pain. Remote Monitoring of Physiological Variables of Pain in Pediatric Oncology by I-Care. A Technological Proposal**

**Verónica Miriam Guzman-Sandoval, Universidad de Colima, Mexico**

**Benjamín Domínguez Trejo, Universidad Nacional Autónoma de México, Mexico**

**Oscar Gonzalez-Perez, Universidad de Colima, Mexico**

### **Introduction**

Pain is a complex psychological and physiological phenomenon that requires integral attention because its related to mental illness like anxiety and depression (Lalloo C., Stinson J. (2014). The pain has objective components such as autonomic changes, like the increase of cardiac frequency, oxygen saturation, arterial tension, among others (Lundeberg and Lundeberg, 2013); however, it also has subjective components like pain perception, this occurs when the same painful stimulus causes pain in two different people and the reaction is different because of the influence of factors like age, gender, the pain threshold and the previous experiences. All the components referred can be evaluated through non-invasive technologies (Menos and Stanfiski, 2009). This research presents i-CARE®, that is an application aimed at health professionals to provide comprehensive and efficient health care to pediatric population. i-CARE® is an application for an Android-based Tablet on emerging technologies for the remote monitoring of physiological variables of pediatric pain, sustained on Translational Model and the Body Area Network (BAN) paradigm, and graphs in real time the data obtained by the biosensors for oxygen saturation and heart rate, it includes measurements of the subjective parameter of pain through the Visual Analogue Scale (VAS) and virtual ludic space. This application teaches children the self-regulation of physiological variables in a kind, innocuous, interactive and playful way.

### **Method**

The objectives were: to design an application to the management of pediatric pain; to evaluate it in clinical samples, and to obtain a technological product tested and validated. This research was assessed by the Bioethics Committee of the Hospital Civil "Fray Antonio Alcalde." The design was a case study. Children aged 7-10, who were hospitalized in the Pediatric Infectious Diseases Service and had no damage to the central nervous system or heart attack were included for this study. For the measurement of the FC and SpO2, digital pulse oximeter was used and operated via a 4.4 Android Tablet. i-CARE© has 4 phases: 1) Collect clinical data of the patient as sociodemographic data physiological constants and pharmacological therapy (In each phase, before starting an ending, there is the Visual Analogue Scale (VAS,) to measure the perception of pain through faces that has a score from 0 to 10, in which 0 is not in pain and 10 is a lot of pain. 2) Baseline of the physiological parameters of heart rate and oxygen saturation. 3) Relaxation that includes music composed for the application using musical formulas to produce relaxation. 4) Game in which children choose characters that's have multiple roles, with this ludic activity selective attention and classification skills are promoted; also , it induces a positive mental state through the color of the screen and the melody written ex profeso. Average heart rate, oxygen saturation and VAS display in each phase of i-CARE.

### **Results**

Three patients met the criteria for inclusion. We tracked several variables for seven days of hospitalization: Drug Therapy, heart rate and SpO2 curves. We recorded the data at the beginning and finish of the therapeutic intervention. Patient number 1 were serious during the diagnostic process and the setting of the appropriate drug therapy. Patient number 2 had been to the doctor for several months to get the removal of a cyst, so his anxiety was high; however, in the VAS, pain, this was not reflected as in other cases, possibly because of the primary caregiver's backing. Patient number 3 had at times a strong pain linked to medical maneuvers as venipuncture and blood draws for laboratory analysis.

## **Discussion**

Pediatric pain in the population studied was related to the intensity of the clinical condition, comorbidity with other medical conditions, clinical Multi-treatment in other hospital services, education of the primary caregiver (mother) below the high-school level, low socioeconomic status and previous experiences of hospitalization. Younger children crossed with higher adaptive problems, such as anger, irritability, and poor adherence to treatment than older children. i-CARE® allows the teaching of self-regulation of physiological variables such as SpO2 and FC, and both parameters are autonomic changes of pain. i-CARE® was interactive, harmless and playful for pediatric patients; in addition to this, the physiological data of the emotional component of pain can be systematized and incorporated into a file for clinical decision. Pediatric pain is still a problem not being sufficiently addressed that requires more psychotherapeutic management that will complement the pharmacological treatment. Acknowledgment: The first author would like to thank Programa para el Desarrollo Profesional Docente (UCOL-PTC-263).

## **Can Workplace Cognitive-Behavioral Group Intervention for Preventing Mental Health Issues Improve Work Functioning? A Systematic Review**

**Yuko Ihara, Tamami Matsumoto & Ryu Takizawa, The University of Tokyo, Japan**

### **Introduction**

The number of employees who leave of absence from work due to mental health problems has been growing in Japan. While more attention has been paid to reform labor conditions by launching annual evaluations of employee's stress factors and responses from 2015 by law, this worsening trend remains to be done. It is then necessary to introduce effective interventions to promote employees' health. Cognitive-behavioral therapy (CBT) based program is considered the most effective intervention for preventing mental health problems in the workplace (e.g., Tan et al., 2014). Nonetheless, most of the researchers in this area focused on the improvement of mental health indicators, mostly depression, to evaluate the effectiveness of group CBT. In terms of cost-benefit for employers, not only is it important to prevent mental health problems but also to enhance work functioning. This paper will review earlier investigations of the improvements in work functioning by group CBT.

### **Method**

The aim of this review is twofold. First, we attempt to summarize evidence and examine the contents detail on CBT-based group program at the workplace, which could enhance work functioning. Second, we try to find proper outcomes to evaluate the improvements of work functioning by group CBT for our future studies.

A systematic search of the literature used the electronic databases (MEDLINE, EMBASE, PsychINFO, PubMed, CINAHL, Web of Science) for studies published in English from 1990 to 2018. Two reviewers screened for studies: (1) targeting employees without current mental disabilities; (2) evaluating group CBT intervention at the workplace; (3) assessing work functioning as outcomes; and (4) with controlled trials.

### **Results**

There are few original articles which assessed on work functioning by group CBT-based intervention (e.g., Tsutumi et al., 2009). All the researches reported significant improvements in work functioning (effect size; from 0.3 to 1.1). The types of intervention programs included psychoeducation, cognitive reframing, problem-solving, relaxation, recognition of stressors and coping, assertive communication skill, and others. The duration of the program was very varied (two hours one-day workshop to one-year program). The outcomes measure of work functioning was self-reported job performance (absenteeism, presenteeism), subjective work performance, work participation. Other indicators, such as well-being, job satisfaction, QoL, were also assessed as predictors of improving work functioning.

### **Discussion**

Our systematic review showed that the effective interventions to enhance work functioning contained multiple techniques of psychotherapy including cognitive-behavioral skills. However, there were only a few studies measuring work functioning as an outcome of efficacy of workplace group CBT-based program. Further effectiveness studies are needed in the future; to spotlight on evaluating work functioning and to understand what type of skill in CBT-based program have a positive influence on work functioning beyond mental health promotion.

## **Dispositional Mindfulness Moderates the Relationship Between Positive Affect and the Experience of Pleasure**

**Ayça Ilgaz, Yeditepe University, Turkey**

**Ayşe Altan-Atalay, Koç University, Turkey**

### **Introduction**

Deficits in reward sensitivity are pivotal for the understanding and treatment of various psychological disorders such as major depression, schizophrenia, or drug addiction. Defined as the inability to experience pleasure from stimuli once regarded enjoyable, anhedonia is not only a severely debilitating core symptom of these disorders but also a factor that interferes with their treatment. An ever-growing body of research suggests that dissecting hedonic rewards into components of 'wanting' and 'liking' would enable better insight into the nature of this symptom, as each target different neural pathways of pleasure. The 'wanting' pathway corresponds to the pleasure experience obtained from anticipating an impending reward; whereas, 'liking' involves the hedonic response to immediate rewards (Gard et al., 2006). Among the underpinnings of hedonic deficits, attentional processes play a key role (Dubal, Pierson, & Jouvent, 2000). However, the relation of hedonic deficits to receptive attention and awareness of momentary events or affective states remain only poorly understood. This study examined the link between mindful attention and awareness and types of pleasure experience in relation to the level of self-reported positive and negative affect.

### **Method**

Two hundred and forty healthy Turkish speaking volunteers (147 female) whose age range was 18-73 (Mage= 30.92; SD= 10.54) years, participated in the current study. The participants completed the Turkish version of questionnaires assessing intensity of positive and negative affect, mindfulness, persistent anhedonia along with the Temporal Experience of Pleasure Scale (TEPS) that screens Anticipatory and Consummatory Pleasure Experience as separate constructs of 'wanting' and 'liking' respectively.

### **Results**

The results revealed that mindful attention and awareness moderated the relationship between consummatory pleasure and the intensity of positive affect. In this regard, different levels of consummatory pleasure were not associated with differences in the intensity of positive affect at lower levels of mindfulness. However, at medium and higher levels of mindfulness, elevated levels of consummatory pleasure appeared to be associated with higher levels of positive affect [ $R^2 = .12$ ,  $F(5, 222) = 6.25$ ;  $p < .05$ ]. No interaction effect of mindful attention and awareness was observed to predict positive affect for the anticipatory pleasure experience or physical anhedonia.

## **Discussion**

These findings imply that being able to focus on the moment while engaging in a rewarding activity is associated with increased positive feelings. The hedonic impact derived from momentary pleasurable experiences is therefore not accompanied by positive feelings if individuals are unable to keep their attention focused on the moment, which may result in the occurrence of anhedonic symptoms. Findings will be discussed based on relevant literature. For a comparison, further research is required on the underlying mechanisms of the anticipatory pleasure experience.

## **A Case Study of the Time-Varying Dynamics of Sleep During Cognitive Behavioural Therapy for Insomnia**

**Marianne Källström & Matilda Thors, Åbo Akademi University, Finland**

**Annika Gunst, University of Turku, Finland**

**Patrick Jern, Åbo Akademi University, Finland**

### **Introduction**

Sleep disorders are prevalent and associated with negative consequences such as accident-proneness and cognitive impairment. As recent smart technology developments have led to new possibilities of tracking sleep, cognitions and emotions through apps and activity trackers, it is possible to collect experience sampling data to explore the temporal relations between for example sleep and cognitive hyperarousal via novel statistical methods such as vector autoregressive modelling. Such modelling allows for exploring causal relations not only between symptoms and correlates of psychological problems, but also therapy components. Modelling experience sampling data can therefore be especially beneficial in a psychotherapy context. In the present study, we aim to model the changing dynamics of sleep effectiveness (SE) and cognitive hyperarousal over the course of six sessions of cognitive behavioural therapy for insomnia (CBTI), exploring how they are affected by the treatment components.

### **Method**

In the present study, experience sampling data were gathered from a person participating in six CBTI-sessions over the course of 12 weeks. The participant was a 23-year old woman with disordered sleep who rated her cognitive hyperarousal level and sleep quality with a daily diary and wore an activity tracker (FitBit) measuring pulse, activity level and amount of sleep. We analysed: 1) How SE changes over the course of a CBTI intervention; 2) Whether the autoregressive effects for SE (how SE predicts itself over time, from night to night) change during the intervention; 3) How the level of cognitive hyperarousal changes during the intervention; 4) Whether the autoregressive effects for cognitive hyperarousal change during the intervention; 5) Whether cognitive hyperarousal has a temporal effect on SE not accounted for by the autoregressive effects, and whether this effect diminished during the intervention. Data were analysed using time-varying vector autoregressive modelling.

### **Results**

The data collection is in progress. We expect to track changes in the level of SE and its autoregressive effects, and attribute possible changes to specific sessions and treatment elements. We predict that as the treatment progresses, the degree to which SE predicts itself over time will rise, and that the potential cross-lagged effects of cognitive hyperarousal on SE will diminish.

### **Discussion**

As intra-individual variance in emotions, cognitions and behaviour may often be larger than inter-individual variance, group-level results about how therapy works and what its effects are are not automatically generalizable to the individual level. Therefore, case studies analysing within-individual psychological dynamics are an important addition to nomothetic psychotherapy research. More specifically, quantitative case studies modelling temporal change can also help in creating new and more detailed hypotheses on what elements of psychotherapy can be considered effective and how behavioural and psychological change occurs during the course of an intervention. Time-varying autoregressive modelling is a promising method for quantifying these changes using ecologically valid data.

## **The Effect of the "K" Technique on Levels of Anxiety and Salivary Cortisol in Adolescents with Cognitive Challenge**

**André Kolb, Kamila Castro Grokoski, Alberto Scofano Mainieri & Rudimar Dos Santos Riesgo, Universidade Federal do Rio Grande do Sul, Brazil**

### **Introduction**

Anxiety has become a well-studied emotional reaction because of its high prevalence in the world's population (WHO, 2017). In the attempt to anticipate events, anxiety affects emotional, biological and cognitive aspects that can cause, for example, variation of the cortisol levels and influence directly the performance of one's learning (Shin & Liberzon, 2010; Desousa et al., 2013; Huberty, 2010; Syokwaa et al., 2014). Researchers seek alternative techniques to reduce the effects of anxiety in a short, medium and long term. Some results show that meditation and mindfulness, for example, can be used with safety (Willhelm, Aandretta & Ungaretti, 2015; Neil & Christensen, 2009; Ergene, 2003; Werner-Seidler, Perry, Calear, Newby & Christensen 2017). Taking this into account, this research presents theoretical arguments for the construction of a new technique and its first results. The so called Technique "K" aims to reduce student's anxiety before a cognitive challenge and it is based in the concepts of Yoga, Respiration and Mindfulness (Carmody & Baer, 2009; Kabat-Zinn et al., 1992; Miller et al., 1995; Goldin & Gross, 2010; Grossman et al., 2004; Ciesa & Serretti, 2009; Khoury et al., 2013; Smith et al., 2007).

### **Method**

The Technique, which lasts around 20 minutes in total, was divided in nine stages, providing an emotional and cognitive learning (cognitive reframing) by fully understanding the aspects of anxiety and how to manage them. Through a randomized, controlled clinical trial, we evaluate the levels of anxiety through the Beck Anxiety Inventory (Beck et al, 1988; Cunha, 2001) and salivary cortisol (Jones et al., 2000; Roche Diagnóstica Brasil Ltda, 2015). We observed and compared the results of Brazilian students in the last year of high school, who were facing school tests, before and after the application of the "K" technique (intervention group) and a placebo (control group). Statistical analyses consisted in using the Chi-square test for association tests and Spearman for correlations. In order to compare the results gathered in the before and after phases, which are paired dependent results, the paired Wilcoxon was used.

### **Results**

Principal component analysis suggests that comparing before to after intervention in the case group, -10.50 (-18.25; -4.75) was statistically higher than the values obtained in the control group, -6.00 (-8.75; -1.25). ( $p = 0.025$ ). Comparing the variation of salivary cortisol levels in the case group, -0.1050 (-0.2075; -0.0400), with that of the control group, -0.0800 (-0.1800; -0.0250), it is not possible to identify statistical significance ( $p = 0.462$ ).

## **Discussion**

The results suggest the effectiveness of the "K" technique in the treatment of anxiety, and this therapy may be an alternative in the treatment of anxiety in high school students who are facing school tests. Although we present here interesting first results regarding the subject, future research is needed to extend the preliminary data obtained in this study.

## **Early Maladaptive Schemas in Relation to DSM-V Pathological Personality Traits and Internal Dialogicality**

**Małgorzata Łysiak, The John Paul II Catholic University of Lublin, Poland**

### **Introduction**

Numerous studies have examined early maladaptive schemas (EMS) and their relationship to many personality disorders. The newest diagnostic system (DSM-V) presents hybrid model of personality disorders, where the essential criteria to define any personality disorder are: moderate or greater impairment in personality functioning and the presence of pathological personality traits. Pathological personality traits are organized into five trait domains: negative affectivity, detachment, antagonism, disinhibition, and psychoticism - each of which is further explicated by a set of trait facets reflecting aspects of the domain itself. This trait system has been shown to correlate well with the Five Factor Model (FFM) and dysfunctional beliefs. However, to date, there are no empirical investigations that have examined the relationship between EMS and DSM-V pathological personality traits. In an attempt to further elucidate this relationship, the purpose of the current, exploratory study was to examine the relationship between EMS and pathological traits.

The second variable to be checked in the context of the schemas was internal dialogicality, which has been shown to be associated with multiple positive emotional, cognitive, and behavioral consequences. Functions of internal dialogues are known to play a substantial role in planning, problem solving, reasoning, making decision, emotional expression and self-reflection. This involvement of internal speech in such a large number of important cognitive and behavioral functions signifies that it certainly represents a key aspect of our mental life. If so, the second question appeared: How the internal dialogicality affects people's health? No known research has examined the possible affinity between the types of inner dialogues with pathological structure of personality and schemas by Young.

### **Method**

A representative sample of 498 individuals from the nonclinical population, aged 18-67 ( $M=30.99$ ,  $SD=10.27$ ), including 52% women completed three questionnaires: Young's Schema Questionnaire (YSQ-SF), the Internal Dialogical Activity Scale (IDAS) by Oleś and the Personality Inventory for DSM-5 (PID-5-SF) by Krueger, Derringer, Markon, Watson and Skodol.

### **Results**

Regarding to the raised questions, the additive model between schemas, pathological personality traits and typology of internal dialogues was tested. It showed adequate fit ( $RMSEA = .08$ ,  $CFI = .94$ ) and all items loaded  $> .50$ . Covariance between schemas and pathological personality traits is  $.86$  and they both explain internal dialogicality. Most domains of early maladaptive schemas explain internal dialogues ( $.36$ ). People with high schemas in: Disconnection&Rejection domain and Impaired Autonomy domain are prone to take the ruminative and dissociative dialogues, as well as people, who characterize emotional lability, anxiousness and separation insecurity (high negative affectivity), with unusual beliefs and experiences as well as eccentricity (high psychoticism).

### **Discussion**

Discussion regards possible interpretations of the relationships between different aspects of EMS, inner communication and pathological personality traits and their consequences for clinical practice. Additionally, the remarkable correlation between schemas and pathological traits suggests a hypothesis with a similar theoretical construction and this result will be also discussed regarding the cognitive-behavioural treatment.

## **Patient and Public Involvement in a Service Evaluation of CBT-Based Interventions**

**Rachel Maciag, Katherine Parkin & Stephanie Casey, Cambridge and Peterborough NHS Foundation Trust, United Kingdom**

**Emma Travers-Hill, Kent and Medway NHS and Social Care Partnership Trust, United Kingdom**

**Maggie Page & Youngsuk Kim, Cambridge and Peterborough NHS Foundation Trust, United Kingdom**

### **Introduction**

Involving patients in research is recommended by the National Institute of Health Research (NIHR) in the UK as good practice. The Cambridge Adult Mental Health Service has incorporated this ethos by working collaboratively with the Lived Experience Advisory Group (LEAG) and Patient and Public Involvement (PPI) group. They provided valuable input into the service evaluation designed to evaluate the effectiveness and acceptability of Brief Psychological Interventions (BPIs) that have been developed on core CBT techniques. Involving patients and carers has been found to empower them and reflect a shared commitment to service development, whilst ensuring service evaluations and research projects are applicable to reality (Wright et al., 2006; Steele, 2004).

### **Method**

The input of two advisory groups, LEAG and PPI, was used to help inform the decisions and design of a mixed methods service audit evaluating BPIs. Their comments will be analysed using a thematic analysis. PPI members were asked to provide feedback on overall impression of BPI, particularly on the acceptability of the interventions by the public. LEAG members engaged in several consultation meetings which allowed for continued input as the service evaluation progressed. They provided feedback on service evaluation design and methodology, including proposed semi-structured interview questions, patient and carer satisfaction questionnaires and a leaflet for BPIs.

### **Results**

Both groups were beneficial to the initial and on-going development of this service evaluation, the result from the thematic analysis will be visually presented. PPI provided feedback by offering advice on making the study more suitable to the public (e.g. taking out service jargons). LEAG offered input in ethical considerations (such as protecting anonymity and control group samples), grant application, language and visual feedback used in materials, and provided their own lived experiences to reflect upon the content of the evaluation and BPI itself. This ensured that clarity and simplicity was retained.

### **Discussion**

Service evaluation and research development often neglects patient and public participation, despite it being recommended by guidelines. Although time constraints could be a barrier to working with an advisory group, in this instance, the time made to meet with groups offered was invaluable with quality input and better outcomes. Contributions made by LEAG informed project decisions and allowed collaborative working. The feedback from PPI benefited the study by providing a view of public acceptability which informed future engagement with the public. In conclusion, including both LEAG and PPI in the design process of a service evaluation had a positive impact.

## **Examining the Experiences and Views of Non-Qualified Staff Delivering Cognitive Behavioural Therapy-Based Interventions** **Rachel Maciag, Stephanie Casey, Katherine Parkin & Maggie Page, Cambridge and Peterborough NHS Foundation Trust, United Kingdom**

**Emma Travers-Hill, Kent and Medway NHS and Social Care Partnership, United Kingdom**

**Youngsuk Kim, Cambridge and Peterborough NHS Foundation Trust, United Kingdom**

### **Introduction**

In the UK, demand for CBT has led to staff from various backgrounds delivering psychological interventions (Layard et al, 2006). Adult mental health teams in Cambridge have trained and supervised non-qualified staff in fundamental components of CBT and the delivery of brief psychological interventions (BPIs). To date, research has focused on therapy outcomes resulting from training or supervision (Westbrook et al, 2008), whilst little research has sought information from those delivering, through qualitative methods. This study used semi-structured interviews to explore staff perspectives in the hope of contributing to the research-base on CBT practice.

### **Method**

Eleven semi-structured interviews were conducted with staff members delivering BPIs. Staff members included Support, Time and Recovery Workers (n=7), Peer Support Workers (members of staff with lived experience of mental health difficulties; n=2) and Assistant Psychologists (n=2). They were provided with an information sheet and consent form prior to the interview and steps were taken in the design of this service audit to ensure confidentiality in order for staff members to speak openly. A thematic analysis will be used to identify themes in the data.

### **Results**

Results of the analysis will be presented visually with themes that occur from discussion. The semi-structured interview focused on a number of topics including; 1) training and supervision, 2) using manuals to guide treatment and 3) general views and reflection of their experiences learning and delivering the fundamentals of CBT through BPIs.

### **Discussion**

The BPIs have been developed as a way to meet the demand for CBT-based interventions with limited psychology resources. Understanding acceptability and feasibility at the level of those who deliver the interventions is essential in increasing the quality of interventions and ensure staffs feel supported and confident in delivering. Thus it is our aim to identify themes in the analysis to provide ideas for areas of improvement in the development of CBT-based interventions with non-qualified staff.

## **Smartphone CBT-Based Ecological Momentary Interventions to Improve Mental Health**

**Marta Marciniak, University of Zurich, Switzerland**

**Birgit Kleim, Psychiatric University Hospital, University of Zurich, Switzerland**

### **Introduction**

Around 70% of Western European society has access to a smartphone. Therefore, a growing number of interventions are delivered via this channel (for instance, via SMS or apps) in order to maximize the ecological validity of the treatment. This approach is a so-called 'Ecological momentary intervention' (EMI). The trend towards using EMIs has grown in the past few years and is connected with the development of new mobile technologies.

Recently, an increasing number of EMIs have focused on increasing mental health quality among both healthy and clinical populations. Subjects may train their stress management skills, learn new emotion regulation strategies and how to control their affect, or even to reduce symptoms of mental disorders. The purpose of the review is to synthesize current research on evidence-based EMIs, which have been built on Cognitive Behavioral Therapy assumptions in order to improve mental health in terms of feasibility and outcomes.

### **Method**

MEDLINE, PsycINFO, Cochrane, and PubMed databases were searched for relevant studies published between 2010 and February 2019. Four search terms were used to find articles: (1) mental health, (2) smartphones, (3) Cognitive Behavioral Therapy (CBT), and (4) ecological momentary interventions.

Blended interventions (for example, psychotherapy in combination with an app) were excluded from the study.

Based on this definition, a total of 6 studies (using either a within- or between-subject design) were included in the review.

### **Results**

EMIs can be successfully delivered and significantly increase positive well-being among users with a broad range of psychological problems. Relatively easy access to this kind of psychological assistance reveals a need for an intensified development of smartphone-based interventions.

Moreover, EMIs may postpone the necessity of intervention of a qualified psychologist, which renders them very cost-effective. This is an important benefit because stress-related mental disorders are now one of the most widespread societal diseases. It is worth mentioning that EMIs may also provide a valuable means of support even after therapeutic procedures are complete.

Limitations of the prior studies were identified, as well as future recommendations for sample characteristics, duration of intervention, number of training sessions, and clinical implementations.

### **Discussion**

Mobile technology-based EMI can be effectively implemented as a treatment or support for a variety of mental health issues. Future research should create individually tailored EMI, ideally based on Just-In-Time Adaptive Interventions combined with machine learning and simple biosensors (for example bracelets or wristwatches) to provide the highest level of individualization and even more ecologically valid interventions.

## **“Leave the Anger Behind Bars” – Computerized CBT for Excessive Anger in Prisoners – Preliminary Report**

**Dragana Markanovic, Branka Bagaric, Josko Jurman & Dunja Bozic, Croatian Association for Behavioral-Cognitive Therapies, Croatia**

**Petra Kremenjas, The Ministry of Science and Education of Croatia, Croatia**

**Ana Kordic, Psychiatric Hospital for Children and the Youth Zagreb, Croatia**

**Ines Jakovic, University of Rijeka, Croatia**

### **Introduction**

Anger is a frequent problem in the prison population. Inmates score significantly higher on anger measures compared to the general population. In addition, it has been shown that anger levels rise as the sentence progresses. Deficits in emotional self-regulation are one of the risk factors for criminal recidivism. CBT-based programs are shown to be effective in reducing anger and are therefore commonly used with inmates. However, there is a shortage of qualified practitioners in the penal system. Computerized treatments offer a possible way to overcome this obstacle. Such programs are shown to be effective in treating a wide range of conditions, but computerized treatments for excessive anger, especially for the inmate population, are scarce.

### **Method**

As part of a project funded by the government of the Republic of Croatia, we adapted the standard CBT treatment for excessive anger into an Android application for computer tablets. Cognitive-behavioral techniques, such as psycho-education, cognitive restructuring, problem-solving, relaxation, and time-out were adapted for the prison population. Treatment consists of 9 mandatory weekly topics (sessions) and 5 optional topics (mindfulness, anger towards children, communication techniques, using humor and mood management). Topic structure was based on the typical CBT session structure. Case vignettes, exercises and homework assignments were especially adapted for inmates. Special attention was given to developing and maintaining participation motivation using token economy. Users collect points for activities in the application, which they may exchange for different rewards, such as playing computer games, reading jokes or magazine articles.

### **Results**

The application was preliminarily tested for acceptability with a small convenient sample of participants. Preliminary results show that computerized CBT for excessive anger in prisoners is useful, comprehensible and fun to use.

### **Discussion**

The application is currently being used and evaluated by male inmates in three correctional facilities in Croatia. Pilot testing of the application is planned with a total of 100 prisoners, with 50 of them comprising a wait-list control group.

## **Success: Beliefs and Behaviors- The Importance of Resigning Success**

**Renata Mello & Ramos Natália, Universidade Aberta, Portugal**

### **Introduction**

This work intention is to show some results of the research: Behaviors and beliefs associated to success in different generations: Intercultural and intergenerational perspectives.

The motivation that gave rise to this research began in our psychological clinical care when we verified the existence of a high frequency of incapacitating beliefs related to failure, especially among younger patients in Brazil and Portugal.

The present work aims to show the differences of the meanings of success we found, as well as the individual beliefs and behaviors associated with it. We want to discuss the necessity of resigning success to psychological health

### **Method**

In order to carry out this research, an online questionnaire was created and made available on social networks, in which 291 people (Brazilian and Portuguese) participated and answered questions related to success. The investigation based itself on the answers given to these questions. Then, an examination and a discussion of the personal beliefs of the meaning of being successful and the priorities involved in self-assessment of the term, as well as individual beliefs and behaviors of self-concept, self-worth, ability, optimism, pessimism, concerns, perfectionism, organizational habits, planning and time distribution capacity took place. We used quantitative analysis and qualitative analysis.

### **Results**

Our findings didn't confirm the usual meaning of success. We asked people to classify 9 items according to their priority to feel successful. The research showed that 60% of our respondents value family as a priority number 1 to feel successful in opposition 58% thought power was less important item (9). The classification according to results: Family, personal fulfillment, do something with meaning, work, friendship relations, overcoming, money, fame, power. This ambiguity of the term “success”, more commonly referred to as a synonym for wealth, fame and power, and continually associated with excellence, perfection and high performance results in sports, school, professional and business environments, has especially affected young people. The perfectionism is becoming higher nowadays and it is dangerous to many young people.

The good news is that most of the respondents surveyed self-conceptualized as successful, demonstrating that there is a conceptual flexibilization of the definition of success. Younger groups, in addition to perceiving themselves as less successful, have demonstrated a greater antagonism of meanings, indicating an incompatibility between what they understand to be successful and what they truly value in order to consider themselves successful people. On the other hand, older people showed themselves to be more resilient, less pessimistic, less concerned in general and less fearful of failure, which contributes to and is expressed in physical and emotional health.

### **Discussion**

The need for a resignification of the term was verified, considering that the most recurrent meanings, based on common sense and related to economic success, are not compatible with the meanings granted by the majority of the research participants, which are often associated with happiness, well-being, family, self-fulfillment, quality of life and the meaning of life.

## **Alcohol Intoxication Impairs the Bystander Risk Detection in a Hypothetical Sexual Assault: A Field Investigation**

**Alita Mobley, Lindsay Ham, Alex Melkonian & Edward Molina, University of Arkansas, USA**

### **Introduction**

Alcohol-related sexual assault remains a dangerous and prevalent problem among young adults. While previous research suggests alcohol intoxication of victim and/or perpetrator is a risk factor for sexual assault, little is known about alcohol's effects on bystanders' ability to recognize a potentially assaultive situation. This is important given that bystander intervention programs involve mobilizing third-party

witnesses to take action to prevent a sexual assault and bystanders are likely to be in convivial drinking settings. We addressed this gap by examining the effects of alcohol intoxication on bystanders' perceived sexual assault risk. Alcohol intoxication was predicted to decrease risk assessment.

#### **Method**

Participants (N=327; 45.3% women) ages 21-29 (Mage = 23.19, SD = 2.32) were recruited on the sidewalk of an area with a high-density of bars near a University in the United States. Participants completed demographic/background items, then listened to and read a story describing a party in which they witness nonconsensual sexual activity between two of their friends. Risk appraisal was assessed using three items asking the participant to rate on a 1-10 scale the degree that the situation was dangerous, was uncomfortable, and required intervention for the victim. Breath alcohol concentration (BrAC) was measured with an Intoxometer FST® Breathalyzer.

#### **Results**

Consistent with the hypothesis, results of a hierarchical regression with BrAC, gender, and their interaction,  $F(3, 323) = 2.972, p = .032, R^2 = .027$ , revealed a significant main effect of BrAC (MBAC = .054, SD = .045; Range = .00-.158) on perceived risk assessment composite score,  $t = -2.92, p < .01$ . Overall, most participants rated the situation as being high risk ( $M = 8.74, SD = 1.29$ ). However, risk appraisal levels decreased as intoxication increased,  $\beta = -0.160$ . The main effect of gender and gender X BrAC interaction term were non-significant,  $p_s > .697$ .

#### **Discussion**

Participant intoxication was negatively related to assessing the situation as dangerous and one which requires intervention. These results are consistent to the myopic effects of alcohol, such that more intoxicated individuals may be more attentive to positive social cues of the party rather than attending to cues of risk. It is possible that motivated bystanders do not intervene when intoxicated because they are not able to accurately identify situations in need of intervention. Sexual violence prevention programs which teach bystander intervention strategies may also consider training in how to identify risky situations, considering limitations that may occur when intoxicated.

### **New Approach to Assessing the Influence of the Surrounding Architectural Enclosed Space on Human Mental Activity**

**Uliana Moskvitina, Belgorod State National Research University, Russia**

#### **Introduction**

A modern person spends most of his life in a closed architectural space. Changes in the morphofunctional character occur in the brain itself and its constituent components, which are reflected in neurophysiological changes as a result of the brain analyzing the conditions of the real surrounding space (Moser, E. I. et al., 2017). For example, after a space flight and a long stay in a closed space, psychological, functional, and anatomical changes in brain structures develop (Clément G. et. Al., 2013; Schmidt MA et. Al., 2013, Roberts DR et. Al., 2017).

#### **Method**

A new method for assessing the influence of the architectural form of the closed space on the functioning of the brain and mental activity is proposed. It is based on the use of the properties of a simply connected space homeomorphic to a sphere, which makes it possible to apply a unified measuring base of closed space and hemispheres with obtaining the same estimated indicators.

The method includes macro encephalometry of the hemispheres with obtaining the ratios of the areas of their free surfaces and the surface area of the minimum imaginary sphere described around them. Also, determining the ratio of the area of the inner surface of the closed space in which the person is located, and the surface area of the maximum imaginary sphere inscribed in this space.

The method is implemented using a computer-diagnostic hardware complex positron emission and / or functional magnetic resonance imaging, as well as the means of computer simulation of architectural spaces.

#### **Results**

The relationship between the parameters of closed spaces (for example, sphere, cube, parallelepiped, cylinder, and pyramid) and the morphofunctional characteristics of the cerebral hemispheres is established.

#### **Discussion**

The proposed method allows increasing the informativeness of diagnostics, conducting a cluster assessment of individual morphological and functional features of the brain, as well as optimizing the provision of psychiatric and psychotherapeutic assistance in a cognitive-behavioral approach. In addition, it allows you to plan and create architectural objects, taking into account the individual needs of the human brain, ensuring maximum adaptation and optimum functioning.

### **The Reliability and Validity of the Korean Version of the State Mindfulness Scale**

**Seunghye Noh, Seokjin Ryu & Hyunju Cho, Yeungnam University, South Korea**

#### **Introduction**

Mindfulness has known as a protective factor for reducing psychological symptoms. A number of studies investigating the effect of mindful based interventions consider the mindfulness as disposition. However, there are still controversy about considering the mindfulness as trait or state. If we only regard the mindfulness as trait, there would be limits to understand mindful experience exactly. Therefore, the State Mindfulness Scale(SMS) was developed reflecting two levels. (1)one's experience in the present moment, (2)attention of on physical sensation and mental event. This study was performed to evaluate the reliability and validity of the Korean version of State Mindfulness Scale(K-SMS).

#### **Method**

A total of 417 university students (210 female, 207 male; Mean age [SD] = 21.24[2.40]) participated in this study. As suggested by the original scale, to explore the factor structure of the K-SMS the data set was divided into two subsample: Subsample 1 (n=201) for the exploratory factor analysis (EFA), and Subsample 2 (n=216) for the confirmatory factor analysis (CFA). Firstly, EFA was conducted to investigate the components of K-SMS. Secondly, CFA was conducted on new samples to ensure that the factors structure shown in EFA. Thirdly, reliability was obtained through split-half reliability and internal consistency (i.e. Cronbach' a). Finally, the convergent and discriminant validity of SMS were investigated. All of participants reported degree of state mindfulness (SMS), mindfulness Korean version of state mindfulness (SMS), mindfulness (CAMS-R, MAAS), depression, anxiety, and anxiety symptoms (DASS), positive and negative affection (PANAS).

#### **Results**

The results of EFA and CFA supported two-factor solution with 20 items, one reflecting state mindfulness of mind (14 items) and the other state mindfulness of bodily sensations (6 items). Overall, the model fit indices of two-factor solution was acceptable: CFT = .91, TLI = .89, SRMR = .06, RMSEA = .077. The K-SMS demonstrated significant correlation with state mindfulness (CAMS-R,  $r = .32, p < .001$ ), but no significant correlation was found in the dispositional mindfulness (MAAS,  $r = .01, p = n.s$ ). In addition, the SMS showed significant

correlations with positive and negative affection (PA:  $r = .32, p < .001$ ; NA:  $r = .12, p < .05$ ), but no significant correlation with depression, anxiety, and stress (DASS,  $p = n.s$ ). The split-half analysis revealed that the reliability of SMS was high ( $r = .92, p < .001$ ) and internal consistency was great (Cronbach's  $\alpha = .94$ ).

#### **Discussion**

Findings suggest that the K-SMS is a promising measure of state mindfulness with good psychometric properties. Firstly, the K-SMS will provide clinicians and researchers a simple and sound measurement when they examine the studies related to state mindfulness. Secondly, it can be a monitoring tool for practitioners to check their mindfulness level by themselves during their mindful training.

### **Divided Psychotherapy and the Internet: Integration Using Hybrid Models**

**Liat Noiman, The Open University of Israel and Rolnick's Clinic, Israel**

**Arnon Rolnick, Rolnick's Clinic, Israel**

#### **Introduction**

The possibility of using the internet for psychotherapy presents the therapeutic world with a fundamental dilemma. On one hand, it makes treatment accessible to populations that did not have access to psychological interventions beforehand, and to individuals with problems that prevent them seeking such interventions. On the other hand, it challenges the conviction that genuine human contact is imperative for successful psychotherapy. We present a case that illustrates hybrid therapy, in which the patient is in the room with a dynamic therapist, and a CBT therapist intervenes remotely (via the internet).

#### **Method**

The patient is a 30 year old, single woman. She has several diagnoses (personality disorder, anxiety disorder and depression) and for several years, she has been taking antidepressant and anxiety medication. On the one hand, studies show the importance of cognitive behavioral intervention as a therapeutic channel. On the other hand, it was clear that the patient desperately needed emotional support, and an opportunity to express her anxieties, desires, etc. It was clear that the nature of her interpersonal interactions was inhibiting her ability to pursue a marital relationship. Due to the many difficulties that the patient faced, the therapeutic setting was adapted to her needs and she began to attend, two sessions per week.

#### **Results**

Treatment began with dynamic orientation. Although a good therapeutic relationship was developed and changes were made in several areas, there was no decrease in her level of anxiety and depression, or her ability to function on other levels. It was therefore decided to add an additional session to the existing two, which would be of behavioral cognitive nature. It would begin with psycho-guidance, and then proceed towards behavioral activation and exposure. The patient could have been sent to meetings with a CBT therapist but there were two reasons not to do so. One was the patient's resistance and the second was the need to process the behavioral interventions dynamically. The difficulty in coordinating the schedules of two experienced caregivers led to the idea of remote intervention.

#### **Discussion**

Treatment is still underway. It is difficult to identify results at the symptomatic level, but the combined model was well received by the patient. The patient previously resisted CBT treatment, but this arrangement makes it possible. The therapists report that most of the coordination between them was conducted via remote meetings.

### **Which Emotional Processes Are Impaired in Alexithymic Patients? A Comparison Between a Clinical and a Non-Clinical Sample**

**Ana Nunes da Silva & António Branco Vasco, University of Lisbon, Portugal**

**Jeanne C. Watson, University of Toronto, Canada**

#### **Introduction**

The research literature repeatedly shows patients with alexithymia as having poor outcomes in psychotherapy. In this study we reflect upon this concept. Our goal is to spur thinking about the specific processes underlying alexithymia in order to identify better ways of working with it in therapy.

#### **Method**

A mediation model is presented to better understand the association between alexithymia and emotional processing. Through a cross sectional study we compared 120 clients and 197 non-clinical participants using a measure of alexithymia, several measures of different emotional processes – emotional awareness, emotional differentiation, emotional expression and emotional regulation – and also general symptom severity.

#### **Results**

In the present study, the results show that the clinical and non-clinical samples differ both in terms of alexithymia and the mediation of emotional processes.

#### **Discussion**

Deeper understanding of the alexithymia concept is particularly useful for psychotherapy intervention that can benefit from more specific emotional interventions.

### **Alexithymia and Change Process: Two Case Studies**

**Ana Nunes da Silva & António Branco Vasco, University of Lisbon, Portugal**

**Jeanne C. Watson, University of Toronto, Canada**

#### **Introduction**

The research literature repeatedly shows patients with alexithymia as having poorer outcomes in psychotherapy.

#### **Method**

We reflect upon psychotherapy with alexithymic patients comparing two cases throughout 16 sessions: one patient starting therapy with alexithymia and other without. From the patients perspective different dimensions are explored: emotional components, symptoms, therapeutic alliance, and the processing capacity regarding the phase-specific general strategies as postulated in the Paradigmatic Complementarity metamodel (PCM). Regarding the therapists' perspective, we investigate the PCM phase-specific strategic goals promoted throughout those sessions and the evolution of the therapeutic alliance. Quantitative and qualitative data are presented.

## **Results**

The sequencing of general strategies as a phase-by-phase map of the therapeutic process will be used to highlight differences and similarities in the development of these patients' and therapists' variables.

## **Discussion**

The implications for psychotherapy intervention are highlighted.

## **Validation of the German Young Positive Schema Questionnaire (YPSQ) and the Positive Schema-Domain Network in the General Population and Psychiatric Patients**

**Andreas Paetsch & Josefine Moultrie, Max Planck Institute of Psychiatry, Germany**

**David Bernstein, Maastricht University, the Netherlands**

**Nils Kappelmann, Julia Fietz, Martin Keck & Johannes Kopf-Beck, Max Planck Institute of Psychiatry, Germany**

### **Introduction**

Central to Schema Therapy (ST) are Early Maladaptive Schemas (EMS). EMS are pervasive negative belief patterns that revolve around certain themes and that are theorized to develop when core emotional needs have been unmet during childhood (Young, Klosko, & Weishaar, 2003). A primary aim of ST is to meet these core emotional needs via therapeutic techniques. For ST to optimally target core emotional needs, it is thus key to have concrete, validated concepts that highlight strengthening resources (as opposed to merely depleting pathology) to focus upon. Until recently, however, clear definitions of positive themes that develop when core emotional needs are met were lacking. This changed with the introduction of the Young Positive Schema Questionnaire (YPSQ) by Louis and colleagues (2018) which measures Early Adaptive Schemas (EAS). The YPSQ has been validated in Asian and United States samples but not yet in a German sample or clinical population.

### **Method**

The validity of the German version of the YPSQ and the relation between EAS and psychopathology was investigated in a general sample (N=655) which was recruited online and a clinical sample (N=121) which was recruited in two psychiatric clinics.

### **Results**

(1) First, Cronbach's Alpha and Omega total values of YPSQ subscales, domains, and all items were reported. Next, a confirmatory factor analysis was conducted to establish factorial validity of the proposed 4 domains and 14 EAS. In addition to a comparison of EAS in the non-patient and patient samples, correlations between the YPSQ and measures of EMS, life-satisfaction, and resilience were computed to evaluate construct validity. Incremental validity over EMS for relevant outcome variables (symptomatology, life-satisfaction, and resilience) was assessed using hierarchical multiple regression. (2) Network analyses comprised of positive schema-domains, sub-scales of psychopathology (based on the Brief Symptom Inventory), and resilience were conducted and compared in the general and clinical sample.

### **Discussion**

The YPSQ offers a valid assessment of EAS in the German-speaking general population and in psychiatric patients. The differential centrality of positive schema-domains highlights their potential etiological and diagnostic value and signifies the usefulness of EAS for therapy planning and implementation into treatment.

## **A Case for Compassion: Development of a Compassion-Focused Therapy Group for People with Moderate to Severe Mental Health Difficulties**

**Katherine Parkin, Cambridge Adult Mental Health Locality Team, United Kingdom**

**Gabriel Ardeman, Huntingdon Adult Mental Health Locality Team, United Kingdom**

**Elisabeth Felter, Dave Haggarty & Maggie Page, Cambridge Adult Mental Health Locality Team, United Kingdom**

### **Introduction**

Self-criticism and shame are present across a variety of mental health difficulties. Compassion-Focused Therapy (CFT) can be used transdiagnostically to address this. CFT focuses on developing skills to trigger the brain's self-soothing system, primarily through imagery exercises. CFT offers promise for our service which treats patients with moderate to severe mental health difficulties, where self-criticism may be high and traditional CBT may have been ineffective. Teaching CFT skills through a group intervention provides a fantastic use of limited resources, as well as providing a platform for patients to learn from one another, support each other and share their lived experience.

### **Method**

We are developing an 8-week compassion-focused therapy group, based on Gilbert's (2010) compassion-focused approach. Sessions will last 90 minutes and be divided into theoretical learning and experiential exercises. Each session will focus on learning a new skill, whilst also practising the skill from the previous session. This group will be offered to patients with mood disorders and psychotic disorders across two National Health Service (NHS) community teams in the Cambridgeshire area, UK. We have consulted with a 'Lived Experience Advisory Group' (i.e. people with personal experience of mental health difficulties) in order to inform the development of this group.

### **Results**

We report on the development of this group, its format, selection of outcome measures, and our hopes for future development. In particular, we aim to carry out a service evaluation on the effectiveness of this intervention by comparing pre- and post-group outcome measures of compassion.

We also discuss the benefit of consulting people with personal experience of mental health difficulties in the development of this group. Through this process, we can tailor the therapy to patients' needs and offer an intervention which is acceptable to those who will participate in it.

### **Discussion**

From a patient perspective, groups offer a platform for sharing personal experience and expertise, and practising skills in a safe environment. A group-based intervention also allows patients to observe compassion displayed by others and model it themselves.

From a service perspective, in a climate in which resources for mental health provision are constrained, groups offer a cost-effective use of these limited resources. Furthermore, once group protocols have been developed, groups can run on a rolling basis, making them a sustainable resource. As many patients don't have access to research-recommended psychological interventions, groups offer a viable option for improving access to treatment.

## **Autonomous Cars: New Territory for CBT Interventions**

**Arnon Rolnick & Gil Weis, Rolnick's Clinic, Israel**

### **Introduction**

Much has been written about use of CBT in various settings and conditions (in the workplace, the classroom, the GP's office and sports). There is, however, very little data about application of CBT in moving vehicles. There are several studies on using CBT interventions to reduce road stress and anger in drivers. However, as drivers stop controlling their vehicles and become passengers instead, genuine new problems may arise. Autonomous cars are about to become a reality, and it is clear that new problems may emerge and be disturbing for passengers in these cars.

For example, this change may present difficulties related to trust. At least at the beginning, people may be somewhat apprehensive about being transported by a computer.

However, this presentation will focus on a severe psychophysiological problem that will certainly become a concern for users of autonomous cars, namely Motion Sickness Syndrome (MSS), and the helplessness that accompanies this syndrome.

### **Method**

In our 1991 article, Why is the driver rarely motion sick, we focused on the role of controllability in moving vehicles. Using Seligman's model, we predicted that psychological problems resembling helplessness may emerge under conditions of uncontrollable motion.

The lack of control and the inability to predict the direction of motion will become major factors that contribute to MSS in autonomous cars.

Moreover, passengers will likely use the time to read or watch videos, which is very likely to produce a significant increase in carsickness.

We study MSS in the field (cf. boats and other moving vehicle - see Rolnick 1978), and in the laboratory (cf. simulators like rotating chairs - see Rolnick and Lubow 1991, tilting rooms and Virtual Reality settings - see Rolnick and Bles 1989). We also used animals to study conditioned taste aversion and nausea (Rolnick 1984).

### **Results**

Findings from previous studies demonstrate the importance of behavioral and cognitive processes. For example:

- Rosenbaum and Rolnick (1984) examined the range of self-control (SC) behaviors and their ability to cope with seasickness. We found that High-SC seasick subjects reported using self-control methods to cope with seasickness more extensively than Low-SC seasick subjects.
- Other studies published by the Israeli Navy demonstrated the ability to reduce seasickness by verbally enhancing self-efficacy.
- NASA researchers showed that biofeedback combined with autogenic training was very successful in preventing MSS.
- In his 2019 book on MSS, Dobie summarized his work in the British and Canadian air force, as well as in the American Navy. He suggests that CBT is the main approach used to cope with MSS among sailors and pilots.

### **Discussion**

Carsickness will certainly become a major problem in the upcoming era of autonomous cars. The knowledge we have gained from cognitive behavioral interventions for stress and other disorders will certainly be helpful as more and more people might need help coping with this transient yet severe malaise.

## **The Conscious and Unconscious in Aaron T. Beck's Cognitive Theory – A Historical Perspective.**

**Monika Romanowska, University of Gdansk, Poland**

### **Introduction**

In his Paul Hoch Award address in 1984 Aaron T. Beck said that the locus of the problem in psychological disorders is what is called in psychoanalysis the „primary process” or the „unconscious”, in behaviorism „the black box”, and in cognitive therapy „the primitive cognitive organization” (Beck, 1984, p. 133).

The distinction between and conceptualization of the conscious and unconscious processes is one of the fundamental challenges of psychology, which somehow had to be sort out by every psychological school from psychoanalysis, through behaviorism and phenomenology to cognitive psychology. In 1890 William James said that „[Unconscious] is the sovereign means for believing what one likes in psychology.” (James, 1890, Vol.1, s.163), whereas John Kihlstrom in 1995 announced that: „One of the major accomplishments of the cognitive revolution in psychology has been an increased appreciation of the role of unconscious processes in cognition, emotion, and motivation.” (Kihlstrom, 1995, p. 136). It illustrates how perspectives on the idea of the unconscious processes can be different.

### **Method**

On account of that, an unusually interesting question is what is the clinical cognitive theory's perspective on the unconscious processes and structures? Aaron T. Beck is known, according to popular opinions, as a researcher who rejected the idea of the unconscious in the name of science. But is it the whole story? In a historical – theoretical research project we conduct, we decided to analyze the publications of Aaron T. Beck from the early sixties to the present moment and materials gathered in the Beck's Archives of Pennsylvania University in search of traces of a cognitive conceptualization of implicit processes. Beck's Archives contain unpublished correspondence of Aaron T. Beck, his notes, drafts of articles and books. Also publications of authors were analyzed, which Beck in his interviews and articles mentions as having influence on him: Rogers, Allport, Rapaport, Freud, and others.

### **Results**

The conducted analysis led us to putting forward the thesis that for the way of thinking and theorizing of Aaron T. Beck of the most importance were: avoiding the extremes, reasonableness, and caution in formulation of hypotheses. For that reason in his understanding of the „primary process” we can see influences of both phenomenological theory of Rogers, psychoanalysis and behavioristic empiricism. Aaron T. Beck tried to create a centered and balanced theory of personality which avoids unverifiable hypotheses as well as an excessive reductionism. Such was also his concept of the unconscious structures and processes. He has in common with Rogers the focus on the exploration of consciousness and preconscious (non-dynamic understanding of the unconscious processes). He connects with the psychoanalytic concept of personality by using hypothetical constructs such as „schema” or „psychic energy” and, as he states himself, „[making] conscious certain processes that are initially unconscious” (Alford, Beck, 1997, p. 125). However, his understanding of the implicit mental structures changed over time.

### **Discussion**

This historical research on the evolution of the idea of the unconscious processes in Beck's theory makes possible realizing that this idea is not only present but is also prone to change.

## **Targeting Procrastination Using Psychological Treatments: A Systematic Review and Meta-Analysis**

**Alexander Rozental, Karolinska Institutet, Sweden**

**Sophie Bennett, University College London, United Kingdom**

**David Forsström, Stockholm University, Sweden**

**David Ebert, Friedrich-Alexander Universität Erlangen-Nürnberg, Germany**

**Roz Shafran, University College London, United Kingdom**

**Gerhard Andersson, Linköping University, Sweden**

**Per Carlbring, Stockholm University, Sweden**

### **Introduction**

Procrastination can be stressful and frustrating, but it seldom causes any major distress. However, for some people, it can become problematic, resulting in anxiety, lowered mood, physical complaints, and decreased well-being. Still, few studies have investigated the benefits of targeting procrastination. In addition, no attempt has previously been made to determine the overall efficacy of providing psychological treatments.

### **Method**

A systematic review and meta-analysis was conducted by searching for eligible records in Scopus, Proquest, and Google Scholar. Only randomized controlled trials comparing psychological treatments for procrastination to an inactive comparator and assessing the outcomes by a self-report measure were included. A random effects model was used to determine the standardized mean difference Hedge's  $g$  at post-treatment. Furthermore, test for heterogeneity was performed, fail-safe  $N$  was calculated, and the risk of bias was explored. The study was pre-registered at Prospero: CRD42017069981.

### **Results**

A total of 1639 records were identified, with twelve studies (21 comparisons,  $N = 718$ ) being included in the quantitative synthesis. Overall effect size  $g$  when comparing treatment to control was 0.34, 95% Confidence Interval [0.11, 0.56], but revealing significant heterogeneity,  $Q(20) = 46.99$ ,  $p < .00$ , and  $I^2 = 61.14\%$ , 95% CI [32.83, 84.24]. Conducting a subgroup analysis of three out of four studies using cognitive behavior therapy (CBT) found an effect size  $g$  of 0.55, 95% CI [0.32, 0.77], and no longer showing any heterogeneity,  $Q(4) = 3.92$ ,  $p = 0.42$ ,  $I^2 = 0.00\%$ , 95% CI [0.00, 91.02] ( $N = 236$ ). Risk of publication bias, as assessed by the Egger's test was not significant,  $z = -1.05$ ,  $p = 0.30$ , fail-safe  $N$  was 370 studies, and there was some risk of bias as rated by two independent researchers. In terms of secondary outcomes, the self-report measures were too varied to present an aggregated estimate.

### **Discussion**

Psychological treatments seem to have small benefits on procrastination, but the studies displayed significant between-study variation. Meanwhile, CBT was associated with a moderate benefit, but consisted of only three studies. Recommendations for future research are provided, including the use of more valid and reliable outcomes and a screening interview at intake.

## **Changes in the Social Mind Through Therapy for OCD**

**Maike Salazar Kämpf, Universität Leipzig, Germany**

**Philipp Kanske, Technische Universität Dresden, Germany**

**Cornelia Exner, Universität Leipzig**

### **Introduction**

Differences in the abilities to understand others, to empathize and to feel compassion are central to many mental disorders. Moreover, affect sharing (empathy) and understanding others' mental states (Theory of Mind, ToM) are so crucial for every day communication (Kanske et al., 2015) and for social cohesion that alterations may lead to profound disturbances in one's social life. Social relationships on the other hand seem to be a decisive factor in recovering from mental disorders (Schön, Denhov & Topor, 2009). Obsessive-compulsive disorder (OCD) is a condition that heavily affects the patient's social life (Adam et al., 2012; Ruscio et al., 2010). Close others often get involved into OCD symptoms (Abramowitz et al., 2013), which can lead to a vicious cycle, straining the relationship and at the same time enhancing OCD symptoms. Fortunately, cognitive-behavioral treatment is effective in reducing OCD symptoms (Rosa-Alcázar et al., 2008). However, it has not been investigated if psychotherapy for OCD leads to changes in ToM, empathy or compassion. The aim of this study is to investigate if and how ToM, empathy and compassion are affected by therapy for OCD. We expect that through therapy patients will experience a decrease in their symptoms and consequently a decrease of their stress. As stress affects ToM abilities (Smeets et al., 2009), we expect an increase in patients' ToM performance after a successful therapy. Moreover, OCD, just like depression (O'Connor et al., 2002), is often characterized by an overly active moral system and interpersonal guilt (Salkovskis et al., 2000; Shafran, Thordarson & Rachman, 1996), indicating too much empathy. This is undermined by a recent meta-analysis where higher levels of overidentification were associated with higher levels of pathology (Muris & Petrocchi, 2017). Thus, we expect a decrease in empathy after therapy. The same meta-analysis showed that higher levels of compassion (humanity) were associated with lower levels of pathology (Muris & Petrocchi, 2017). Consequently, we expect an increase in compassion after therapy.

### **Method**

To address these questions, we will use the EmpaToM task (Kanske et al. 2015). The EmpaToM allows the simultaneous investigation of the affective (empathy), and cognitive understanding of others (ToM), as well as compassion, which is defined as a warm feeling towards others. The three constructs are assessed with a socio-affective Video Task. Sixty patients with primary diagnosis of OCD were included in our study. Before therapy (T1) symptom severity was measured by trained diagnosticians, self-report measures and behavioral measures were assessed. Each therapy consisted of 12 sessions. Therapists followed a standardized manual for OCD treatment. Midway (after sixth session, T2) and after therapy (T3) diagnosticians again assessed symptom severity and patients filled in self-report measures and completed two behavioral tasks (EmpaToM and a Mindwandering task). We used different versions (A, B) of the EmpaToM in randomized order.

### **Results**

We will present preliminary data on the effects of CBT for OCD on the social mind.

### **Discussion**

The finding will be discussed, compared with results of other studies and presented in the context of social mind theories.

## **Effectiveness of Treatment with Hypnosis and Catalepsy in Patients with Conversion Disorder**

**Marleen Tibben, Maarten Merckx & Judith Schaap\*, HSK expertise conversie, the Netherlands**

### **Introduction**

A conversion disorder is a psychological disorder characterized by disruptions of motoric and/or sensory functions, for example tremors, paralysis and loss of sensory functions like sight and hearing. Yet there has not much research been done about the treatment of conversion disorder. Nowadays two commonly used treatments are hypnosis and catalepsy. Till this moment there are only two well randomized studies about the treatment with hypnosis by motoric symptoms of conversion disorder (Moene et al., 2002, 2003). In both studies the psychological treatment was effective. There are big similarities between symptoms of a conversion disorder and hypnotic phenomena (Oakley, 1999; Veilleumier, 2014). For example conversion looking like paralysis and blindness can be aroused during hypnosis.

Catalepsy induction is a state of tonic immobility both present in animals and humans. In 1970 catalepsy induction is developed by Sacerdote as a mechanism for therapeutic purposes. Later it is developed further by Hoogduin and researched by Hageñaars e.a. (2006). By means of catalepsy induction it is possible to bring arms, legs and even the whole body in a cataleptic state. This can be applied at patients with walking problems or abnormal movements like tremors.

The purpose of this research is to update and broaden the scientific literature about psychological treatments of the motoric subtype of conversion disorder by testing if the treatment with hypnosis and catalepsy induction leads to a decrease in the severity of the conversion disorder symptoms and to detect if the potential treatment effects are stable over time.

### **Method**

This research is set up as a within subject design. At the intake patients are asked to participate in the research. When they agree there is a waiting time of 8 weeks till the treatment starts. The treatment consists of 8 weekly sessions. The first 4 sessions consists of hypnotic treatment and the other 4 sessions consists of catalepsy induction. After the treatment there is again 8 weeks without treatment and at the end there is a follow-up meeting. Overall there are 5 measurement moments; the first moment is at the intake, the second at the start of the treatment, the third halfway the treatment, the fourth at the end of the treatment and the last one at the follow-up meeting. The progress of the complaints in the first 8 weeks without treatment will be compared with the progress of the complaints during and after the treatment. In this way the patients form their own control group.

### **Results**

At this moment the research is still in progress. The results are available in the first half of this year, so it will be a great opportunity to present them on the congress. Based on the literature the expectations are that the treatment with hypnosis and catalepsy will cause a significant decrease in the conversion disorder complaints, a decrease in psychological complaints and increase in quality of life.

## **Anger in Chronic Pain: The Role of Self-Compassion**

**Anja Carina Schmitt & Julia Anna Glombiewski, University Koblenz-Landau, Germany**

### **Introduction**

People suffering from chronic pain also experience high levels of anger. This is associated with increased disability, greater pain intensity, reduced treatment response as well as impaired relationships, high self-blame and poorer pain acceptance. Enhancing compassion as an approach to persistent anger is used commonly in eastern. Self-compassion comprises three components: self-kindness, common humanity and mindfulness. In the context of pain, it is associated with better pain-coping as well as reduced pain-related disability. Concerning anger, more daily loving-kindness practice is related to lower pain and lower anger outcomes. Compassion Cultivation Training in people suffering from chronic pain lead to significantly reduced pain severity and anger as well as increased pain acceptance. The current study adds a large sample size and a cross-sectional design to prior research, exploring whether self-compassion might be a new approach to specifically target anger in chronic pain.

### **Method**

Adults suffering from chronic pain (N = 245) were recruited from psychosomatic inpatient clinics, medical offices, outpatient clinics, physiotherapy practices and via the internet. The study involved the completion of several validated self-rating instruments at two measurements, about eight weeks apart. Disability (PDI), anger (STAXI) and depression (PHQ-9) as well as self-compassion (SCS) and psychological inflexibility (PIPS) were assessed. Participants provided informed consent. The local ethics committee of Philipps-University Marburg, Germany approved all procedures.

### **Results**

Self-compassion was significantly correlated with lower disability ( $r = -.246$ ;  $p \leq .001$ ), levels of depression ( $r = -.497$ ;  $p \leq .001$ ), state anger ( $r = -.337$ ;  $p \leq .001$ ), trait anger ( $r = -.438$ ;  $p \leq .001$ ), anger in ( $r = -.492$ ;  $p \leq .001$ ) and anger out ( $r = -.265$ ;  $p \leq .001$ ) as well as higher anger control levels ( $r = .177$ ;  $p = .005$ ).

Multivariate regression analysis with self-compassion (t1) and psychological inflexibility (t1) as predictors were conducted. All anger-related variables, the subscales of STAXI (t2) (state anger [ $R^2 = .139$ ,  $F = 19.596$ ,  $p < .001$ ], trait anger [ $R^2 = .193$ ,  $F = 28.862$ ,  $p < .001$ ], anger in [ $R^2 = .251$ ,  $F = 40.501$ ,  $p < .001$ ], anger out [ $R^2 = .071$ ,  $F = 9.274$ ,  $p < .001$ ] and anger control ( $R^2 = .040$ ,  $F = 5.101$ ,  $p = .007$ ) were tested as dependent variables. Every tested model reached significance. Self-compassion explained unique variance for all anger-subcales ( $p \leq .002$ ), psychological inflexibility only for state anger ( $p = .008$ ).

### **Discussion**

Self-compassion predicts different aspects of anger in people suffering from chronic pain. Therefore, it might be a relevant therapeutic approach to target anger in chronic pain treatment. Future research should focus on developing and evaluating specific interventions.

## **Personalized Lifestyle Advice Alters Affective Reactivity in Anhedonic Young Adults**

**Michèle Schmitter & Eeske van Roekel, Tilburg University, the Netherlands**

**Albertine Oldehinkel, University of Groningen and University Medical Center Groningen, the Netherlands**

### **Introduction**

Anhedonia is a common symptom of several disorders and an increasing problem among young adults. Cost-effective treatments focused on anhedonia specifically, have been lacking. Therefore, personalized lifestyle advice has recently been investigated as a suitable means of enhancing pleasure and positive affect (PA) in young anhedonic adults (Van Roekel et al., 2016). The present study extended this previous intervention study by examining a potential mechanism of treatment success, focusing on affective reactivity (AR) to events in daily life.

## **Method**

This study explored changes in AR from pre- to post-intervention using the Experience Sampling Method (ESM), in a subclinical sample of anhedonic young adults (N = 69, Mage = 21.45; 80.1% female). Participants filled out momentary assessments three times a day for 2 consecutive months. After the first month, they received personalized lifestyle advice. AR was operationalized in terms of positive and negative affective reactions to positive and negative events in daily life.

## **Results**

Multilevel linear regression analysis in Mplus version 8 (Muthén & Muthén, 1998-2015) revealed that participants did not experience more PA or a larger decline in negative affect (NA) when facing positive events after the intervention. When facing negative events, participants experienced a smaller increase in NA after the intervention but no difference in PA reactivity was found. However, improvers, those who experienced reduced anhedonic symptoms after the intervention, experienced a smaller decline in PA and a smaller increase in NA after the intervention when facing negative events.

## **Discussion**

This study provides evidence that the underlying mechanism of altered AR to negative events might explain the effectiveness of the intervention, as improvers showed weaker affective responses to negative events after the intervention.

## **Latent Change Trajectories of Subjective Stress Throughout Cognitive-Behavioral Therapy: Evidence for a Transdiagnostic Construct**

**Eva Elisa Schneider, Aleksandra Kaurin, Michael Witthöft, Anne-Kathrin Bräscher & Michèle Wessa, Johannes Gutenberg-University Mainz, Germany**

### **Introduction**

Research on cognitive-behavioral therapy (CBT) typically focuses on disorder-specific interventions, yet the introduction of dimensional models of psychopathology has called the need for psychological processes that are relevant across a range of mental disorders to our attention. Based on previous research on change mechanisms (e.g., mastery; Grawe, 1994) and situational appraisal processes (Lazarus, 1984), we set out to investigate the transdiagnostic value of subjective stress perceptions operationalized as self-reported self-efficacy and helplessness across a variety of disorders and over the course of psychotherapy.

### **Method**

Using the German 10-item perceived stress scale (PSS; Cohen et al., 1983), we conducted Growth Mixture Modeling to identify different latent classes of change in a naturalistic sample of N=608 outpatients (M=35 years; SD=12.69; range 17–76; 70.4% female) over the course of CBT and up to 12 months post-treatment (M=46 sessions; SD=11.56; range 30–80). For subsequent external validation purposes, we then inquired into the relation between identified change patterns and their predictive power for self-reported symptom severity (Global Severity Index of the Brief Symptom Inventory; Derogatis, 1993) and self- and therapist-reported session ratings on alliance, mastery experience and problem activation at intake and during treatment (Ntherapists=152).

### **Results**

Four latent subgroups were identified, showing clusters of change trajectories throughout therapy and follow-up that were independent of diagnosis. One group consisted of patients whose levels of perceived stress rapidly decreased and showed the best outcomes (n=237; steady improvers). Two groups represented patients starting therapy at higher levels of perceived stress and showing relatively flattened gradients of change, with partly deteriorating subjective stress by the end of treatment and over follow-up (n=270 and n=57; moderate improvers). A final group was characterized by relatively low and constant levels of perceived stress at treatment onset and throughout therapy (n=44; low-level stress). Patient characteristics that significantly predicted class membership included age, gender and –to some degree– comorbidity. Change patterns were meaningfully associated with self-reported symptom severity and therapist-rated levels of alliance, mastery experience and problem activation.

### **Discussion**

This pattern of results speaks to the transdiagnostic value of differential change trajectories throughout therapy, as these show no associations between group membership and diagnosis and uniquely predict treatment outcomes based on symptom severity and both, self- and informant-rated therapy progress. By identifying transdiagnostic stress profiles in CBT, economic and comprehensive monitoring profiles can be incorporated in routine outpatient treatment to serve as feedback system for treatment planning and evaluation.

## **Developing an Instrument to Assess Symptom Networks and Functional Relations for Individual Case Conceptualization with Experience Sampling Method: A Pilot Study**

**Saskia Scholten & Julia Anna Glombiewski, Universität Koblenz-Landau, Germany**

### **Introduction**

The medical illness model has driven psychotherapy research and practice into a dead end. New lines of thinking such as network theory (Borsboom, 2017) and process-based therapy (Hayes & Hofmann, 2018) foster individual assessment and personalized psychotherapy. An integration of these approaches conceptualizes mental disorders as networks that are composed of biopsychosocial processes (e.g., attention, analytic thinking). Symptoms of mental disorders may result when external triggers (e.g., dismissal) lead to local perturbations (e.g., attentional biases, repetitive negative thinking) of the network which cascade into a systemic perturbation that continues to exist without the external trigger and constitutes the mental disorder (e.g., depression). The essential questions for clinical practice are which processes need to be targeted and what is the combination of treatment strategies that most effectively leads the network to transition into a healthy state again (Borsboom, 2017).

### **Method**

In the present study, we developed an instrument using the structure of functional analysis to assess symptom networks and functional relations aiming to identify the processes that need to be targeted with personalized psychotherapy (see Mumma, Marshall, and Mauer, 2018 for a comparable approach).

A literature search was conducted to identify questionnaires that assess triggers such as daily hassles (120 items), as well as cognitive (80 items), emotional (12 items), physiological (45 items) and behavioral (62 items) reactions. Items were standardized, and duplicates were eliminated or integrated. By means of a pre-assessment, items are identified that are most relevant to the individual patient's mental health problem. Additionally, in the absence of a questionnaire assessing consequences the respective items are formulated individually with the patient.

## **Results**

For the pilot study, patients with depression and anxiety disorders (n = 3) were recruited in the mental health care center associated to the department of clinical psychology of the University Koblenz-Landau. After two face-to-face sessions including a diagnostic interview, the pre-assessment, and the formulation of individualized items, Experience Sampling Method (ESM) was used for the daily assessment. The final individualized instrument for the daily assessment comprised a maximum of 30 items that are presented three times per day for thirty days in a smartphone-enabled, web-based survey.

## **Discussion**

The study is currently in process. Data are planned to be analyzed with network and/or path analysis resulting in an individual dynamic and functional analytic model of triggers and symptom networks. The poster will present the study design as well as preliminary results.

## **Automating the Identification of Sudden Gains Within Psychological Therapy Datasets: A New R Package**

**Milan Wiedemann, Graham Thew\*, Richard Stott & Anke Ehlers, University of Oxford, United Kingdom**

### **Introduction**

Sudden gains are large and stable changes on an outcome variable between consecutive measurements of an intervention such as psychological therapy. Researching these occurrences in repeated-measures data may help to understand why treatments work and thus improve their efficacy and efficiency. Sudden gains are typically identified based on the criteria outlined by Tang and DeRubeis (1999). However, the process of applying these criteria can be extremely time consuming and prone to errors if not fully automated, especially in larger datasets. Further, methodological decisions such as how missing data, or multiple gains, should be handled vary across studies and are reported with different levels of detail. These problems limit the comparability of individual studies and make it hard to understand or replicate the exact methods used.

### **Method**

R is a free open-source software program with a range of capabilities including data preparation and visualisation, statistical analysis, and manuscript preparation. Users can contribute new functions in the form of add-on 'packages'.

### **Results**

We have developed a new package called 'suddengains', which provides a set of tools to facilitate sudden gains research by automating the identification of sudden gains within a dataset, adjusting for missing data. The package provides descriptive statistics for the sudden gains identified, as well as exportable data files for further analysis.

### **Discussion**

This poster presentation will demonstrate how the package works using example therapy data. It will illustrate its potential to greatly increase the efficiency, methodological consistency, and transparency of sudden gains studies.

## **Revamping Services: The Effectiveness of a Brief CBT-Based 'Initial Intervention' for New Clients Delivered by Junior Staff**

**Emma Travers-Hill, Kent and Medway NHS and Social Care Partnership Trust, United Kingdom**

### **Introduction**

Mental health services are seeking innovative ways of working effectively with limited resources. With this in mind, a UK National Health Service organisation (Kent and Medway NHS and Social Care Partnership Trust) has developed an 'Initial Intervention' psychological package for new clients in services. It is aimed at equipping clients with a formulation, strategies and a wellbeing plan.

This package contains two distinct ingredients: 1) it utilises transdiagnostic research alongside CBT theory for application to the majority of clients, and 2) it utilises Clinical Psychologists in training junior staff to deliver the package.

The package is designed to be a balance between being manualised and formulation-based (Padesky and Mooney, 1990).

Is it feasible and effective to the client and to the service?

### **Method**

Junior mental health staff (e.g. support workers) working in a community adult mental health service were trained and supervised by a Clinical Psychologist to deliver CBT-based interventions to all new clients in a pilot project. The pilot took place between November 2018 and April 2019 and included over 50 clients. Pre-post symptomatology data included measures of depression (Patient Health Questionnaire-9; Kroenke et al., 2006), anxiety (Generalized Anxiety Disorder-7; Spitzer et al., 2006), wellbeing (Recovering Quality of Life; Keetharuth et al., 2018), and how mental health impacts on their life (The Work and Social Adjustment Scale; Mundt, Marks, et al., 2002). In addition to this, the outcome for the service was recorded (i.e. discharge from service, referral to psychology team).

### **Results**

A consort diagram will show the flow of clients through the package. Graphs will show the pre-post analysis of the symptomatology data. A pie chart will show the breakdown of various service outcomes.

### **Discussion**

The discussion will cover the feasibility and effectiveness of the Initial Intervention package for both the clients and the service flow. It will offer insight for those considering implementing such models in their services and a 'key learning tips' section.

## **Activating Resilience – The Personal Model of Resilience**

**Philipp Victor & Ulrike Willutzki, Witten/Herdecke University, Germany**

### **Introduction**

Resilience as a process variable can be activated in psychotherapy and counselling to overcome obstacles and crises. A four-step-model of strength-based CBT promoting resilience – the Personal Model of Resilience (PMR; Padesky & Mooney, 2012) – is introduced by this poster. In this intervention, individual resilience strategies are activated, summarized in a personalized model, transferred to a problem area and generalized. Compared to common resilience interventions, the PMR uses existing resilience strategies rather than building new ones.

### **Method**

The PMR has been applied as a three-session-module in four studies to various samples: Study 1 compared the PMR to a matched control sample in student counselling (n=53; Victor, Teismann, & Willutzki, 2017). Study 2 applied the PMR to patients, who are waiting for psychotherapy, as a group intervention (n=56; Victor, Teismann, & Willutzki, 2016). Study 3 compared the PMR to a problem focused CBT-intervention (ABC model) and a waiting control group in a randomized controlled trial for students with symptom burden (n=57; Victor &

Willutzki, 2018). Study 4 compared the PMR online to a face-to-face setting and a waiting control group (n=94) (Victor, Krug, Vehoff, Lyons, & Willutzki, 2018). The outcomes of these studies are summarized and compared.

#### **Results**

The results demonstrate that the PMR is an intervention module that is effective for patients as well as for students with symptom burden. It is superior to waiting conditions and equally effective as the ABC module. There is also more profit for participants in a face-to-face condition compared to a similar online-therapy module. Within and between group effects sizes of the PMR range from small to large in measurements of psychopathology, incongruence and positive dimensions.

#### **Discussion**

The PMR is effective for psychotherapy and student counselling. As an intervention module, it can be easily integrated into CBT conceptualizations. The PMR works as face-to-face intervention, group therapy and online intervention. Further studies with clinical populations are needed, for example with additive designs.

### **Intentional Behavior and the Quality and Avoidance of Social Interactions**

**Jeanette Villanueva, Andrea H. Meyer, Marcia T. B. Rinner & Victoria J. Firsching, University of Basel, Switzerland**

**Charles Benoy & Klaus Bader, Psychiatric Hospital of the University of Basel, Switzerland**

**Andrew T. Gloster, University of Basel, Switzerland**

#### **Introduction**

Social interactions (SIs) are vital to humans. Social domains are also consistently rated by patients as more important in terms of valued behavior than non-social domains (Wersebe et al., 2017). Yet, social domains seem to be compromised in patients, therefore pointing to a discrepancy between wanting and acting. In many psychological disorders problematic SIs are part of the clinical picture or are associated with higher negative and lower positive affect (e.g. in Major Depressive Disorder or Social Phobia, American Psychiatric Association, 2000; Baddeley, Pennebaker, & Beevers, 2013). How specific aspects of social interactions are related to intention, motivation, and meaning thus remains to be seen. We therefore investigated a sample of transdiagnostic in- and outpatients.

#### **Method**

Their level of intentional behavior and its relationship to the quality and avoidance of social interactions were examined. Further, we investigated how consistently patients act from one specific time point to the next (with respect to the things they judge to be important), and how this impacts the quality and avoidance of their social interactions. Using Event Sampling Methodology, patients' everyday social behavior was sampled six times per day during a one-week intensive longitudinal examination in patients' self-chosen environment.

#### **Results**

Preliminary results indicate an association between the level of intentional behavior and the quality and avoidance of social interactions. Moreover, patients' behavioral consistency shows to have an impact on the quality, but not on the avoidance of their social interactions.

#### **Discussion**

Contrary to common belief, symptoms do not necessarily need to go away before one can engage in what is important to a person. Indeed, increased engagement in what is important to someone can precede reductions in suffering (Gloster et al., 2017). Understanding how intentional behavior relates to daily social behavior might help us gain more insight into mechanisms in a transdiagnostic population.

### **A Personalized Approach to Health Using Machine Learning Techniques of Multimodal Lifelog Data**

**Tetsuya Yamamoto, Tokushima University, Japan**

**Junichiro Yoshimoto, Nara Institute of Science and Technology, Japan**

#### **Introduction**

Recording a variety of information concerning people's lives (i.e., a lifelog) via various technologies, such as wearable devices, have been attracting a lot of attention. These approaches enable us to obtain real-time behavioral, physiological, and psychosocial data, and could thus greatly contribute to the improvement of life. However, this complex and multimodal data is voluminous. As a result, developing a methodology to extract this valuable information is essential. In this study, we examined the usefulness of a novel artificial intelligence-based approach for personalized health behavior change. To predict daily happiness patterns as well as reveal a latent pattern underlying complex lifelog data, we applied machine learning techniques for behavioral, physiological, and psychosocial data recorded via smartphones and wearable devices.

#### **Method**

We conducted two studies to verify the accuracy and availability of our proposed method: (a) we examined the accuracy rate of happiness prediction using data collected over 8 months and (b) we visualized a lifestyle that led to a headache based on 2 months data. We selected 56 attributes (variables) comprising (a) mood experiences (positive/negative mood, accomplishment, fatigue, etc.), (b) cognitive and behavioral experiences (positive/negative interpretation, rumination, gratitude, etc.), (c) physical symptoms (headache, low back pain, abdominal symptoms, etc.), (d) lifestyle characteristics (amount of sleep, physical activity, relaxation, etc.), and (e) life events (positive/negative events). We asked participants to record the items above in their daily lives for 8 months using Count Log Lite, Fitbit Alta HR, and MoodTools. After standardizing the attributes and controlling them on the basis of correlation, we analyzed the data via a supervised learning method (support vector machine) and an unsupervised learning method (nonparametric Bayesian co-clustering ensembles).

#### **Results**

Our experimental results show that the degree of happiness was predicted with an accuracy rate of 83%; furthermore, effective coping strategies to prevent a headache were indicated.

#### **Discussion**

These suggest that our approach can predict the behaviors that increase individuals' happiness in their daily lives, thereby contributing to an improvement in their happiness. Also, these approaches can easily integrate multimodal data from an easy-to-use app, and help increase awareness of individual lifestyles. Our technique could thus facilitate behavioral change in order to effectively lead to better QOL. We will discuss the usability, clinical applicability, and limitation of our approaches. Furthermore, we will highlight the future direction of technology-based interventions for health behavior change.

## **Does Dysfunctional Pride Lead to Impaired Performance on Analytic Task and Increase Risky Behaviour?**

**Oana David & Alexandru Zorila, Babes-Bolyai University, Romania**

### **Introduction**

Lately, an increasing emphasis has been put on the study of positive emotions and their implications in cognitive performance. Although the results of these studies largely indicate improvements in performance level of subjects with positive emotions (Fredrickson, 2005) some authors also point out a decrease in performance on certain tasks (Hirt, 1996). Taking this contradictory evidence in light of REBT theory and more specific on Albert Ellis's binary model of distress (David, et. al 2005), we want to prove that some positive emotions are dysfunctional in healthy individuals. According to REBT (Ellis, 1995), a person may have dysfunctional positive emotions if he meets and evaluates a situation as being favourable with the same irrational mechanisms which in an unfavourable assessed situation would lead to dysfunctional negative emotions. We want to investigate this by using dysfunctional pride versus contentment as positive emotions in relation with performance.

### **Method**

A total of 90 participants are randomly enrolled among UBB Psychology students. Upon signing up, they complete the USAQ, and PDA questionnaires. In the laboratory they are offered a set of computer tasks as follows: the initial assessment of pride and contentment, followed by a first analytical task where the initial performance is measured. Then there is a positive feedback that manipulates the emotion of pride or contentment. The group with dysfunctional pride is offered the global feedback: "you are the best". The group with contentment is given the specific feedback "you are among the first to this type of task". The control group does not receive feedback on performance. After the feedback, emotional manipulation assessment is made with another pride and contentment assessment. Then, all three groups are asked to continue the trial as well as they can and how much they think, in order to measure persistence. Participants are then offered to continue with risk-taking task.

### **Results**

We expect that the group with dysfunctional pride to have a lower performance on analytical task, persistence and higher risk assumption at the risk-taking task than group with contentment or control group. Also we expect that unconditional self-acceptance to be a mediator between dysfunctional pride and performance.

### **Discussion**

According to REBT theory, a person with a low level of unconditional self-acceptance will exhibit a positive dysfunctional emotion of exaggerated pride in receiving a positive feedback on a task, a pride that will have a negative impact on his subsequent performance. This phenomenon is presumed not to occur in the case of a person with an average level of unconditional self-acceptance, where the positive emotion will be one of adaptive gratification, with a positive impact on performance.

We hope to test these hypotheses with this experimental study proposed here.

## **A Systematic Review of the Psychometric Properties of Death Anxiety Self-Report Measures**

**Matteo Zuccala, Rachel Menzies, Caroline Hunt & Maree Abbott, University of Sydney, Australia**

### **Introduction**

Recent research has highlighted the important role that an underlying fear of death plays across a wide array of mental health conditions, leading several authors to suggest that death anxiety should be considered a transdiagnostic construct (e.g. Yalom, 2008). For example, it has been argued that there is a clear connection between one's fear of death and the manifestation of clinical anxiety symptoms in diagnoses such as panic disorder, specific phobia, obsessive-compulsive disorder, and social anxiety disorder (Iverach, Menzies, & Menzies, 2014). Given the increasing recognition of death anxiety's importance in psychopathology, it is imperative that researchers and clinicians are able to employ psychometrically valid and reliable tools to measure this construct. Whilst a large number of self-report death anxiety measures currently exist, previous reviews have failed to evaluate the psychometric properties of these measures using an established quality appraisal tool. As a result, there are no clear guidelines for their use in empirical and therapeutic settings. This systematic review aimed to identify and evaluate the evidence supporting the psychometric properties of self-report measures of death anxiety.

### **Method**

A systematic literature search was conducted on four electronic databases and additional publications were identified through reference lists. Studies were evaluated by two independent reviewers using an established quality appraisal tool (Terwee et al., 2007), which assessed psychometric properties across nine criteria: content validity, internal consistency, criterion validity, construct validity, reproducibility (agreement), reproducibility (reliability), responsiveness, floor and ceiling effects, and interpretability.

### **Results**

1831 studies were identified in the initial search, with 89 meeting inclusion criteria. Across these 89 studies, 21 self-report scales of death anxiety were identified, as well as six subscales. No measure was found to possess evidence of adequacy on all nine quality criteria. The Templer Death Anxiety Scale (TDAS), Concerns about Dying Instrument (CDI) and Death Concern Scale (DCS) were found to possess the most evidence supporting their validity and reliability.

### **Discussion**

Several measures have evidence in support of their psychometric soundness in a number of distinct domains, however a large proportion have yet to be tested on several key psychometric properties. Therefore, no firm recommendations can be made regarding the utility of one death anxiety self-report measure over any other. Researchers and clinicians should use the results of this systematic review to choose death anxiety measures that have evidence of psychometric properties complementary to their specific aims. Overall findings highlight the need for additional research focused on verifying the psychometric adequacy of death anxiety measures.

## **Detecting Distress in Adolescents and Young Adults Using Big Data Analysis of Social Media**

**Stefanie Schmidt, University of Bern, Switzerland**

**Niels Bugge, University Hospital of Child and Adolescent Psychiatry and Psychotherapy of Bern, Switzerland**

**Danilo Croce, University of Rome Tor Vergata, Italy**

**Chantal Michel, University Hospital of Child and Adolescent Psychiatry and Psychotherapy of Bern, Switzerland**

**Valentina Bellomaria & Roberto Basili, University of Rome Tor Vergata, Italy**

**Frauke Schultze-Lutter, University of Bern, Switzerland, and Heinrich-Heine University Düsseldorf, Germany**

### **Introduction**

The use of social media has grown exponentially in recent years, generating data that is a valuable source of information to detect potentially stressful events in an individual's everyday-life. Thus, novel and interdisciplinary approaches are necessary to process this "big data" characterized by high volume, high velocity and high-variety information. Therefore, our study applied a combined support vector machine learning machine algorithm implemented within the Kernel-based Learning Platform (KeLP) and complex semantic language processing analysis to examine tweets written in English by adolescents and young adults between February 2017 and January 2018.

### **Method**

Tweets were first classified according to 18 theory-derived life-event categories. Afterwards, a sentiment analysis was performed to identify a user's attitudes towards this event ("positive", "negative", "neutral", "ironic"). The dimension "experience" additionally captured each user's emotional reaction related to this event ("distressful", "helpful", "neutral"). Furthermore, we examined potential gender-specific and socio-cultural differences. The automated classification process worked with sufficient accuracy of 76% and identified social relationships, hobbies/interests and interpersonal beliefs as the most prevalent events

### **Results**

Tweets related to mental health were experienced as being most distressful. Gender-differences were detected in that females tweeted more often about social and romantic relationships. With regard to socio-cultural differences, we identified primarily African-American Twitter-communities that more frequently discussed sociopolitical issues than other users.

### **Discussion**

Thus, social big data mining is a promising analysis technique processing a huge amount of real-life data to identify stressors and supportive factors to promote mental health and well-being in adolescents and young adults.

## **A Blended Psychological Resilience Training: Conceptualization and Pilot Results**

**Eliza Isabel Eckhardt, Anna Katharina Bergmann & Eike Strömer, Deutsches Resilienz Zentrum (DRZ), Germany**

**Sandra Schönfelder & Michèle Wessa, Johannes Gutenberg-Universität Mainz, Germany**

### **Introduction**

In the last decade there has been a shift from clinical, pathogenic research to a research focus on mechanisms of maintaining mental health despite adversity. This phenomenon has been called resilience and refers to an individual's ability to adapt to stressful life experiences and stay mentally healthy, though. Investigating resilience factors and mechanisms is very important to develop adequate and evidence-based prevention methods, such as psychological trainings.

### **Method**

We here present an evidence-based psychological training in a blended learning format, including three face to face group-sessions and eight subsequent online lessons to deepen the knowledge and transfer it on every-day life situations. Key components of the training are the resilience factors optimism, social support and self-care/self-compassion. Further, it includes education on biological mechanisms underlying stress and exercises on individual stress perception. The conceptual rationale of the training is based on the analysis of the individual's status quo concerning the perception of stress followed by the development of strategies to initiate change.

### **Results**

In a currently running study we evaluate the effectiveness of the blended resilience training ("Auf Kurs bleiben"/"Stay on track") in 263 students, subdivided into one intervention group (N=132) and a waiting list control group (N=131). In a longitudinal design we investigate the effectiveness of the training with respect to mental health as primary outcome and the improvement on the relevant resilience factors (optimism, social support and self-care) as secondary outcome. We complete these measures with surveys of daily hassles, major stressors and stress perception. Data acquisition took place before and after the training as well as after every three months of the training (up to 12 months). Preliminary results from the effectiveness analyses will be presented.

### **Discussion**

The implications of our findings will be discussed.

## **Self-Compassion Interventions and Psychosocial Outcomes: A Meta-Analysis of RCTs**

**Madeleine Ferrari, University of Sydney and Australian Catholic University, Australia**

**Caroline Hunt, University of Sydney, Australia**

**Ashish Harrysunker, Australian Catholic University, Australia**

**Maree Abbott, University of Sydney, Australia**

**Alissa Beath & Danielle Einstein, Macquarie University, Australia**

### **Introduction**

Self-compassion is a healthy way of relating to one's self motivated by a desire to help rather than harm. Novel self-compassion based interventions have targeted diverse populations and outcomes. This meta-analysis identified randomized-controlled trials of self-compassion interventions, and measured their effects on psychosocial outcomes.

### **Method**

This meta-analysis included a systematic search of six databases, and hand-searches of the included study's reference lists. Twenty-eight randomized-controlled trials that examined validated psychosocial measures for self-compassion based interventions met inclusion criteria. Pre-post and follow-up data was extracted for the intervention and control groups and study quality was assessed using the PRISMA checklist.

## **Results**

Self-compassion interventions led to significant improvement across 11 diverse psychosocial outcomes compared to controls. Notably, the aggregate effect size Hedge's  $g$  was large for measures of eating behavior ( $g = 1.76$ ) and rumination ( $g = 1.37$ ). Effects were moderate for self-compassion ( $g = 0.75$ ), stress ( $g = 0.67$ ), depression ( $g = 0.66$ ), mindfulness ( $g = 0.62$ ), self-criticism ( $g = 0.56$ ), and anxiety ( $g = 0.57$ ) outcomes. Further moderation analyses found that the improvements in depression symptoms continued to increase at follow-up, and self-compassion gains were maintained. Results differed across population type, and were stronger for group over individual delivery methods. Intervention type was too diverse to analyze specific categories and publication bias may be present.

## **Discussion**

This review supports the efficacy of self-compassion based interventions across a range of outcomes and diverse populations. Future research should consider mechanisms of change.

## **Digital Assessment in Dance Movement Therapy as Part of a Creative Arts Therapies Participatory Assessment Approach**

**Sabine C. Koch & Lily Martin\*** Alanus University, Germany

**Ella Dumaresq & Kim Dunphy,** University of Melbourne, Australia

### **Introduction**

Embodied Therapies have been entering the stage in CBT in the fourth wave. Among them creative arts therapies and body-mind integrative therapies, both (en-)active forms of therapies starting on the behavioral level, yet at the same time addressing and including spiritual as well as aesthetic aspects. Dance/movement therapy (DMT) is at the interface of both clusters.

As one of the creative arts therapies (art-, music-, dance-, drama- and poetry therapy), DMT addresses patients creative resources for problem solving and provides a secure play space to explore emerging topics and solutions for the clients. With the present approach, DMT is starting to move into a participatory outcomes framework integrating goals and self-assessment of the patients.

### **Method**

The present project addresses the prescient need for assessment tools in dance movement therapy (DMT) that are valid, reliable and feasible for practitioners, using technological solutions employed for efficiency in other fields.

The project aims (a) to advance basic research in motion tracking assessments in order to assess motor markers of disembodiment in psychopathology and provide possibilities for early diagnosis, and (b) to advance applied research into employable portable assessment tools for DMT in clinical settings, for best use of public resources by contributing robust practices for assessing client progress taking into account their self-assessment (participatory outcomes framework).

### **Results**

(a) The resulting motion markers can be used as specific outcome variables in efficacy studies of DMT and help to gear DMT interventions to the physical needs of the patients. (b) The development and trialing of pioneering digital assessment tools, specifically advancing the development of MARA, a movement analysis app, and a scale for the assessment of the aesthetic experience, supports clinical practitioners to effectively direct their work towards specific outcomes and clients' progress.

### **Discussion**

DMT is an embodied and creative therapeutic modality for clients of all ages, across domains of physical, emotional, cognitive and social wellbeing with main employment fields in mental and neurological clinics and rehabilitation. Appropriate assessment tools will advance the effectiveness of DMT applications and its integration with conventional CBT approaches.

## **Trauma**

### **Psychotraumatization and Treatment of Posttraumatic Stress Disorder in Patients with Newly Diagnosed Breast Cancer**

**Sanda Anton,** University Hospital Osijek, Croatia

#### **Introduction**

Cancer is a stress event with influence on development of posttraumatic stress disorder (PTSD) but in many crisis that represent being ill of cancer, sometimes it is hard to define concrete stressor. PTSD usually appears in the first three months after trauma, but can be delayed for months, sometimes for years. Different psychiatric states are sometimes difficult to differentiate but putting a diagnosis in time is of theoretical, diagnostic and therapeutic importance and different treatment methods have different impact on PTSD symptoms.

#### **Method**

**Aim:** To evaluate impact of different psychiatric treatment methods on development and treatment of PTSD in patients with newly diagnosed breast cancer.

**Subjects:** Sample consisted of 120 women with breast cancer during radiotherapy on Department for Oncology on University Hospital Osijek.

**Methods:** Patients were divided in four groups and each group was treated with different psychiatric treatment method (psychopharmacology and/or psychotherapy treatment, control group wasn't in any kind of treatment). We used detailed clinical examination with psychiatric interview using DSM-IV criteria for psychiatric disorders, specially structured non-standardized questionnaire for estimation of potential etiological factors for psychiatric disorders and LASC for estimation of posttraumatic stress disorder. Data was analyzed statistically.

#### **Results**

Although most of participants didn't have complete clinical picture of PTSD, some symptoms were present, and in some women were very intensive, so they should be the main group for psychiatric treatment. We found falling values in all three clusters of PTSD in group treated with combination of psychotherapy and psychopharmacology and raising values for all clusters of PTSD in women who were not in psychiatric treatment so it can be presumed that they'll develop whole clinical picture of PTSD during time.

#### **Discussion**

Our observation and results prove the need for constant evaluation of PTSD development in women who are at risk for psychiatric disorders during oncology treatment and positive effects of combined psychiatric treatment (psychopharmacology and psychotherapy) on reduction of PTSD symptoms.

## **Using Mixed Methodology in Nosological Research: The Case of Moral Injury**

**Stephanie Houle-Johnson, University of Ottawa, Canada**

**Colin Vincent, Operational Stress Injury Clinic, Royal Ottawa Health Care Group, Canada**

**Rakesh Jetly, Canadian Forces health Services, Canada**

**Andrea Ashbaugh\*, University of Ottawa, Canada**

### **Introduction**

Moral Injury (MI) is an emerging construct, understood as the psychological consequences of exposure to events that challenge moral beliefs (known as potentially morally injurious events (PMIEs)). This construct has been examined mostly in military members and veterans and proposed symptoms include moral dissonance, negative self-attributions regarding the PMIE, intense guilt and shame, spiritual/existential conflict, and social withdrawal (Litz et al., 2009; Frankfurt & Frazier, 2016; Jinkerson, 2016). The current study uses quantitative analysis of interview data and quantitative analysis of self-report measures, to identify and understand consequences of MI and explore the validity of MI as a construct.

### **Method**

Twenty-five treatment-seeking Canadian Forces service members and veterans were recruited from two specialized mental health clinics in Ottawa, Canada. Participants underwent a semi-structured interview pertaining to the psychological consequences of PMIEs (n=11), and completed the Trauma-Related Guilt Inventory (Kubany et al., 1996) and the Posttraumatic Cognitions Inventory (Foa et al., 1999; n=25).

### **Results**

Findings from the qualitative thematic analysis demonstrated that following PMIE exposure, participants experienced changes in five core areas: moral attitudes, moral agency, identity, spirituality and intrapersonal functioning. Additional features of distress include intrusive thoughts and rumination about the PMIE, avoidance of thoughts and reminders of the PMIE, social withdrawal, self-destructive behaviour and anhedonia. Subscale scores on the quantitative measures demonstrated the highest mean scores for guilt-related distress on the TRGI and negative cognitions about the world on the PTCL. Together, findings provide support for existing conceptualizations of MI and add weight to the validity of the construct.

### **Discussion**

We found that guilt in PMIE-exposed service members and veterans is not only an affective experience, but a cognitive one that touches core areas identified in the qualitative analysis (e.g., identity, spirituality). Results may help to refine theories of MI and develop targeted interventions. Elements of the phenomenology of MI may be described by existing diagnostic entities (e.g., PTSD). More research is needed to determine if current nosologies capture the etiological and pathological features of MI. Research among non-treatment seeking military members and veterans could provide insights into the dimensional nature of MI and its association with trauma exposure.

## **Cognitive Behavioral Therapy in Agoraphobia and Posttraumatic Stress Disorder: A Case Study**

**Nida Ates, Istanbul Kultur University, Turkey**

### **Introduction**

In the current case study, 12 sessions of Cognitive Behavioral Therapy process of a 28 years old female, who had agoraphobia and post-traumatic stress disorder symptoms according to DSM-5, was presented. The client complained of having anxiety on using any public transportation and avoiding being in crowded public places and waiting in line. She also had intense anxiety when she walked alone on the street and near her neighborhood, fear of driving and being a passenger in front seat. On the other hand, these following complains started after she experienced bag snatching case in 2011 and increased symptoms once she had car accident case last year. In the current case study, it was aimed to present a perspective to clinical psychologists for how to use CBT treatment as a tool in the therapy process of agoraphobia based on trauma cases.

### **Method**

It was found out that the client, who suffered from intense fear walking on the street alone and being outside near her house alone, were associated with her traumatic bag snatching experience. The client was exposed to the snatching case through the medium of imaginative exposure technique. After experiencing bag snatching as well as the impacts of intrusive and critical parenting over the client, the client's maladaptive beliefs such as over responsibility need for control and excessive guilt were handled and changed by means of cognitive restructuring. Furthermore, the client's another problem on "fear of driving and being a passenger in front seat" was related with her traumatic car accident that she experienced in the past. These problems based on the client's catastrophic and excessive generalized thoughts after the accident were identified and altered by cognitive restructuring. Moreover, safety and avoidance behaviors of the client were disappeared via behavioral approach.

### **Results**

The therapeutic goals that include being able to ride comfortably in public transportation, being able to walk comfortably in the street while alone and sitting in front seat of the car were achieved after the interventions. However, due to the fact that the client was out of town during the summer, the client ceased to come to therapy before the target of being able to driving has been achieved. In addition, as a result of the treatment, the client realized that she did not experience any catastrophe as she expected in absence of safety or avoidance behaviors.

### **Discussion**

The treatment that included psycho-education about agoraphobia and post-traumatic stress disorder, cognitive restructuring, exposure was detailed in the light of the relevant literature. It is expected to contribute to CBT practice understanding of the agoraphobia based on trauma with the case study presented in this study. Presenting various CBT processes of post traumatic stress disorder cases that include different features such as chronic problems in future studies are required to enrich the relevant literature.

### **Sleep as Predictor of Intrusive Symptoms?**

**Yasmine Azza & Ian Clark, University of Zurich, Switzerland**

**Stefan Mueller, Schutz & Rettung Zurich, Switzerland**

**Walter Karlen, ETH Zurich, Switzerland**

**Erich Seifritz, University Hospital for Psychiatry Zurich, Switzerland**

**Hans-Peter Landolt & Birgit Kleim, University of Zurich, Switzerland**

#### **Introduction**

Emergency personnel are often exposed to traumatic situations as a part of their job. This can result in distressing, vivid but fragmented recollections of traumatic memory episodes, called intrusions. Recent research has shown that sleep fosters emotion regulation processes and has an important role in the consolidation of emotional memories. Here we examined emergency rescue workers during a normal month of their work life.

#### **Method**

We recorded an adaptation and a baseline night with a portable EEG device and investigated sleep stages as predictor of intrusive memories and stress-related psychopathology throughout the study month. Data on psychological stress was collected by post-traumatic stress disorder checklist 5 (PCL-5).

#### **Results**

A higher percentage of light sleep (N1) in the EEG baseline recording predicted a development or increase of intrusive symptoms during the study month ( $F(1,29)=14.89, p=.001, R^2=.34, f = .72$ ). A lower percentage of slow wave sleep (SWS) in the EEG baseline recording predicted a development or increase of intrusive symptoms during the study month (Linear regression analysis:  $F(1,29)=5.15, p=.03, R^2=.15, f = .42$ ).

#### **Discussion**

The preliminary findings of this study indicate that a high proportion of light sleep can be maladaptive in a stressful context. SWS turned out as a potential trait marker in the development of intrusive emotional symptoms.

### **Changes in Intolerance of Uncertainty During Inpatient Treatment for Posttraumatic Stress Disorder**

**David Berle, University of Technology Sydney, Australia**

**Zachary Steel, University of New South Wales, Australia**

**Chris Mahoney & Merrylord Harb Azar, South Coast Private Hospital, Australia**

#### **Introduction**

Introduction. Intolerance of Uncertainty (IU), the predisposition toward an inability to tolerate distress associated with the absence of critical information, has received considerable empirical attention in relation to various psychopathologies. IU could conceivably maintain the sense of threat and impending danger that characterises posttraumatic stress disorder (PTSD). However, few studies have investigated the relationship between IU and PTSD. Although previous studies have demonstrated significant associations between IU and posttraumatic stress symptoms, clinical studies to date have involved a cross-sectional design based on pre-treatment, outpatient data. The current study examined the association between IU and PTSD symptom and cluster severity, based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria over the course of a group PTSD inpatient treatment program.

#### **Method**

Method. Participants ( $n = 70$ ) were clinical in-patients undertaking a group treatment program for PTSD. Participants were from civilian, police, and defence force backgrounds. Self-report measures were completed pre- and post-treatment.

#### **Results**

Results. Regression analyses showed that differences in pre- to post-treatment IU were associated with post-treatment PTSD severity for IU overall and for both the Prospective and Inhibitory subscales, after controlling for pre-treatment PTSD severity. Pre- to post-treatment differences for overall IU were also significantly associated with severity of the PTSD Intrusion, Negative Mood, and Arousal clusters. Prospective IU differences were associated with the Intrusion and Arousal clusters, whereas Inhibitory IU was associated with Negative Mood and Arousal clusters. Pre-treatment IU was not shown to predict post-treatment PTSD severity after controlling for pre-treatment PTSD levels.

#### **Discussion**

Discussion. Results from this study indicated that changes in IU over the course of treatment predicted post-treatment PTSD symptom severity, whereas pre-treatment IU did not. Different IU subscales had different associations with PTSD symptom clusters suggesting differentiation of cognitive and behavioural influences of IU on PTSD. These findings add to the nascent literature investigating the role of IU in PTSD and corroborate previous study outcomes of IU as a transdiagnostic factor in psychopathology. Implications from this study include the role of IU as a maintaining factor in PTSD.

### **Reductions in Intrusive Memory Frequency for Analogue Trauma Following Cognitive Task Engagement**

**David Berle, University of Technology Sydney, Australia**

**Zachary Steel, University of New South Wales Sydney and Black Dog Institute, Australia**

#### **Introduction**

Intrusive memories are a characteristic feature of acute stress disorders and PTSD. Demanding visuospatial tasks are thought to interfere with the consolidation of memories. The current study investigated the hypothesis that participants engaging in a visuospatial task (Tetris or the DCorsi tapping task) would report fewer intrusive memories over the course of a week, after exposure to a trauma film paradigm (TFP), as compared to controls.

#### **Method**

Participants ( $N = 110$ ) were members of the community who were randomly assigned to one of the three conditions (Tetris, DCorsi, Control) after viewing the TFP. Using experience-sampling methodology, participants recorded the frequency of intrusive memories at 22 time points over the subsequent week.

## **Results**

Generalized estimating equations indicated that participants in the Tetris group ( $n = 32$ ) reported fewer intrusive memories throughout the following week as compared to the DCorsi ( $n = 34, p = .03$ ) and Control ( $n = 34, p = .02$ ) conditions. Intrusions declined at similar rates in each group, however Tetris was associated with fewer intrusive memories of the film throughout the week. These findings reinforce those of Holmes et al (2010), the less encouraging outcome for the DCorsi task notwithstanding.

## **Discussion**

Cognitive tasks that interfere with visuospatial working memory when undertaken in the memory consolidation window hold promise for reducing distressing intrusive memories in trauma-exposed people. The main hypothesis under investigation was not fully supported, as only one of the visuospatial tasks was associated with decreased intrusive memory frequency. The results of this study indicated that Tetris was superior in reducing intrusive memory frequency for the TFP, compared to both the alternative visuospatial task (DCorsi) and the control condition.

## **Resilient Program, a Therapist Assisted Online Intervention to Promote Resilience After a Disaster – The Therapists' Experiences**

**Vera Bekes, Yeshiva University, USA, and Laval University, Canada**

**Geneviève Belleville, Jessica Lebel, Marie-Christine Ouellet & Charles M. Morin, Laval University, Canada**

**Nicolas Bergeron, Doctors of the World Canada, Canada**

**Tavis Campbell, University of Calgary, Canada**

### **Introduction**

An increasing body of evidence supports the utility of interventions provided through the internet. This paper takes a special angle in understanding the benefits and challenges of a therapist-assisted online intervention for survivors of a disaster, by presenting the participating therapists' perspective.

The Resilient program. In response to the needs of the survivors of the Fort McMurray fires in Alberta, Canada, our interdisciplinary team developed a therapist-assisted online treatment program that aimed at targeting the major symptoms reported by survivors: PTSD, depression and insomnia. For each symptom, specific, evidence-based interventions have been included in the program in an integrative manner; it comprised cognitive, behavioral, mindfulness, and DBT elements. In addition to the 12-session online program, each participant was assisted by a therapist who offered 30-minute Skype sessions in addition to each online session.

### **Method**

A focus group was conducted for the therapist who provided individual support for the participants. The transcribed verbatim was analyzed by using a content analytic approach.

### **Results**

The analysis identified the following main themes: (1) Participant's reactions and utilization of the online interventions, (2) Building therapeutic alliance in Skype, phone, and email communication, (3) Specific challenges of no-shows at Skype meetings, (4) Strategies and "tricks" to manage attrition, (5) Utilization of exercises in-between sessions, (6) Favorite and less favored interventions, (7) Participant feedback, (8) Technical issues related to the online platform.

### **Discussion**

The paper discusses important aspects, advantages and challenges of a therapist assisted intervention based on the therapists' experiences. By drawing attention to the specificities of an online program, we wish to contribute to the improvement of other web-based interventions in the future.

## **Perceived Injustice Mediates the Relationship Between Trauma Type and PTSD Symptoms**

**David Berle, University of Technology Sydney, Australia**

**Vladan Starcevic, University of Sydney, Australia**

**Zachary Steel, University of New South Wales Sydney, Australia**

### **Introduction**

Introduction: Posttraumatic Stress Disorder (PTSD) can arise from a diverse range of traumatic experiences. However, a consistent evidence base suggests that interpersonal traumatic events (e.g., sexual and physical assault) are especially likely to result in the development of PTSD when compared with non-interpersonal traumas (e.g., natural disasters, accidents). Interpersonal traumas often involve victimisation or violation of moral standards. Cognitive models of PTSD emphasise the interpretations a person makes of such events as important for the development and maintenance of PTSD. However, perceived injustice, as a cognitive-interpretational variable, has received little direct attention in relation to PTSD. With this in mind, we sought to determine whether perceived injustice regarding one's potentially traumatic experiences mediates the association between trauma type (interpersonal vs not) and PTSD.

### **Method**

Method: An international online sample ( $N = 261$ ; 47.5% female; Mean age = 37.4,  $SD = 11.1$ ) was recruited through the Prolific research participation platform. Participants were administered the Trauma History Questionnaire (THQ), the Posttraumatic Checklist for DSM-5 (PCL-5), the State Trait Anger Inventory (STAXI-II), the Perceived Injustice Questionnaire (PIEQ; which was adapted for the present study), as well as self-report measures of depression and anxiety.

### **Results**

Results: Consistent with other community samples, a high proportion of the present sample (85%) endorsed having experienced at least one potentially traumatic event. Perceived injustice regarding the potentially traumatic events was strongly associated with PTSD symptoms ( $r = 0.71, p < 0.001$ ). A bootstrapped mediation model using the PROCESS macro in SPSS indicated that perceived injustice mediated the relationship between trauma type and PTSD symptoms (95% C.I. 5.16, 10.55). The indirect effect remained significant when depression scores were included in the model as a moderator (95% C.I. 0.08, 4.23). Likewise, perceived injustice mediated the relationship between trauma type and anger expression (95% C.I. 0.01, 2.53), depression (95% C.I. 0.03, 2.50) and anxiety symptoms (95% C.I. 0.06, 2.64) respectively, raising the possibility that perceived injustice may have broad and non-specific psychopathological consequences.

### **Discussion**

Discussion: While our study was restricted to the investigation of cross-sectional data, the present findings provide preliminary evidence of indirect effects of trauma type on PTSD symptoms via perceived injustice. The relatively non-specific nature of the relationships found in

our study also indicate that, with additional confirmatory evidence from prospective clinical studies, perceived injustice may be understood as a factor which contributes to a broad range of psychopathological symptoms beyond PTSD alone. Further studies should aim to systematically assess the characteristics of perceived injustice in clinical populations.

### **Developing Integrated Treatment Platforms for at-Risk Sexual Minority Men**

**Michael Boroughs & Daniel Provenzano, University of Windsor, Canada**

**Avery Mitchell, University of North Carolina, USA**

**Samantha Marquez & Conall O'Cleirigh, Massachusetts General Hospital and Harvard Medical School, USA**

#### **Introduction**

There is convincing evidence that the experience of being bullied as a child or adolescent has serious adjustment and public health consequences that entail great costs to society (Olweus, 2013). The prevalence of bullying victimization is disproportionately higher among sexual minorities relative to other groups (Berlan, Corliss, Field, Goodman, & Austin, 2010). Bullying victimization among sexual minority men is associated with higher rates of externalizing problems such as substance abuse (Berlan et al., 2010) and sexual risk behaviors (Bontempo & D'Augelli, 2002), as well as internalizing problems such as psychological distress, depression, anxiety, suicidality, and PTSD symptoms. Thus, emerging adult sexual minority men (EASMM) compose a group most at risk for being bullied, most at-risk for HIV, and most at-risk for the development of substance use problems.

#### **Method**

Despite this overwhelming health burden, to date no tailored intervention has been developed to address the confluence of these problems greatly impacting this at-risk population. To begin the process of intervention development to address these health concerns, we developed and tested, as a part of an open pilot clinical trial, a transdiagnostic cognitive behavioral therapy integrated treatment platform to address health concerns linked with a history of being bullied inclusive of sexual risk and substance use. As a part of participation in the trial, exit interviews were conducted with study participants. We will present these data in support of additional tailoring of the intervention and to highlight participant feedback on the feasibility and acceptability of the intervention.

#### **Results**

The intervention included a comprehensive baseline diagnostic assessment, 10 weekly sessions, and a post-treatment follow-up visit. EASMM, ages 18 to 29 ( $N = 11$ ,  $M_{age} = 24$ ,  $SD = 2.57$ ;  $N = 4$  Euro American,  $N = 3$  Latino) were recruited from The Fenway Institute (a healthcare, research, and advocacy organization) in Boston, Massachusetts, USA. Of the 11 participants that completed a baseline assessment, 9 were enrolled in the open pilot, and 7 completed treatment. Inclusion criteria for the study were having a history of being bullied with current bullying-related distress, current illicit substance use (other than alcohol) at least monthly, and current sexual risk behavior. In addition to presenting some pre-post data on the 7 completers, we propose to describe the iterative intervention development process together with summaries of the exit interviews.

#### **Discussion**

An amalgamation of evidence-based CBT approaches were included in the final intervention, e.g., psychoeducation, an impact statement (Cognitive Processing Therapy) and the Unified Protocol. In support of the themes of the congress, we will also present data on protocol therapist feedback, training activities, funding limitations, and challenges with ethics boards and study recruitment.

### **Treating Adults with Childhood Trauma: Patients Talk About Their Treatment Experience when Receiving Trauma Focused Therapy Without Stabilisation**

**Katrina Boterhoven de Haan & Christopher Lee, University of Western Australia, Australia**

**Helen Correia, Murdoch University, Australia**

**Simone Menninga, PsyQ - Beverwijk, the Netherlands**

**Arnoud Arntz, University of Amsterdam, the Netherlands**

#### **Introduction**

There are evidence-based recommendations for treating post-traumatic stress disorder (PTSD) from adult traumas. However, the efficacy of treatment for adults with PTSD from childhood trauma (Ch-PTSD) is subject to ongoing debate. Ch-PTSD has been identified as being more complex with additional symptom disturbances; consequently, a stabilisation phase as part of trauma-focused treatments has been suggested. Some trauma-focused treatments such as Imagery Rescripting (ImRs) and Eye-Movement Desensitisation and Reprocessing (EMDR) limit the amount of exposure to traumatic material, potentially resulting in a less distressing treatment experience (Arntz, 2012; Shapiro, 2001). This may reduce the need for stabilisation prior to trauma processing however, little is known about patients' experience of these treatments.

#### **Method**

IREM is an international multicentre randomised clinical trial investigating the effectiveness of EMDR and ImRs for treatment of adults with PTSD from childhood trauma experiences (Boterhoven de Haan et al., 2017). Qualitative interviews were conducted with patients recruited from the IREM study to explore their experience of receiving trauma-focused treatment, without stabilisation, to address their childhood trauma. A total of 45 interviews were conducted with IREM participants at sites in Australia, Germany and the Netherlands. A thematic analysis approach was used to analyse interview transcripts.

#### **Results**

Themes identified in the data helped to provide clinically relevant insights into how best to treat Ch-PTSD. For example, patients reported that focusing on what brought them to treatment was helpful for motivating them to continue when things became difficult during treatment. When asked if they felt prepared to start treatment, most patients reported that although they were unsure exactly what to expect from treatment, they did not believe there was any additional skills required prior to commencing trauma processing. While patients acknowledged that directly processing their childhood trauma was difficult, it was necessary for their treatment and recovery.

#### **Discussion**

This study found that patients with PTSD from childhood experiences were able to tolerate trauma-focused treatment without any prior stabilisation. The implications of these findings could help improve current PTSD treatments and potentially patient outcomes

## **The Effectiveness of Cognitive Behavioral Therapy on the Treatment of Post-Traumatic Stress Disorder**

**Ekin Çakar, Utrecht University, the Netherlands**

**Ezgi Yıldız, Fulden Hazal Çalım & Necmi Uzun, Middle East Technical University, Turkey**

### **Introduction**

Potentially traumatic life events such as childhood traumas, sexual assaults, and political violence are very common and thus, post-traumatic stress disorder (PTSD) affects a large population. One of the most effective therapy techniques to treat PTSD symptoms is cognitive behavioral therapy (CBT). CBT has different techniques for specific trauma types, and some examples for these techniques can be in vivo and imaginary exposure, psychoeducation, homework, and relaxation training. In this review, the effectiveness of CBT on PTSD, its different methods used to treat PTSD symptoms caused by different kinds of traumatic events, as well as the effectiveness of CBT across different populations were assessed.

### **Method**

A literature review was done to detect specific groups who are exposed to potentially traumatic events and the techniques which are used in the treatment of PTSD. Three groups were determined as focus since they can have some characteristic features in their traumatic processes. These groups were (a) children, (b) sexually assaulted women, and (c) political violence survivors. Then, empirical studies were reviewed and their results were compiled.

### **Results**

For children who are diagnosed with PTSD; gradual exposure, homework, and relaxation techniques were mostly used. CBT was reported as more effective compared to play therapy, art therapy, psychoanalytic therapy and treatment with medication (Wetherington, 2008). Although there are some concerns regarding the limitations in cognitive abilities of children, it has been seen that children adhered therapy well, and they progressed fine. For sexually assaulted women; breathing training, psychoeducation, cognitive restructuring, anxiety management, emotion regulation, and exposure were the frequently used techniques. Both these techniques and the empathetic and supportive relationship in CBT process was found to be effective in the treatment. For political violence survivors; psychoeducation, exposure, cognitive restructuring and reappraisal were used. For additional depressive symptoms, behavioral activation was used, too. Although there were some contradictory results for the effectiveness of the treatment for PTSD, it can be said that CBT increased the life quality, and lowered the PTSD symptoms (Morina, et al., 2010).

### **Discussion**

Overall, CBT has several techniques, and it is an effective way for the treatment of PTSD in different groups. There are some limitations in the literature. First of all, sample sizes are usually small, and generalizability is low. Second, studies focus either only on children or only on adults, but no study comparing the similarities and differences in these groups could be found. Third, some PTSD sufferers, especially sexually assaulted women, can be reluctant to share their experiences and stories; and these can affect the treatment processes. Also, it is possible that more severely traumatized individuals may not reach the therapy opportunities, and this may impair the generalizability. In conclusion, more feasible, financially and socially achievable, more anonymous CBT techniques can provide people suffering from PTSD with better opportunities to be free from PTSD.

## **An Overview of Reviews on Resilience and Protective Factors in Post-Traumatic Stress Disorder**

**Carolina Campodonico, Rebecca White, Kathrine Berry, Gillian Haddock & Filippo Varese, University of Manchester, United Kingdom**

### **Introduction**

Although the majority of the population experience exposure to at least one traumatic event in their lifetime (e.g. Atwoli et al., 2013; Mills et al., 2011), most individuals do not develop Post-Traumatic Stress Disorder (PTSD; Kilpatrick et al., 2013). The recognition that many trauma survivors do not necessarily develop enduring trauma-related mental health difficulties has led to an increased interest on individual differences that might explain variances in responses to trauma and promotion of resilience (Yehuda et al., 2015). The concept of resilience has become increasingly popular over the past few decades, possibly because of the shift of focus in mental health research from the traditional deficit-centred approach to strength base models (Bonanno, Romero, & Klein, 2015; Thomas et al., 2016). In the empirical literature, some confusion persists about the relationship between the concepts of resilience and protective factors for PTSD (i.e. factors that are associated with lower levels of symptoms); sometimes resilience is described as a protective factor in itself (Kim & Kim, 2014), and in other instances protective factors are considered as separate elements that can foster resilience (Marriott, Hamilton-Giachritsis, & Harrop, 2014). The identification of modifiable resilience or protective factors that reliably predict lower vulnerability to PTSD in those exposed to trauma is essential to the development of novel and effective preventive interventions for trauma-related symptoms (Kalisch et al., 2015; Muller, Ward, Winefield, Tsourtos, & Lawn, 2009). Several systematic reviews and meta-analyses on resilience and protective factors for PTSD have been conducted in recent years; these reviews, however, have led to highly heterogeneous findings, possibly due to methodological variances in the review methodologies and the operational definitions of resilience employed by previous reviewers. This heterogeneity precludes the ability to compile a definitive list of factors negatively associated with PTSD. Overview of reviews (also known as umbrella reviews), are used to summarize evidence from and appraise the quality of different systematic reviews conducted on the same clinical research questions. This overview of reviews aims to: (1) compile a list of all resilience and protective factors for PTSD as defined from the current meta-analytical and systematic-review literature; (2) critically appraise the operational definitions that have been used in the literature; and (3) critically appraise the quality of existing systematic reviews and meta-analyses on the topic.

### **Method**

PsycINFO, PubMed, MEDLINE, EMBASE, Web of Science and Cochrane Library were searched to identify systematic reviews and meta-analyses published from 1980 using terms related to trauma and traumatic symptoms, resilience and protective factors. Two independent researchers screened the title and abstracts, as well as full paper versions of eligible studies, and separately conducted the data extraction and quality appraisal using PRISMA and AMSTAR-2.

### **Results**

Of the 637 abstracts reviewed, 75 were eligible for full paper screening and 17 were included for the data extraction. Preliminary analysis of all eligible reviews from one researcher shows that trait resilience, social support, coping, optimism and self-efficacy are the factors more commonly associated with improvement of traumatic symptoms.

### **Discussion**

Finalised findings will be presented and their implication discussed.

## **Investigating Trauma Processing; the Development of Data-Driven Processing and its Impact on Cognition**

**John-Paul Corrigan, Northern Health and Social Care Trust, United Kingdom**

**Donncha Hanna, Queens University Belfast, United Kingdom**

**Kevin Dyer, Northern Health and Social Care Trust, United Kingdom**

### **Introduction**

Whilst data-driven processing (DDP) during psychological trauma has been shown to play a role in poor memory integration and is associated with Post-Traumatic Stress Disorder (PTSD) re-experiencing symptoms, the pre-trauma risk factors and related cognitive mechanisms are uncertain. This study aimed to investigate predictors of peri-traumatic DDP, as well as its role in the formation of attentional bias to threat and free recall.

### **Method**

An experimental design was developed using a Virtual Reality (VR) video to simulate an immersive analogue trauma which allowed the concurrent measurement of DDP predictors, DDP itself, attentional bias formation and free recall. The study utilised a non-clinical population, obtained via opportunity and snowball sampling in a university setting (n=54). Questionnaires, an eye-tracking measure, and a free recall task assessed cognitive changes after exposure to a VR video. Data was collected from each participant and analysed using descriptive statistics, Analyses of Variance and Regression analyses.

### **Results**

The analyses demonstrated that trait dissociation at pre-exposure to the trauma video significantly predicted DDP ( $\beta=.55$ ,  $t(4.78)$ ,  $p<.001$ ). An attentional bias towards threat related images was also found post-exposure to the trauma video. Results showed that DDP ( $\beta=.24$ ,  $t(1.80)$ ,  $p=.07$ ) and a breakdown in free recall ( $\beta=-.35$ ,  $t(-2.62)$ ,  $p<.05$ ) predicted attentional bias to threat images in the final regression model ( $F(2,53) = 4.22$ ,  $p<.05$ ). Contrary to the literature, higher levels of DDP predicted higher overall scores in the free recall task ( $\beta=0.26$ ,  $t(2.01)$ ,  $p<.05$ ).

### **Discussion**

This study showed that DDP is strongly linked to dissociative traits rather than trait anxiety. The findings suggest that along with memory disintegration, DDP may predict attentional bias to threat after exposure to a trauma. These experimental findings lend evidence to the support of the predominant cognitive theories on which clinical practice is based.

## **Reduced Gray Matter Volume in the Left Prefrontal, Occipital, and Temporal Regions as Predictors for Posttraumatic Stress Disorder: A Voxel-Based Morphometric Study**

**Jan Christopher Cwik, Universität zu Köln, Germany**

**Nils Vahle, University Witten/Herdecke, Germany**

**Marcella Lydia Woud, Ruhr-Universität Bochum, Germany**

**Denise Potthoff, Heinrich-Heine-Universität Düsseldorf, Germany**

**Henrik Kessler, Ruhr-Universität Bochum, Germany**

**Gudrun Sartory, Bergische Universität Wuppertal, Germany**

**Rüdiger Jürgen Seitz, Heinrich-Heine-Universität Düsseldorf, Germany**

### **Introduction**

The concept of acute stress disorder (ASD) was introduced as a diagnostic entity to improve the identification of traumatized people who are likely to develop posttraumatic stress disorder (PTSD). Neuroanatomical models suggest that changes in the prefrontal cortex, amygdala, and hippocampus play a role in the development of PTSD.

### **Method**

Using voxel-based morphometry, this study aimed to investigate the predictive power of gray matter volume (GMV) alterations for developing PTSD. The GMVs of ASD patients (n = 21) were compared to those of PTSD patients (n = 17) and healthy controls (n = 18) in whole-brain and region-of-interest analyses. The GMV alterations seen in ASD patients shortly after the traumatic event (T1) were also correlated with PTSD symptom severity and symptom clusters four weeks later (T2).

### **Results**

Compared with healthy controls, the ASD patients had significantly reduced GMV in the left visual cortex shortly after the traumatic event (T1) and in the left occipital and prefrontal regions four weeks later (T2); no significant differences in GMV were seen between the ASD and PTSD patients. Furthermore, a significant negative association was found between the GMV reduction in the left lateral temporal regions seen after the traumatic event (T1) and PTSD hyperarousal symptoms four weeks later (T2). Neither amygdala nor hippocampus alterations were predictive for the development of PTSD.

### **Discussion**

These data suggest that gray matter deficiencies in the left hemispheric occipital and temporal regions in ASD patients may predict a liability for developing PTSD.

## **Is Written Trauma Exposure Effective in Reducing Symptoms of Posttraumatic Stress in Adults? A Systematic Review**

**Rachelle Dawson, Richard O'Kearney, Sonia McCallum, Sarah McKenna & Alison Calear, Australian National University, Australia**

**Reg Nixon, Flinders University, Australia**

### **Introduction**

The stepped-care model has been adopted by various healthcare systems to reduce costs and overcome barriers to treatment. Written exposure is a low-intensity treatment for PTSD that may be disseminated into stepped-care. Written exposure involves one or more sessions of writing about a traumatic experience, either online or in-person. It was the aim of this review to systematically assess the efficacy for written exposure in reducing posttraumatic stress in adults across a plethora of writing paradigms, and to explore whether different features of writing paradigms account for differences in outcomes.

### **Method**

The systematic review followed Cochrane guidelines for undertaking reviews. Four databases were searched for RCTs comparing written exposure against an active or passive control in adults with PTSD or subclinical PTSD. Included written exposure interventions were

interventions that involved writing about a traumatic event as the main therapeutic procedure. Included studies were coded for demographics, primary and secondary outcomes, and features of the treatment. Included studies were subjected to risk of bias assessments. Two authors independently undertook each stage of the review.

### **Results**

Searches identified 22 eligible RCTs, totalling 1993 participants. A random effects analysis concluded that written exposure reduced PTSD symptoms at post-test compared to waitlist (SMD=-0.79 [-1.16, -0.42],  $p < .001$ ). Written exposure paradigms with less than one day between sessions did not significantly reduce PTSD symptoms in comparison to neutral writing controls (SMD=0.39, [-0.35, 1.13],  $p = .30$ ). However, writing therapies that included more than one day between writing sessions reduced PTSD symptoms greater than controls (SMD=-0.24 [-0.48, -0.01],  $p < .05$ ). Written exposure did not differ in outcomes when compared with another psychotherapy (CPT and CBT-workbook) (SMD=-0.15 [-0.19, 0.49],  $p = .39$ ). Analyses of follow-up outcomes showed a similar pattern of results. Subgroup analyses revealed that writing for 20 minutes or less was more beneficial than writing for +30 minutes; handwriting was beneficial over typing; and three or more sessions was beneficial over two or less.

### **Discussion**

This systematic review demonstrated that written exposure is efficacious in reducing symptoms in comparison to no treatment. This finding would suggest written exposure may be a useful treatment to implement into a stepped-care model, as it may benefit some service users at the lowest costs. Furthermore, written exposure produced outcomes of no difference to other psychotherapies (CPT and CBT-informed workbook). This finding comes from the pooled analysis of three studies, which involved more writing sessions (five as opposed to three), a larger amount of time in between sessions (one week), and implemented psychoeducation. These results suggest written exposure that utilises these aspects may be as efficacious as evidence-based psychotherapies, and would involve less time and therapist resources. Further research is needed to explore mechanisms of written exposure to understand why they may be performing equivalently to established psychotherapies.

## **Mothers' Emotions After Pediatric Burn Injury: Longitudinal Associations with Posttraumatic Stress- and Depressive Symptoms**

**Marthe Egberts, Association of Dutch Burn Centers and Utrecht University, the Netherlands**

**Iris Engelhardt & Rens van de Schoot, Utrecht University, the Netherlands**

**Anne Bakker, Amsterdam UMC and University of Amsterdam, the Netherlands**

**Rinie Geenen & Peter van der Heijden, Utrecht University, the Netherlands**

**Nancy van Loey, Association of Dutch Burn Centers & Utrecht University, the Netherlands**

### **Introduction**

A child's burn injury is an emotional experience that places parents at risk of developing posttraumatic stress disorder (PTSD) symptoms. Although the wide range of emotions implicated in PTSD is acknowledged, in order to reveal who recovers and who is at risk of chronic psychological problems, a longitudinal analysis of changes in emotions and PTSD over time is needed (cf. McLean & Foa, 2017; Pugh, Taylor, & Berry, 2015). The aim of the current study was to examine the longitudinal relationships of mothers' trauma-related emotions with symptoms of posttraumatic stress and depression 18 months after their child's burn injury.

### **Method**

Data from two cohort studies (including children aged 0-4 and 8-18 years old) were combined, resulting in a sample of 296 mothers. Mothers reported intensity of burn-related emotions within the first month (T1) and at 12 months postburn (T2). The Impact of Event Scale (IES) and the depression subscale of the Hospital and Anxiety Depression Scale (HADS-D) were administered at T1 and 18 months postburn (T3). Longitudinal associations between emotion variables and symptoms of posttraumatic stress and depression were examined in two path models.

### **Results**

Based on two Exploratory Factor Analyses (EFA), emotion variables were merged into two factors: basic emotions (fear, sadness, horror, and anger) and self-conscious emotions (guilt and shame). Path analyses indicated that persistence of basic emotions (from T1 to T2) was related to persistence of posttraumatic stress- and depressive symptoms. Self-conscious emotions showed concurrent associations with posttraumatic stress- and depressive symptoms at T1 and were longitudinally related to depressive, but not posttraumatic stress, symptoms.

### **Discussion**

Initial high levels of basic emotions that persist appear to increase the risk of chronic posttraumatic stress and of co-occurring depressive symptoms. Over and above these relationships, self-conscious emotions are indicated to contribute to long-term depressive symptoms. The results suggest the usefulness of screening and monitoring of parents who experience high levels of emotions after their child's injury.

## **Fear Conditioning Generates Intrusive Memories - A Study on the Impact of Social Support Interactions on Conditioned Threat**

**Lisa Espinosa, Karolinska Institutet, Sweden**

**Emily Holmes, Uppsala University, Sweden**

**Andreas Olsson, Karolinska Institutet, Sweden**

### **Introduction**

Research investigating the mechanisms underlying social regulation of learned threat has demonstrated an attenuating effect of social buffering on aversive experiences. However, it is still unclear how social interactions could affect the expression of already acquired threat in humans. The aim of this study is to investigate how varying levels of social support after fear conditioning affect subsequent extinction, reinstatement, as well as the frequency of intrusive memories, of the conditioned threat.

### **Method**

Seventy-seven participants underwent Pavlovian fear conditioning pairing neutral images as conditioned stimuli (CS) with a mild electric stimulation as unconditioned stimulus. After conditioning, participants were randomly assigned to receiving either active social support, no active social support or did not take part in a social interaction (control group). Skin conductance responses were collected to index threat responses during acquisition, and immediate extinction, as well as reinstatement 7 days later. During these 7 days, participants reported the frequency of intrusive memories of the CS.

## Results

Our results revealed that Pavlovian conditioning elicited intrusive memories of the CS, with more intrusions for the CS+ than CS-. Although the experimental manipulation of varying levels of social support (between groups) did not differentially influence acquired threat as predicted, it induced a varying perception of support (across groups) that influenced the expression of emotional memory.

## Discussion

Our findings might have implications for how to optimize tools for preventive clinical interventions.

### **Fear Conditioning as an Explanation for Intrusive Memories: An Experimental Study**

**Laila K. Franke, Julina A. Rattel, Stephan F. Miedl & Jens Blechert, University of Salzburg, Austria**

**Victor I. Spoormaker, Max Planck Institute of Psychiatry, Germany**

**Frank H. Wilhelm, University of Salzburg, Austria**

#### **Introduction**

Intrusive memories are clinically understood as conditioned responses (CRs) to trauma cues (Ehlers et al., 2002). Reducing the strength or probability of such CR is one target of exposure treatment in posttraumatic stress disorder (PTSD). Yet, empirical evidence for the assumption that intrusions following a traumatic event can indeed be conceptualized as CRs to trauma-related cues is scant.

#### **Method**

In order to investigate intrusive memories as conditioned responses to trauma cues, we used the conditioned intrusion paradigm (Wegerer et al., 2013), where a fear conditioning procedure is combined with the trauma-film paradigm (Holmes et al., 2016). Here, neutral faces served as conditioned stimuli (CSs) and aversive film clips depicting interpersonal violence as unconditioned stimuli (UCS). To assess the effects of extinction training following the analog-trauma situation, we randomized part of the participants (N=58) to subsequent extinction, whereas others (N=26) only underwent fear acquisition learning. The extent to which participants showed a differential response (i.e., conditionability) to the CS preceding aversive film clips (CS+) relative to the CS preceding neutral film clips (CS-) was indexed by valence/UCS-expectancy ratings, and skin conductance response (SCR). Intrusive memories were sampled for three consecutive days via a smartphone application.

#### **Results**

After the conditioned intrusion paradigm, subjects reported stimuli resembling the CS as trigger and content of intrusive memories during daily life. Participants who underwent extinction reported fewer intrusive memories than participants in the acquisition-only group ( $p=.016$ ). Conditionability at the end of acquisition negatively predicted intrusive memories in the extinction, but not in the acquisition-only group ( $p<.05$ ). Slowed extinction learning, indexed by increased conditionability at the end of extinction learning, positively predicted intrusive memories ( $p=.029$ ). Moreover, increased differential valence ratings to the CS+ vs. CS- four days after the analog-trauma, positively correlated with reported CS intrusions ( $r=.229$ ,  $p=.039$ ) and total amount of intrusions ( $r=.221$ ,  $p=.047$ ). Conditionability in the form of arousal only correlated with the number of reported CS intrusions ( $r=0.26$ ,  $p=.016$ ).

#### **Discussion**

Together, these trauma-analog findings provide strong experimental evidence for the assumption that intrusions are a result of fear conditioning during trauma and that their re-experiencing may be triggered by cues present during trauma. Since those participants who maintained a strong negative reactivity to cues associated with the trauma-films four days after analog-trauma showed most daily-life intrusions, this study further suggests that exposure-therapy in the form of reducing CRs to trauma cues might be essential particularly in individuals with high re-experiencing symptoms following trauma.

### **Is It Possible to Introduce Effective PTSD Prevention Program for Firefighters?**

**Patrycja Gajda, Pawel Habrat & Bogdan Zawadzki, University of Warsaw, Poland**

**Agnieszka Popiel & Ewa Praglowska, SWPS University, Poland**

#### **Introduction**

DSM5 extended criterion A in the diagnosis of posttraumatic stress disorder: "Exposure to actual or threatened death, serious injuries, or sexual violence in one (or more) of the following ways [...]" with the additional point 4: "Experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse)". Firefighters are undoubtedly exposed to such defined traumatic stressors and thus are the group of increased risk. Insufficient number of studies on effective prevention programs for PTSD symptoms, especially in firefighters group, prompted the formulation of the "Effective Action in Stress" program. The training program was planned as primary prevention (conducted prior to traumatization).

#### **Method**

The study group consisted of 145 candidates for work in the Polish State Fire Service, who participated in a 15-hour training in dealing with reactions and symptoms that may occur after being exposed to a traumatic stress event. The control group consisted of 159 candidates for work in the State Fire Service, who only had (similarly to the study group) 15 hours of standard psychological training taking place in preparation for service. A follow up study of both groups was planned in order to check the influence of primary prevention in developing effective strategies of coping with the consequences of exposure to traumatic events a year after starting an active service. The theoretical assumptions of the training referred to the social-cognitive theory and the self-efficacy construct of Bandura (1994, 2007), the cognitive-behavioral model of Beck (1997) and the seven-factor PTSD model (Zawadzki, Popiel 2014).

#### **Results**

The results indicate the effectiveness of preventive training. Despite similar exposure to traumatic situations during the first year of service, the study group reported fewer PTSD symptoms than the control group. Obtained results also indicate, that not only the symptoms of PTSD, but also the avoiding strategies of emotional regulation were less intense in the group that underwent the training.

#### **Discussion**

The effects of preventive training have decreased after one year from its completion. This suggests the need to repeat this type of training in the context of already real, professional situations. PTSD preventive training should be also extended with a module supporting the training effect. We believe that after proper adaptation period (including in particular examining the specific needs of specific professional groups within the framework of focus interviews), the training program could be used in other first responders groups.

## **Perfectionism and Worry as Moderators for the Relationship Between Obsessive-Compulsive and Posttraumatic Stress Symptoms**

**Sydney Hirst, Lindsey Snaychuk & Melanie O'Neill, Vancouver Island University, Canada**

### **Introduction**

Studies suggest that there is a relationship between obsessive-compulsive and posttraumatic stress symptoms. The 12-month prevalence rate of obsessive-compulsive disorder (OCD) is approximately 30% among those with posttraumatic stress disorder (PTSD), which is significantly greater compared to the rate in the general population (1-2%) (Kessler, Chiu, Demler, & Walters, 2005). Perfectionism and worry are of particular interest due to their potential to moderate the relationship between OCD and PTSD (Bardeen, Fergus, & Wu, 2013; Limburg et al., 2017).

### **Method**

Using a battery of questionnaires, we examined the main and interactive effects of perfectionism and worry in the relationship between obsessive-compulsive and posttraumatic stress symptoms in 135 university students.

### **Results**

A series of multiple regressions were analyzed and results supported their moderating effects on obsessive-compulsive symptoms among participants—significantly higher variance was accounted for by the interaction between perfectionism and posttraumatic stress ( $R^2 = .47$ ,  $F(3, 126) = 36.53$ ,  $p < .001$ ), and worry and posttraumatic stress ( $R^2 = .53$ ,  $F(3, 131) = 50.12$ ,  $p < .001$ ).

### **Discussion**

Our results provide evidence for function of specific symptoms in contributing to comorbid OCD and PTSD and highlight the importance of perfectionism and worry in both prevention and treatment efforts.

## **The Role of Gender, Negative Appraisals, and Perceived Social Support in the Emergence of Posttraumatic Stress Symptoms**

**Sydney Hirst & Melanie O'Neill, Vancouver Island University, Canada**

### **Introduction**

Epidemiological studies report a gender-linked risk for the development of posttraumatic stress (PTS) symptoms such that females are twice as likely to develop clinically significant levels of posttraumatic stress despite reporting less exposure to trauma (Kilpatrick et al., 2013). Despite these important findings, few studies have examined the complex mechanisms that underlie gender differences in PTS (Kobayashi & Delahanty, 2013). Some results indicate that the positive impact of social support as well as the negative effects of negative social interactions on posttraumatic stress may be more evident among females (Andrews, Brewin, & Rose, 2003). It is predicted that negative appraisals will account for a greater proportion of the variance in symptoms of posttraumatic stress, and that perceived social support will more significantly buffer against posttraumatic stress among females.

### **Method**

In order to test this hypothesis, a sample of undergraduate students ( $N = 79$ ) completed the Life Events Checklist for the DSM-5, the PTSD Checklist-Specific Version, the Stress Appraisal Measure, and the Multidimensional Scale of Perceived Social Support.

### **Results**

Preliminary correlational analyses including both men and women demonstrated significant relationships between trauma symptoms and social support ( $r = -0.49$ ,  $p < .001$ ) and stress appraisal ( $r = .39$ ,  $p < .001$ ). Preliminary regression analysis demonstrated a significant relationship ( $F(2, 77) = 28.89$ ,  $p < .001$ ) with social support ( $B = -.51$ ) and stress appraisals ( $B = .42$ ) accounting for 43% of the variance in posttraumatic stress. Among male participants, social support and stress appraisals were not found to be significant predictors of PTS symptoms ( $F(2, 17) = 2.60$ , *n.s.*). In contrast, the regression analysis demonstrated that social support ( $B = -.55$ ) and stress appraisals ( $B = .39$ ) were significant predictors of PTS among females ( $F(2, 57) = 27.22$ ,  $p < .001$ ), accounting for 49% of the variance. Data is continuing to be collected.

### **Discussion**

These results contribute to the growing body of literature that examines the complex mechanisms underlying gender differences in psychopathology.

## **The Effects of Gender and Anxiety Sensitivity in the Relationship Between Obsessive Compulsive Symptoms and Posttraumatic Stress**

**Sydney Hirst & Melanie O'Neill, Vancouver Island University, Canada**

### **Introduction**

Emerging lines of inquiry suggest a unique relation between posttraumatic stress (PTS) and obsessive-compulsive symptoms (OC) (Fontenelle et al., 2012). Trauma exposure may act as a means through which obsessions develop, and that the individual may engage in compulsive behaviour in order to minimize or eradicate the distress that accompanies the obsessions (Miller & Brock, 2017). Moreover, a meta-analysis conducted by Miller and Brock (2017) provides preliminary evidence that gender may play a significant role of the emergence of OC symptoms following trauma. Norr et al. (2016) demonstrated that the presence of anxiety sensitivity may increase one's vulnerability for psychological sequelae following trauma, particularly among females. It is predicted that OC symptoms and anxiety sensitivity will act as significant predictors of PTS, and this relation will be more significant among females.

### **Method**

Undergraduate students ( $N = 81$ ) completed a battery of questionnaires including the Life Events Checklist for the DSM-5, the PTSD Checklist-Specific Version, the Obsessive Compulsive Inventory-Revised, and the Anxiety Sensitivity Index.

### **Results**

Preliminary correlational analysis for the entire sample indicates that there were significant relationships between OC symptoms and anxiety sensitivity ( $r = .50$ ,  $p < .001$ ) and PTS symptoms ( $r = .52$ ,  $p < .001$ ). PTS symptoms were also significantly related to anxiety sensitivity ( $r = .36$ ,  $p < .001$ ). The relation between OC symptoms and anxiety sensitivity were more significant among male participants ( $r = .63$ ,  $p < .001$ ) compared to the females ( $r = .46$ ,  $p < .001$ ). A preliminary regression analysis ( $F(2,79) = 15.80$ ,  $p < .001$ ) found OC symptoms to be the only significant variable among the entire sample. Currently, data collection process is still underway.

### **Discussion**

The findings in this study will elucidate the underlying mechanisms of the relation between PTSD and OCD symptoms.

## **Have We Underestimated the Prevalence of PTSD and Major Depression in Countries with a Recent History of War? Discrepancies Between Epidemiological Surveys and Global Health Estimates of the WHO**

**Thole Hoppen & Nexhmedin Morina, Westfälische Wilhelms-Universität Münster, Germany**

### **Introduction**

Posttraumatic stress disorder (PTSD) and major depression (MD) are among the leading contributors to the global disease burden according to the most recent global burden of disease report iterations.

### **Method**

We conducted a meta-analysis of epidemiological surveys assessing prevalences of PTSD and MD with face-to-face structured interviews in the general population in war-afflicted regions and found a prevalence of 24% and 23% for PTSD and MD, respectively. We then translated these frequencies into absolute numbers in an effort to estimate the global number of adult war survivors who suffer from PTSD and/or MD. Drawing on the Uppsala Conflict Database (UCDP), we yielded 47 countries that suffered at least one war within their own territory between 1989 and 2015. The time span was chosen on availability of geo-referenced war-data (UCDP, 2018) and age-grouped population estimate-data (United Nations, 2018).

### **Results**

Based on the population estimates from the 47 countries with a war-history between 1989 and 2015, we estimate that about 1.45 billion individuals worldwide (one billion of these adults) have experienced war between 1989 and 2015 and were still alive in 2015. On the basis of our above-mentioned meta-analytic results, we estimate that about 349 million adult war-survivors suffer from PTSD and/or MD. Of these, about 115 million suffer from comorbid PTSD and MD. Our prevalence estimates for PTSD are about 7 times larger (95% CI, 5.9-8.2) than general population estimates (i.e., whole population) in the Global Health Estimates 2015 (GHE2015) reported by the World Health Organization (WHO, 2018) for all anxiety disorders (no separate data available for PTSD) and about 5.6 times larger for MD (95% CI, 4.9-6.6). As such, PTSD and MD may be even more severe contributors to the global disease burden than currently assumed. However, our estimates rest on a rather slim evidence base of epidemiological surveys (k = 24 surveys for PTSD; k = 15 surveys for MD).

### **Discussion**

Based on this slim available epidemiological evidence base, the global number of adult war survivors suffering PTSD and/or MD is vast and may have been underestimated substantially by influential institutions like the WHO. Most war survivors live in low-to-middle income countries (LMICs) with limited means to clinically address the enormous associated mental health burden. Since representative high quality data is lacking from most of these countries, our results contain a large margin of uncertainty and should be interpreted with caution. More longitudinal studies with random recruitment from the general population, particularly conflict-ridden countries, and with valid assessment of psychiatric disorders are crucial to allow for more valid extrapolations to whole populations and for a more precise assessment of long-term mental health outcome after warfare.

## **Neural Correlates of Psychotherapy in PTSD Related to Child Maltreatment: Study Design and Experimental Procedures**

**Stefanie Jaenicke-Reissig, Marie Neudert, Raphaela Zehntner, Rosa Bohlender, Susanne Fricke, Rudolf Stark & Andrea Hermann, University of Giessen, Germany**

### **Introduction**

Trauma-focused therapy is the treatment of choice for posttraumatic stress disorder. However, nonresponse rates among PTSD patients are relatively high. Especially patients with experiences of child maltreatment (PTSD-CM) seem to profit less from established treatments for PTSD. PTSD-CM is characterized by interpersonal difficulties, negative emotional reactivity, and emotion regulation deficits. Furthermore, these patients show structural and functional neural alterations which might be associated with processes involved in the development, maintenance and therapeutic change of traumatic memories and related symptoms.

### **Method**

This study aims at investigating the effects of evidence-based psychotherapy on neural correlates of PTSD-CM. We will examine a sample of patients with PTSD-CM (N=87), and individuals that experienced child maltreatment but did not develop any psychiatric disorder (N=29). In a randomized controlled design, we will investigate changes in PTSD-CM-related deficits due to trauma-focused therapy compared with wait-list. Brain imaging will be attained previous to therapy/waiting, directly after therapy/waiting, and 6 months after therapy (follow-up). We will assess structural and functional magnetic resonance imaging (MRI). There will be several tasks and measurements conducted in order to assess deficits and therapy-related changes in pattern separation (Mnemonic Similarity Task), attentional control (Cognitive and Emotional Stroop task), cognitive emotion regulation, context-dependent fearconditioning and extinction, and brain structural correlates of PTSD-CM using a 3T MRI scanner.

### **Results**

We expect PTSD-CM-related and therapy-related changes in brain regions associated with emotional processing, attentional and cognitive control as well as contextual processing.

### **Discussion**

These results might contribute to a better understanding of the neural mechanisms of PTSD-CM symptoms as well as their change by psychotherapeutic interventions. This might help to optimize existing treatments in the long run.

## **The Network Structure of Post-Traumatic Stress Disorder Across the Lifespan and the Role of the Youth-Reported and Parent-Reported Symptoms**

**David Johnston, University of Cambridge, United Kingdom**

**Richard Bryant, University of New South Wales, Australia**

**Richard Meiser-Stedman, University of East Anglia, United Kingdom**

**Anke de Haan, University of Zurich, Switzerland**

**Nancy Kassam-Adams, Children's Hospital of Philadelphia, USA**

**Tim Dalgleish, University of Cambridge, United Kingdom**

### **Introduction**

The network approach represents a new way to conceptualise psychological difficulties and allows for a more nuanced understanding of the relationship between symptoms and the maintenance of mental disorders. Network analysis has been used to investigate the nature of Post-traumatic Stress Disorder (PTSD) in a variety of populations but no research study has explored PTSD symptom networks across the entire

lifespan from very young children (6 years and younger) to adults. Furthermore, as diagnosis in children and to some extent adolescents relies on parental report, understanding how the informant of symptoms influences the network architecture may provide crucial information to clinicians when making determinations around diagnosis and treatment.

#### **Method**

We compiled existing databases for very young children (N = 467), older children (N = 694), parent-reported symptoms of older children (N = 774) and adults (N = 988). Network models were constructed for 16 PTSD symptoms for each age group and for different informants. We compared the network models and computed the relative importance of symptoms to explore these differences.

#### **Results**

Key differences emerged between each of the different networks both in terms of the overall connectivity of the networks and in the relationship between different symptoms. The networks of youth-reported symptoms showed stronger interconnections amongst symptom clusters (avoidance and arousal) than those networks that relied on parental report. These differences between different age groups contributes to our understanding of the nature of PTSD, particularly in relation to the strength of associations and relative importance of symptoms.

#### **Discussion**

Network models provide an opportunity for clinicians to investigate the nature of symptom associations and interactions within disorders. This work illuminates key differences in PTSD symptom networks across development and highlights critical symptoms that are unique to each age group and may be important in relation to guiding treatment. As the analysis also revealed differences between youth- and parent-report, the analysis has implications for tailoring diagnostic assessments.

### **Self-Perceptions of Women in the Aftermath of Sexual Trauma**

**Hadar Keshet & Eva Gilboa-Schechtman, Bar-Ilan University, Israel**

#### **Introduction**

Evidence-based theories on trauma (e.g., Ehlers & Clark, 2000; Foa & Riggs, 1993) highlight the role of self-related impairments in the development and maintenance of PTSD. As opposed to the robust findings linking PTSD and self-perceptions, less is known about the role of trauma-type in the erosion of self-perceptions following trauma. Sexual trauma (ST) is considered an especially destructive trauma-type. Indeed, ST was found to be associated with greater severity of various forms of psychopathology (Dworkin et al., 2017). Studies also point to self-concept impairments in the aftermath of ST. However, a direct comparison of self-perceptions between ST and other trauma-types is scarce. We sought to fill this gap by comparing women with a history of ST to women with a history of other trauma-types on several aspects of self-perceptions.

#### **Method**

We conducted three internet-based studies in which female participants completed background and clinical questionnaires as well as self-perception measures. Specifically, we assessed global self-esteem (RSES; Rosenberg, 1965), posttraumatic self-cognitions (PTCI; Foa et al., 1999), and self-concept clarity (SCCS; Campbell et al., 1996). In Study 1 we compared women with a main trauma of sexual assault (n = 79) to women with a main trauma of motor-vehicle accident (MVA; n = 87). In Study 2 we compared women with a main trauma of sexual assault (n = 48), MVA (n = 38), and bereavement (n = 22). In Study 3 we considered the focality of the ST (whether it is perceived as the main or background trauma) and the number of background trauma-types. Among women with a single trauma-type (n = 96), women who experienced ST were compared to women who experienced non-sexual trauma. Among women with multiple trauma-types (n = 135), women who experienced ST were compared to women who experienced only non-sexual traumas, and women with a main ST were compared to women with a background (not main) ST.

#### **Results**

In Study 1, women with a main sexual assault reported greater self-concept impairments than women with a main MVA. Differences in posttraumatic self-cognitions remained significant above and beyond posttraumatic distress. In Study 2, women with a main sexual assault reported greater self-concept impairments in comparison to women with a main MVA, but not bereavement. However, these impairments ceased to be significant above and beyond posttraumatic symptoms. In Study 3, women who were sexually traumatized reported greater self-concept impairments compared to women with a history of non-sexual trauma(s). For women with a single trauma-type, differences in self-perceptions remained significant above and beyond posttraumatic symptoms. Among women with multiple trauma-types, those with a main ST reported greater self-concept impairments than women with a background ST.

#### **Discussion**

These findings add to the cumulative evidence of the particularly disastrous impacts of ST by documenting self-concept impairments in the aftermath of ST. Some of these impairments were found to extend beyond clinical symptoms, highlighting the need of clinicians to recognize and address self-perceptions of women with a history of ST. Additional theoretical and practical implications will be discussed.

### **A Pilot Study of a Single-Session Psychoeducational Intervention for Acute Trauma Survivors in South Korea: Follow-up After Six Months.**

**Daeho Kim, Dong Joo Kim, Hwa Yeon Jo, Choyeob Park & Keonseok Lee, Hanyang University, South Korea**

#### **Introduction**

At present, prevention of post-traumatic stress disorder (PTSD) at the acute phase of trauma is questionable because evidence for early psychological intervention is weak. This study examined development of DSM-5 mental disorders including post-traumatic stress disorder at the six-month follow-up for those received a single session psychoeducational intervention within two weeks of trauma.

#### **Method**

The forty participants with acute stress symptoms received a single 90-minute session of individual or small group (2-5 per group) psychotherapy consisting of psychoeducation, grounding, and containment exercise and 35 (87.5%) were followed up after average 6 months and administered the Structured Clinical Interview for DSM-5 Mental Disorders (SCID-5) and the PTSD Checklist- Clinical version by telephone or face-to-face interviews

#### **Results**

Two (5.7%) subject met the current diagnosis of PTSD related to the index trauma. PTSD symptoms were higher in those who had previous psychopathology prior traumatic events ( $p < 0.05$ ).

## **Discussion**

Although this study is uncontrolled and cannot rule out natural improvement of acute stress symptoms, our finding suggests that a brief psychoeducational psychotherapy can be used at acute stage of trauma for prevention from further development of posttraumatic psychopathology. Also, focus of attention should be paid to those who have pre-traumatic psychiatric problems.

## **Who Receive Trauma-Focused Psychotherapy, Medication, or Both?: Findings from Outpatients with Posttraumatic Stress Disorder in South Korea**

**Daeho Kim, Hanyang University, Dong Joo Kim, Hwa Yeon Jo, Choyeon Park, Keonseok Lee & Hyunjin Kim, South Korea**

### **Introduction**

A large number of patients with post-traumatic stress disorder (PTSD) received psychotropic medications in psychiatric facilities although trauma-focused psychotherapy is considered as the first line treatment. However, little is known about prevalence and clinical correlates of allocation of different therapy options. This study retrospectively examined treatment allocations, that is, eye movement desensitization and reprocessing (EMDR) therapy, pharmacotherapy or both among outpatients with PTSD at a psychiatric facility in South Korea.

### **Method**

EMDR alone (n=18, 11%), pharmacotherapy alone (n=69, 42%), or both (n=77, 47%) were delivered to 164 patients at an outpatient psychiatric unit of Hanyang University Guri Hospital, Gyeonggi-do, South Korea. The demographic and clinical data including the Clinician-administered PTSD Scale (CAPS), the Clinical Global Impression Scale, and Symptom Checklist-90-Revised (SCL-90-R) were compared among three different treatment allocation groups.

### **Results**

Significant differences were found in overall severity and number of comorbid psychiatric disorders. Post-hoc test revealed that both medication alone ( $p < 0.001$ ) and combined group ( $p < 0.001$ ) had significantly more comorbid conditions than EMDR alone. And combined group had higher CGI scores than EMDR alone ( $p=0.007$ ). Furthermore, when we examined overall improvement after treatment, EMDR alone group had better outcome than medication alone or combined group even after controlling pretreatment CGI ( $p < 0.001$ ).

### **Discussion**

These results indicate that comorbidity may predict use of medication independently or concomitant with EMDR in psychiatric outpatient unit. However, EMDR was better than two other conditions implying that trauma-focused psychotherapy should be to the first-line option for adult PTSD at outpatient basis. Further studies are needed to explore the mediating variables of treatment choice and combined approaches for PTSD.

## **Victimization Myths and the Victims of Sexual Violence in Korea**

**Sunyoung Kim, University of Hawaii, USA**

**Gunjeong Lee, Ewha Womans University, South Korea**

**Insook Kwon, Myungji University, South Korea**

### **Introduction**

There have been a number of studies and critiques on the existing rape myths which have made it difficult for sexual violence victims to receive support in the community and in the criminal justice system. Those myths include that men cannot control their sexual desires; we cannot believe women who are raped while drunk or by an acquaintance; it is a woman's responsibility to be vigilant and limit their activities to avoid sexual violence, etc. Critiques of these rape myths led to some improvement in how sexual violence is handled in the criminal justice system and increased report rates of sexual violence in Korea. Using the previous accomplishment as a spring board, this study focuses on effects of victimization myths. These myths view sexual violence victims as being dirtied, stigmatized, helpless and incapable, permanently ruined, and comprehensively damaged so much that it is impossible to return to the normal life. These myths may appear helpful by highlighting the

### **Method**

235 sexual violence victims in Korea have been administered a set of questionnaires that measure victimization myths, perceived secondary victimization, and responses from various community members regarding the sexual violence the women experienced. Using the SPSS, descriptive, correlations, and t-tests were administered to analyze the data.

### **Results**

Outcomes indicated that a great portion of Korean sexual violence victims experience victimization myths (47.0%) as well as rape myths (30.4%). The most common themes were blaming the victim (49.1%) and discouragement of reporting the crime to police (61.9%). There were significant correlations between experiencing rape myths and experiencing victimization myths ranging from  $r=0.354$  ( $p < 0.01$ ) to  $r=0.139$  ( $p < 0.05$ ). The sexual violence victims felt most frequently resentful with their family members in terms of their responses (42%) and mostly because the family members downplayed the victim's pain, tried to keep it secret or labeled the victims as permanently damaged.

### **Discussion**

This study showed that unlike other crime victims, sexual violence victims do not receive support and instead, have to deal with victimization myths. Long after the sexual violence incidents, victims reported continuous experience of the myths.

## **Mindfulness and Compassion: A Comparison of PTSD Patients, Depressive Patients and Healthy Controls Using a Multi-Method Approach**

**Stella Kümmerle, Goethe University, Germany**

**Thomas Heidenreich, University of Applied Sciences, Esslingen**

**Regina Steil & Meike Müller-Engelmann, Goethe University, Frankfurt**

### **Introduction**

According to several studies investigating clinical and healthy samples, reduced mindfulness skills and a lack of compassion are associated with higher levels of psychopathology. However, studies comparing PTSD patients and depressive patients are missing. Additionally, previous studies regarding mindfulness skills are mostly based on self-report data. One major concern is that the semantic understanding of the individual items depends on the personal experience with mindfulness exercises. Hence, Burg and Michalak (2011) proposed an additional approach: the Mindful Breathing-Exercise. This experimental task has already been examined in a healthy and a depressive sample (Burg & Michalak, 2011; Rohde, Adolph, Dietrich & Michalak, 2014), while findings for PTSD patients are still outstanding. The aim of this

study was to compare PTSD patients, depressive patients and healthy controls with regard to mindfulness skills and compassion, following a multi-method approach.

#### **Method**

In order to assess inclusion and exclusion criteria, structured clinical interviews for DSM IV (SCID-I; German version: Wittchen, Wunderlich, Gruschwitz, & Zaudig, 1997) were conducted in all three groups (total N = 99). In addition, depressive symptoms were assessed with the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). The Mindful Breathing-Exercise was used as a behavioral assessment of attention to the breath, while self-reported mindfulness was measured by the Five-Facet of Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Compassion was assessed by two questionnaires: The Self-Compassion Scale (SCS; Neff, 2003) that measures “self-compassion” and “self-criticism”, and the Compassionate Love Scale (CLS-42; Sprecher & Fehr, 2005).

#### **Results**

In comparison to healthy controls, PTSD patients and depressive patients demonstrated significantly less self-reported mindfulness skills and marginally significantly less experimentally measured mindfulness. Both patient groups showed significantly lower levels of self-compassion and higher levels of self-criticism than the healthy controls. No differences were found between both patient groups. With regard to compassionate love for others, results indicated no differences between all three groups. Due to the high comorbidity between PTSD and depression, we performed additional analyses of covariance controlling for depressive symptoms (BDI II score as covariate). Results showed a highly significant effect of the covariate, while the multivariate effect of group lost its significance.

#### **Discussion**

Results showed that, compared to healthy controls, PTSD patients and depressive patients have significant limitations in mindfulness skills and self-compassion, while they don't have any impairment of compassion for others. We didn't find any significant difference between the two patient groups, suggesting that there are rather similar deficits in both groups than disorder specific patterns. According to the results of the analyses of covariance, depressive symptoms rather than PTSD symptoms seem to be accountable for the difference between both patient groups and healthy controls. In this context, issues of comorbidity and symptom overlap as well as implications for the psychotherapeutical treatment of both disorders will be discussed. Additionally, the chosen combination of an experimentally based measure of mindfulness with self-reports will be discussed in the light of the ongoing controversy about limitations of the questionnaire-based assessment of mindfulness.

### **The Impact of Recent Kerala Floods: The Post-Traumatic Psychological Distress and Recovery Among Adolescents**

**Roshin John Kunnel, University of Basel, Switzerland**

**Rajeev Joseph Michael, St Joseph's Hospital Kerala, India**

#### **Introduction**

The Kerala floods in August 2018 was one of the biggest natural calamities of the year. According to the UN report, 5 million people were affected, 1.4 million people had to be evacuated, 1.75 lakh houses were damaged, and more than 400 people died in this small State in South India. Post flood, people across all ages were reported suffering from post-trauma psychological distress.

#### **Method**

As part of a post-flood intervention program, we explored the psychological well-being/distress among teenagers in one of the most flood-affected municipality where nearly all the houses were at least partially under water for two days or more. The study was conducted two months after the flood. We developed a brief survey, which included the World Health Organization - Five Well-Being Index (WHO-5) and the Self Report Questionnaire -20 (SRQ-20) besides a few exploratory items which addressed post-flood scenario such as frequent autonomic arousal, ability to get back to study, recreational activities, etc., increase or decrease in the time spent on TV, mobile, internet, and in the use any addictive substance, and general family atmosphere. The study participants were 480 adolescent students in the age range of 15-17 years recruited from four schools. There was a close to equal distribution of male and female participants. The survey was administered in small groups of 20-25 participants. Those who scored below the cut off for WHO - 5 were additionally administered BDI II and BAI individually by a trained psychologist prior to providing a brief supportive counseling.

#### **Results**

The results showed that 16% of the adolescents reported psychological distress, of which 68% (i.e., 11% of the total sample) was found to have symptoms of mild-moderate depression and/or anxiety. Of these, 63% (i.e., 6% of the total sample) reported flood-related psychological distress. Female students reported higher psychological distress as compared to male students. The commonly reported psychological problems were increased anxiety about academic performance, poor quality/quantity of sleep, feeling heavy in chest, lack of concentration, etc.

#### **Discussion**

In discussion, we elaborate the implications from the survey findings for the management of acute stress reaction especially for the adolescents. We also discuss factors such as resilience and socio-cultural resources that may have contributed to the fact that a relatively small percent of post-trauma distress and psychological problems were observed in this age group of the Kerala flood victims.

### **A Comparison of Self-Reported and Expert-Assessed Clinician Adherence to Cognitive Processing Therapy for Posttraumatic Stress Disorder**

**Jeanine Lane, Ryerson University, Canada**

**Shannon Wiltsey-Stirman, Stanford University, USA**

**Norman Shields, Veterans Affairs Canada, Canada**

**Candice Monson, Ryerson University, Canada**

#### **Introduction**

As a chronic, disabling condition that is a worldwide concern, prevalence rates of posttraumatic stress disorder (PTSD) range from 1% to 37% globally. Evidence-based trauma-focused cognitive-behavioural interventions, such as Cognitive Processing Therapy (CPT), have been shown to be efficacious in improving PTSD symptoms. Despite the existence of several evidence-based psychotherapies (EBPs) for PTSD, research indicates that only a minority of clinicians implement these treatments, leaving patients untreated or inadequately treated. For clinicians providing EBPs, there is variability in the extent to which they follow protocols and adhere to key elements. A number of studies indicate that therapist fidelity (i.e., adherence to, and competence in, delivering prescribed interventions) to EBPs is associated with better patient outcomes. Assessing fidelity traditionally involves trained experts rating recorded therapy sessions, but the high cost of this rigorous method is a major barrier.

## **Method**

An alternative method of fidelity assessment may be clinicians' self-reported fidelity, but the validity of this method is lacking in the literature more generally, and specifically with regard to PTSD. The current study was derived from a larger ongoing parent study that is an international collaboration between Canada and the United States involving multiple sites examining post-training support to promote sustained and improved delivery of CPT. The parent study aimed to recruit 90 clinicians and 288 patients. Following each session of CPT, clinicians are required to submit audiorecordings of their sessions. They are also required (at least once monthly) to complete a clinical note checklist for adherence based on individual sessions with their patients. Overall, the aim of the current study is to assess the reliability and validity of clinician-reported adherence to CPT, to determine if this method is equivalent to the most commonly used method of expert-assessed adherence.

## **Results**

For this currently ongoing study, it is hypothesized that clinician-reported adherence will be significantly associated with expert-assessed adherence. Multilevel growth curve modeling will be used to conduct the analyses. Results will be presented and discussed.

## **Discussion**

Understanding if clinicians can accurately assess their own fidelity to EBPs for PTSD may reduce barriers associated with current methods of fidelity assessment, which has substantial implications for future knowledge translation research. It also has clinical relevance, because determining if clinicians can self-identify the need to seek consultation and resources to support treatment implementation translates into better care for the many individuals suffering from PTSD.

## **RESILIENT – An Online Multidimensional Treatment to Promote Resilience After a Disaster: Who Participated ?**

**Jessica Lebel, Geneviève Belleville, Vera Békés, Marie-Christine Ouellet & Charles M. Morin, Laval University, Canada**

**Stéphane Bouchard, Université du Québec en Outaouais, Canada**

**Stéphane Guay, University of Montreal, Canada**

## **Introduction**

An interdisciplinary team worked on developing a therapist-assisted self-help online treatment that aimed at targeting the major mental health problems reported by the evacuees from the 2016 Fort McMurray (Alberta, Canada) wildfires: symptoms of post-traumatic stress disorder (PTSD), of depression and of insomnia. For each problem, specific, evidence-based interventions have been included in the program in an integrative manner. This paper aims to explore the characteristics of the evacuees who participated to the online treatment. A secondary aim is to explore the characteristics of participants who completed the 12-session treatment compared to those of the participants who did not complete it.

## **Method**

A year after the wildfires, 697 evacuees were invited to participate in a longitudinal study to assess the prevalence of PTSD, insomnia and depression and to monitor the evolution of these symptoms up to three years after the events. Participants completed an online assessment in May 2018 and again in November 2018. To be included in the treatment study, participants had to a) present severe PTSD symptoms or b) present moderate PTSD symptoms combined with depressive and/or insomnia symptoms. Overall, as of December 2018, a total of 156 participants were invited to take part in the treatment. Among participants who initiated treatment, those who finished the treatment completed the 12 sessions with the assistance of their assigned therapist. Those who did not complete the treatment completed an average of 3 sessions ( $\pm 2.9$ ) before terminating contacts with their assigned therapist.

## **Results**

Primary objective. Compared to those who refused or gave no answer ( $n=79$ ), participants who accepted to take part in the treatment ( $n=76$ ) presented more severe PTSD, depression and insomnia symptoms. They also presented more self-blame and negative cognitions about themselves and the world, and reported using more social support seeking coping mechanisms. They reported having less instrumental and emotional support, suffered more considerable damage during the wildfires (house, cars, sentimental possession, etc.) (all  $p < .05$ ). Participants that accepted to take part in the treatment also experienced significant problems with insurance claims, a change in their work status as a result of the wildfires and a decrease in social life (seeing friends and family) since the wildfires and evacuation (all  $p < .05$ ). Secondary objective. When participants that finished the treatment ( $n=16$ ) were compared to those who did not ( $n=21$ ), only gender was statistically different ( $\chi^2(1)=5.78, p=.016$ ).

## **Discussion**

Individuals with a more severe clinical portrait and benefitting from less social support in their surroundings are more likely to participate to an online treatment. Once participating in the online treatment, men were more likely to complete it than women. These findings will help targeting people in need in the recovery phase after a natural disaster.

## **Development and Validation of a New Measure of Early Adversity Among Children and Adults: The Adverse Life Experiences Scale (ALES)**

**Meryn Lechowicz, Alex Roach, Carri Fisher, David Hawes & Mark Dadds, The University of Sydney, Australia**

## **Introduction**

Adverse childhood experiences (ACEs), such as child abuse, exposure to domestic violence, and major disruptions to caregiving, have been identified as one of the highest priorities for public health worldwide. A major review in the Lancet (Hughes et al., 2017) found that children exposed to ACEs are at a significantly increased risk not only for mental health disorders in childhood and later life, but a range of other health problems including cancer, heart disease, and respiratory disease. At present one of the greatest barriers to meeting the needs of these individuals is that practitioners lack an efficient and psychometrically valid screening method for identifying individuals who have been exposed to adversity and quantifying the nature and timing of that adversity. Here we introduce a new measure, the Adverse Life Experiences Scale (ALES) that will allow health practitioners to efficiently collect vital information about a broad range of adverse experiences from childhood and across the life span. The ALES provides a much briefer alternative to the lengthy and intensive interview-based methods that currently exist for assessing ACEs and traumatic life events and can therefore be used in settings where these are not feasible. The measure captures impactful life events (e.g., exposure to a natural disaster), lifetime exposure to adversity (e.g., abuse), the unique forms of adversity of particular importance to minority populations (e.g., separation from culture, as potentially experienced by indigenous and refugee peoples), and precise information about the timing of exposure to adversity through childhood into adulthood.

## **Method**

The ALES has been evaluated with regard to reliability and validity of reports and predictive utility in a clinical population of referred children aged 2 to 9 years and their caregivers. The ALES is available in a Self-Report Version (suitable for completion by adolescents and adults) and a Caregiver Report Version. We will present a background and the rationale for the development of the new measure, including the selection of the respective 24 items. We will then present validation data from a clinical sample of  $n = 150$  children and their caregivers who completed the ALES as part of a broader clinical assessment.

## **Results**

Convergent validity was evaluated by examining the association between scores on well-established clinician rated measures of quality of the caregiving environment and maltreatment. Reliability analysis included test-retest correlations and multi-informant correlations. Finally, data will be presented on the predictive utility of the ALES in relation to distress and features of psychopathology among children and adults.

## **Discussion**

Issues related to the practical use of such a measure in clinical settings will be discussed, in addition to directions for future research with a range of clinical populations.

## **Imagery Rescripting and Eye Movement Desensitisation and Reprocessing (IREM) for Treatment of Adults with Childhood PTSD: An International Randomized Clinical Trial**

**Christopher Lee & Katrina Boterhoven de Haan, University of Western Australia, Australia**

**Arntz Arnoud, University of Amsterdam, the Netherlands**

**Eva Fassbinder, Lübeck University, Germany**

**Mariel Meewisse, GGZ Noord-Holland Noord, the Netherlands**

**Simone Menninga, PsyQ Beverwijk, the Netherlands**

**Saskia van Es, PsyQ Amsterdam, the Netherlands**

## **Introduction**

Post-traumatic stress disorder (PTSD) that originates from childhood trauma can develop into a chronic condition that has lasting effects on an individual's functioning and quality of life. While there are evidence-based guidelines for treating adult onset PTSD, treatments for adults with childhood trauma-related PTSD (Ch-PTSD) are varied and subject to ongoing debate. This study tested the effectiveness of two trauma-focused treatments, imagery rescripting (ImRs) and eye movement desensitisation and reprocessing (EMDR) in participants with Ch-PTSD. Both have been found effective in the treatment of PTSD but less is known about their effectiveness for treating Ch-PTSD or their underlying working mechanisms.

## **Method**

IREM is an international multicentre randomised controlled trial involving seven sites across Australia, Germany and the Netherlands (Boterhoven de Haan et al., 2017). Assessments were conducted pre-treatment, mid-treatment 8-weeks post-treatment and all patients will be followed up at one year. The primary outcome measure is change in PTSD symptom severity from pre-treatment to 8-weeks post-treatment on the CAPS as assessed by a blind independent rater. Secondary outcome measures include change in severity of depression, anger, trauma-related cognitions, guilt, shame, dissociation and quality of life. Treatment was delivered intensively in 12 (1.5 hour) sessions within an eight-week period.

## **Results**

Dropout rates were lower than expected. Of the 158 patients who commenced treatment, 140 completed. Intent-to-treat analysis indicated large and significant improvements on all measures post-treatment (eg CAPS: Cohen's  $d = 1.7$ ) with no difference between the two approaches. Preliminary results will also be presented on the follow-up data. To date the tendency has been for continued growth.

## **Discussion**

This study demonstrated that intensive trauma focussed interventions were effective for people with PTSD from childhood experiences and that these treatments were well tolerated. Ideas as to why such a substantial improvements were obtained in the study will be presented as will a set of hypothesis as to who improves and under what conditions.

## **References**

Boterhoven de Haan, K. L., Lee, C. W., ... & Arntz, A. (2017). Imagery rescripting and eye movement desensitisation and reprocessing for treatment of adults with childhood trauma-related post-traumatic stress disorder: IREM study design. *BMC psychiatry*, 17(1), 165. doi:10.1186/s12888-017-1330-2

## **Irrational and Rational Beliefs and Posttraumatic Stress Disorder: A Rational Emotive Behaviour Therapy Perspective**

**Lence Miloseva, Goce Delcev University, North Macedonia**

**Dijana Miloseva, Ss. Cyril and Methodius University Skopje, North Macedonia**

**Tatjana Vukosavljevic-Gvozden, University of Belgrade, Serbia**

## **Introduction**

The nature of PTSD as a clinical construct is extremely complex, possessing many subtleties and idiosyncratic intricacies that distinguish it from other psychiatric disorders. REBT theory appears very well suited to studying posttraumatic stress responses as the theory suggests that such responses should not arise simply as a result of experiencing a traumatic life event, as is suggested in the DSM V (APA, 2013), but rather that PTSD will arise as a consequence of evaluating traumatic life events in a dysfunctional manner (Ellis, 2001).

The main aim of this paper is to introduce preliminary results from project supported by Goce Delcev University, Stip, North Macedonia, which was planned to be conducted during 2018-2020 year. This research clinical study is aimed at exploring the nature and structure of PTSD from the REBT, Rationale Emotive Behavior Perspective.

## **Method**

The research is conducting in two stages. In the first stage (pilot study) during 2018, the reliability of psychological instruments was established (Cronbach's alpha coefficient) on a sample from Stip and Skopje, aged 19-65. In the second stage, during 2019-2020 year, a clinical sample of respondents who met the criteria for PTSD will be provided (by DSM-V classification, PTSD) in Clinical Hospital in Stip and University Clinic of Psychiatry in Skopje. In order to assess main variables (posttraumatic symptomatology [level], irrational beliefs, rational beliefs, trauma-specific irrational beliefs) will use set of psychological instruments subsequently, in relation to the aforementioned

variables: The sheet of paper with personal data; PTSD Diagnostic Scale for DSM-V (PDS-5, Foa et al., 2015); The Attitudes and Belief Scale 2, (ABS-2: DiGiuseppe, Leaf, Exner, & Robin, 1988); The Trauma Related Irrational Belief Scale, Hyland, 2014.

#### **Results**

As we expected, psychological instruments showed good psychometric characteristic. A model consistent with the predictions of REBT theory will found to be a good fit of the data and explained a large percentage of variance in each symptom class of posttraumatic stress. Applying structural equation modelling, we expected that generalised irrational beliefs could impact upon posttraumatic stress symptoms via trauma specific irrational beliefs. It is expected that with applying sequential moderator multiple regression analysis we will found that rational beliefs could positively moderate the impact of irrational beliefs of posttraumatic stress symptoms. Rational beliefs will found to exert a negative, direct effect on posttraumatic stress symptoms, and to lessen the impact of irrational beliefs on posttraumatic stress responses.

#### **Discussion**

The contribution of the results would be the emphasizing of the necessity for complementary and integrated approach, as well as highlighting the importance of REBT, i.e. especially impact of irrational and rational beliefs in development and/or protection of development of PTSD symptomatology.

### **Study Quality and Treatment Efficacy of Psychological Interventions for PTSD: A Meta-Analysis**

**Nexhmedin Morina, Eva Fischer, Claudia Mehnert, Jana Scharfen & Thole Hoppen, University of Münster, Germany**

#### **Introduction**

There are strong indications that clinical trials with higher study quality may produce smaller treatment effects. Accordingly, existing meta-analysis that did not factor in study quality might have overestimated treatment effects.

#### **Method**

In this meta-analysis, we assessed the efficacy of psychotherapy for posttraumatic-stress disorder (PTSD) and whether the quality of the trials is associated with treatment effects. Study quality was assessed using the following criteria from prior research:  $N \geq 50$ , patients met criteria for PTSD, a treatment manual was used, therapists were trained, treatment integrity was checked, intent-to-treat analyses were applied, randomization was conducted by an independent party, treatment outcome was conducted by blind assessors.

#### **Results**

Our systematic search resulted in 77 RCTs with 101 treatment arms (with a total of 5,373 adult patients). Results produced large effect sizes in favor of experimental interventions relative to passive control conditions. The comparison to active control conditions resulted in medium effect sizes. Several characteristics of study quality were associated with effect sizes. Trained therapists and the control of treatment integrity were related to higher effect sizes, whereas a sample larger than 50 was related to a lower effect size.

#### **Discussion**

The findings indicate that psychotherapy can effectively reduce PTSD symptoms. However, the study quality of the current studies may relate to treatment effects.

### **Posttraumatic Cognitions, Pain, and Injury as Predictor of Trauma Symptoms in Motor Vehicle Accident Survivors**

**Marcia Mössler, Lauren Marshall & Melanie O'Neill, Vancouver Island University, Canada**

#### **Introduction**

Traumatic stress injuries resulting from motor vehicle accidents can be maintained by a variety of injury-related factors as well as posttraumatic cognitions (Koch et al., 2005).

#### **Method**

This study examines a number of risk factors for trauma symptoms including posttraumatic cognitions as measured by the PTCI (PTCI; Foa et al., 1999), ongoing chronic pain (BPI; Cleeland & Ryan, 1994), and severity of physical injury in a sample of 136 university students who experienced a traumatic MVA.

#### **Results**

Bivariate correlations revealed significant positive correlations between posttraumatic stress symptoms and posttraumatic cognitions ( $r = .609$ ) and perceived intensity of pain ( $r = .418$ ). Severity of physical injury, as measured by days of hospitalization, was not significant ( $r = .125$ ). Posttraumatic cognitions, pain levels, and physical injury severity were entered into a multiple regression. The strongest predictor of trauma symptoms was traumatic cognitions ( $\beta = .54$ ) followed by pain level ( $\beta = .30$ ).

#### **Discussion**

These results suggests that interventions directed towards unhelpful posttraumatic cognitions as well as reducing perceived pain levels could play an important role in emotional functioning following a traumatic motor vehicle accident.

### **Autobiographical Memory Specificity and Dissociative Processes: A Systematic Review**

**Aysenur Okan, M. Alp Erken, Fatma Aydin & Hale Yapici Eser, Koc University, Turkey**

#### **Introduction**

Autobiographical memory (AM) constitutes life narratives as collection of episodic and semantic components. It shapes sense of self, schemas, worldviews, and skills such as problem solving, planning, and coping. Failure to recall specific AM on Autobiographical Memory Test (AMT), which is related to various cognitive processes, is called overgeneral memory (OGM) and is usually accompanied by third-person perspective during AM recall, and not being able to integrate memories into life narrative and self-concept. Literature shows OGM is related to psychopathology and resistance to treatment (Raes, 2009) and can be improved with Memory Specificity Training (MEST). Several articles mentioning remember and know responses, perspective shift while recalling AM and failure to integrate memories into life narrative point to dissociation, as it is a process that distorts self-concept, memory integrity, and worldview and affects the course of anxiety and depressive disorders (Prasko, 2016).

#### **Method**

Dissociation might share common symptoms with OGM and may be a vulnerability factor for psychopathology. In this systematic review, we aimed to analyze the relationship between OGM and dissociation and discuss possible clinical implications. This study used the bibliography of a larger systematic review currently being conducted on autobiographical memory and stress. Two authors read all the abstracts and identified relevant studies. Articles were excluded for being on general memory deficits, not reporting AM or dissociation, or

being on an irrelevant topic. Data were extracted from the studies with relevant information that reported Dissociative Experiences Scale (DES) or State Dissociation Questionnaire (SDQ) scores or a dissociative disorder diagnosis and measured AM via AMT. Finally, seven articles could be included for the study. Specific and overgeneral memories were inspected in relation with dissociation scores.

### **Results**

Studies that reported DES scores were conducted on patient groups of BPD, DID and PTSD and trauma-exposed groups. An effect of dissociation on OGM was observed. Groups with higher DES scores correlated with fewer specific and more overgeneral memories in response to positive, negative, and neutral cue words. Additionally, higher SDQ scores of PTSD group compared to control group were correlated positively with categorical and negatively with specific AMT scores in response to positive and negative verbal and pictorial cues. However, a study reported lower OGM as associated with higher DES scores in BPD group and one study conducted on a healthy population failed to show a significant effect of high ( $\geq 30$ ) vs low ( $< 15$ ) DES scores on OGM.

### **Discussion**

Our review indicates a relationship between dissociation and OGM. However, existing literature fails to provide sufficient data on whether dissociation is a vulnerability factor for or a result of OGM. Number of studies done with healthy populations and individuals with current or past mental diagnosis is low and there is need for further research on shared mechanisms of state and trait dissociation and OGM in order to shed light on the mediating factors of OGM in psychopathology. Future studies should focus on the ways dissociation relates to OGM and guide autobiographical memory-focused cognitive therapeutic techniques such as Memory Specificity Training on how to target dissociative tendencies in treatment process and create preventative interventions.

## **Effectiveness of Universal Psycho-Educational Program About Traumatic Memory Recall: A 1-Month and 12-Month Follow-up**

**Kaori Osawa, Konan University, Japan**

### **Introduction**

Preparations in dealing with traumatic stress, particularly trauma-related negative cognitions, could be a protective factor of traumatic stress (Hällér et al., 2009). However, there may be a possibility that people's negative cognitions towards traumatic memory recall and its related fear/anxiety prevent people from having an opportunity for the preparations. Osawa (2018) conducted the universal psycho-educational program aimed to promote the reappraisal of traumatic memory recall among undergraduates who have a high risk of experiencing traumatic events (Vrana & Lauterbach, 1994). The purpose of this study was to investigate the short and long-term effects of psycho-educational program with adding the indices of stigma and attitude towards the treatment of traumatic stress.

### **Method**

Two hundred twenty-eight Japanese undergraduates were assigned either to an intervention group or a control group. The intervention group participated in the psycho-educational program, while the control group did not. A total of 2 sessions (60-70 minutes per 1 session, once a week) was conducted. The intervention group ( $N = 32$ ) and the control group ( $N = 15$ ) completed rating the degree of fear of recall (0-100), the degree of self-efficacy for coping with recall (0-100), the degree of self-efficacy for supporting traumatized people (0-100), CARS (Suzuki & Sakano, 1998), the Japanese versions (Miyaji, 2010) of SSOSH (Vogel et al., 2006) and ATSPPH-TF (Fischer & Farina, 1995) at pre-sessions, 1- and 12-month follow-up.

### **Results**

The group $\times$ time between-within repeated measures ANOVA results showed that there was a significant group $\times$ time interaction in the degree of self-efficacy for supporting traumatized people ( $F(2, 90) = 4.73, p < .05, \eta^2 = .10$ ). The findings of test of simple main effect revealed that the degree of the intervention group were higher than that of the control group at 1-month follow-up ( $p < .05$ ). However, the degrees between groups were not different at 12-month follow-up. According to the results of ANOVA, there was a marginally significant group $\times$ time interaction in the scores on SSOSH ( $F(1.63, 73.42) = 2.99, p < .10, \eta^2 = .06$ ). The findings of test of simple main effect showed that the intervention group's self-stigma towards the treatment of traumatic stress became weaker through assessment periods than the control group's stigma ( $p < .05$ ). However, the scores between groups were not different at 12-month follow-up. Although the ANOVA results also indicated that there were the main effects of time

### **Discussion**

The results of this study suggested that the psycho-educational program may have positive effects of reducing negative emotions and cognitions towards traumatic memory recall and promoting the self-efficacy for coping with traumatic memory recall and traumatized people. It also suggested that participants' negative self-stigma towards the treatment of traumatic stress may be changed by the psycho-education. However, the effects were not as big as exceeding the effect on control group. Implications of this study for the development and limitation of psycho-education for preventing traumatic stress were discussed.

## **New Trauma Changes Clinical Picture of Panic Attacks**

**Cristina Patru, Hôpitaux Universitaires de Genève, Switzerland**

### **Introduction**

Panic disorder with agoraphobia (PD/A) is a common disorder. It may be associated with posttraumatic stress disorder (PTSD). We report here our experience with cognitive-behavioral therapy (CBT) in a 33-year-old patient suffering from PD/A and residual symptomatology of PTSD, and in whom the trauma causing the PTSD changed the clinical picture of TP/A.

### **Method**

The patient's life history reveals vulnerability factors (past repeated traumas: brothers killed during a civil war, father's death, depressive mood and somatization in his mother). We readily identified the recent trauma which leads to the patient developing the PD/A: sudden death of a colleague following a heart attack. At that time patient's symptoms were the same his colleague had just before dying. A more recent trauma have caused a PTSD. Interestingly, subsequent to this trauma (torture, having been beaten in the stomach), the PD/A symptoms changed with appearance of new, digestive symptoms.

### **Results**

Classical cognitive and behavior therapy (CBT) for PD/A was delivered to the patient, resulting in a rapid decrease in avoidance behaviors, in frequency and intensity of panic attacks, in resolution of cardiac and cerebral physical symptoms, as well as in associated thoughts. The digestive symptoms proved more resistant to treatment. This was likely due to the intensity of the second trauma, family history of digestive cancer, concomitant digestive functional disorders (maintaining hypervigilance on this part of his body) plus cultural factors. Even though he mastered the French language, the use of his native tongue during exposure in imagination to traumatic events while undergoing CBT

allowed the patient to more easily access his emotions, consider the role of his cultural beliefs (e.g. men cry in the belly) in the expression of emotions and change the manner in which to do so.

#### **Discussion**

PD/A and PTSD have features in common: avoidance behaviors, traumatic event, preexisting vulnerability, hyperexcitability of the autonomic nervous system (Brown). Although the patient initially presented with PD/A, PTSD is known to precede PD/A in the majority of cases (72%), which has led some authors to believe that PTSD could be a risk factor for the development of PD/A (Brown). Previous observations along with the clinical case presented herein lead us to consider the hypothesis that either of two disorders may serve as a risk factor for the other.

This observation demonstrates changes in PD/A symptoms after events charged with emotional significance, analogous to newly formed large tributaries feeding into a river. Presently, there are no treatment recommendations for patients presenting with both PD/A and PTSD (Teng). Therefore, we suggest that in an effort to enhance outcomes, PD/A treatment must also take into consideration the factors responsible for the PTSD development.

### **Effects of Mindfulness Training on Posttraumatic Stress Reactions in Japanese Undergraduates**

**Kenji Sato & Kaito Oishi, Tokushima University, Japan**

#### **Introduction**

Introduction: Though previous studies in western countries have shown that the mindfulness training (MT) reduced posttraumatic stress reactions (PTSR) in clinical samples, there has been no research in Japanese undergraduates with PTSR. The purpose of this study was to examine the effects of MT on PTSR in Japanese undergraduates. The plan of this study is approved by IRB.

#### **Method**

Method: Undergraduates ( $n=15$ ) at 6 or more scores of Japanese version of Impact of Event Scale-Revised (IES-R-J), which measures PTSR, were participants. After getting informed consent, they were randomly assigned to a MT group ( $N = 8$ ) or a waiting list control (WLC) group ( $N = 7$ ). The MT group was instructed to perform MT, in which they did body scan exercise, over two weeks. The WLC group filled out the questionnaires during the same period. The Japanese version of Experiences Questionnaire (J-EQ), which assessed decentering and the J-IES-R, which measured PTSR, were administered at pre-intervention, post-intervention, and one month follow-up periods.

#### **Results**

Results: After removing three dropouts, there were five participants in the MT group. Only the MT group showed significantly increased decentering from pre to post and follow-up periods. Though the WLC group showed significantly decreased PTSR from post to follow-up periods, MT group showed significantly decreased from pre to post and follow-up periods on the score of PTSR.

#### **Discussion**

Discussion: MT increased decentering and decreased PTSR in this study. It is suggested that MT is effective on decrease of PTSR in Japanese undergraduates. The clinical significance and limitations of this study were discussed.

### **The Role of Mindfulness and Emotional Regulation in the Development of PTSD Symptomatology**

**Judith Schäfer, TU Dresden, Germany**

#### **Introduction**

Theoretical accounts suggest that experiential avoidance and emotional dysregulation play a pivotal role in the development and etiology of posttraumatic stress disorder (PTSD). Mindfulness and acceptance of negative emotions can be seen as an opposite behavior of avoidance and suppression of trauma-related cognitions and emotions and thus, might be positively associated with psychological adjustment after trauma exposure. Using a trauma analogue design, this study aims to test the predictive value of pre-trauma mindfulness and emotional regulation for post-trauma intrusions and trauma memory.

#### **Method**

Healthy participants ( $n=117$ ) completed questionnaires assessing difficulties in emotional regulation (Difficulties in Emotion Regulation Scale) and mindfulness (Freiburg mindfulness inventory). Then, they watched a distressing movie scene that served as a trauma analogue. In the following week, they recorded their intrusive memories in a daily diary. After one week, they reported their posttraumatic cognitions using the posttraumatic cognitions inventory, completed two trauma memory tests (Sequential Memory Task and Recognition Task) and indicated PTSD symptomatology (i.e., arousal and avoidance) with the subscales of the revised version of the Impact of Event Scale.

#### **Results**

Mindfulness was negatively associated with number of intrusions (by trend,  $p<.1$ ), the recognition of trauma related information ( $p<.05$ ) and remembering of trauma course (by trend,  $p<.1$ ). No associations were found with posttraumatic cognitions, arousal and avoidance. In contrast, difficulties in emotional regulation were positively associated with posttraumatic cognitions ( $p<.001$ ) and avoidance ( $p<.05$ ), but no associations were found with trauma memory and number of intrusions.

#### **Discussion**

Findings may indicate that mindfulness and emotional regulation play a different role in the etiology of PTSD symptomatology. Mindfulness may indeed prevent from the development of post-trauma intrusive memories. Interestingly, emotional regulation may relate to the development of posttraumatic cognitions and avoidance behavior. For practical purposes the findings may mean to focus on various mechanisms to prevent the development of PTSD symptomatology after trauma exposure.

### **Capturing the Time-Dependent Component of Intrusive Memories in Daily Life**

**Laura Sels & Birgit Kleim, University of Zurich, Switzerland**

#### **Introduction**

Intrusive memories are not only a core symptom of posttraumatic stress disorder (PTSD), but also feature in other mental health disorders (Brewin, Gregory, Lipton, & Burgess, 2010). A better understanding of its phenomenology has therefore important clinical implications.

Although an increasing amount of research suggests associations between rhythm dysregulation (e.g., sleep disturbances), cognitive resources, and intrusive memories, until now the circadian patterns of intrusive memories as they occur in real life, have not been investigated directly.

### **Method**

In our study, we explored if the time of the day mattered for the occurrence, nature and characteristics of intrusive memories throughout daily life. Specifically, forty-six trauma survivors reported on experienced intrusive memories for 7 consecutive days. We investigated (1) when intrusive memories most often occurred, (2) if time of the day mattered, and (3) if it was associated with different sorts of intrusive memories.

### **Results**

We found that the occurrence of intrusive memories showed a curvilinear pattern that peaked at 14 o' clock, after which it leveled off again. Interestingly, certain characteristics of the memories, such as intensity,nowness, and vividness, however, seemed to show a different pattern, and increased throughout the day (as shown by multilevel models, in which total amount of daily experienced memories where controlled for). Further, people seemed to show very distinct, individual cycles, consistently peaking around the same hours throughout the days, suggesting important individual differences.

### **Discussion**

Together, these findings contribute to a better understanding of the everyday occurrence and characteristics of intrusive memories, and point to the added value of examining its time-dependent effects, which can directly inform and steer clinical practice.

## **The Role of Thought-Action Fusion and Anxiety Sensitivity in Obsessive-Compulsive and Depressive Symptoms**

**Danielle Shinbine, Marissa Harder, Caitlin Leachman & Melanie O'Neill, Vancouver Island University, Canada**

### **Introduction**

The constructs of thought-action fusion and anxiety sensitivity can be cognitive vulnerabilities in the development and maintenance of obsessive compulsive and depressive symptoms (Piri & Kabaci, 2007; Wheaton et al., 2012). Limited research has examined the role of ASI and TAF as it relates to OC and depressive symptomology.

### **Method**

A sample of 135 undergraduate students completed a questionnaire package including the BDI-II, the VOCl, the TAF Scale, and the ASI.

### **Results**

Multiple regression analyses suggested a significant relationship between thought-action fusion and anxiety sensitivity with depressive symptoms ( $R^2_{Adjusted} = .20$ ,  $F(2, 139) = 18.63$ ,  $p < .0001$ ) and obsessive compulsive symptoms ( $R^2_{Adjusted} = .43$ ,  $F(2, 142) = 54.99$ ,  $p < .0001$ ). Results, particularly beta weights of the individual variables, suggest that anxiety sensitivity played a more prominent role in both obsessive compulsive and depressive symptoms.

### **Discussion**

Clinical intervention targeting this construct directly will reduce psychological distress more efficiently.

## **Linguistic Correlates of Depression and PTSD Symptoms in Medical Stressor Narratives: Implications for Clinical Practice**

**Scott Smith & Meghan Cody, Mercer University, USA**

### **Introduction**

Stress related to medical conditions, procedures, and hospitalizations may result in symptoms of posttraumatic stress disorder (PTSD) and depression. Linguistic analysis of narratives about medical stressors may provide clinically relevant information. For example, causation language and present-tense language have been linked to symptoms of posttraumatic stress disorder (PTSD). Additionally, first-person pronouns and negative emotion words have been found to correlate with depression symptoms. The current study examined relationships between psychopathology symptoms and medical stressor narrative language content.

### **Method**

Participants ( $N = 47$ , 79% female, mean age = 40.32) were recruited from social media posts and flyers in medical clinics. Recruiting materials asked, "Have you experienced an illness, injury, hospitalization, or painful, frightening, or invasive medical procedure?" Participants completed an online survey in which they were asked to write a detailed narrative of their medical stressor event. They also completed the PTSD Checklist for DSM-5 (PCL-5) and the Beck Depression Inventory-II (BDI-II). Linguistic Inquiry and Word Count (LIWC) software was used for linguistic analysis.

### **Results**

Data analysis revealed significant correlations between linguistic variables and measures of psychopathology. As expected, PTSD symptoms were associated with both present-focused time orientation,  $r = .32$ ,  $p = .03$ , and causation language,  $r = .33$ ,  $p = .02$ . However, we surprised to find that second-person pronouns (but not first-person pronouns) correlated with symptoms of depression,  $r = .39$ ,  $p = .01$ .

### **Discussion**

Because it correlates with PTSD symptoms, causation language may be an appropriate therapeutic target. Indeed, a clinical manual for Cognitive Processing Therapy for PTSD prompts clients to "write about what you have been thinking about the cause of the worst event" (Resick et al., 2014). Time orientation language may be a useful therapeutic target, too. Zoellner et al. (2011) report that exposure therapists may reduce client engagement with traumatic memories by shifting the client's language from present tense to past tense. Finally, we found that the second-person pronouns associated with depression symptoms were frequently first-person pronouns incognito; that is, the writers used the word "you" in place of the word "I." Orvell et al. (2017) suggest that the use of this "generic you" may provide "a stark form of distancing from the self." Encouraging therapy clients to use first-person language rather than the "generic you" may facilitate acceptance.

## **Behavioral and Characterological Attributions of Blame and Psychological Sequelae in Motor Vehicle Accident Survivors**

**Lindsey Snaychuk, Sydney Hirst & Melanie O'Neill, Vancouver Island University, Canada**

### **Introduction**

Attributions of blame following an adverse life event may not be entirely maladaptive, particularly if distinctions between character and behavior self-blame are examined (Janoff-Bulman, 1979).

### **Method**

The present study examined the impact of behavioral and characterological self-blame and psychological symptoms including depression (BDI-II) and trauma symptoms (PDS) in 130 university students who survived a traumatic motor vehicle accident. The Motor Vehicle Accident Blame Scale (MVABS; O'Neill & Mulvogue, 2017) is a 19-item measure of character and behavior self-blame that commonly occurs following a motor vehicle incident or accident.

## Results

Bivariate correlations revealed significant positive correlations between character self-blame and trauma symptoms ( $r = .21$ ) and depressive symptoms ( $r = .36$ ). Unexpectedly, behavior self-blame was unrelated to trauma symptoms ( $r = .04$ ) and depressive symptoms ( $r = .12$ ). Behavior and character self-blame were entered into two multiple regressions. The strongest predictor of trauma symptoms was character blame ( $\beta = .32$ ) followed by behavior blame ( $\beta = -.18$ ). Together, these two constructs accounted for 4% total variance ( $F(2, 133) = 4.04, p = .02$ ). The strongest predictor of depressive symptoms was character blame ( $\beta = .49$ ) followed by behavior blame ( $\beta = -.21$ ). Together, these two constructs accounted for 14% total variance ( $F(2, 134) = 11.83, p = .0001$ ).

## Discussion

These results suggest that character self-blame appears to be significantly related to an increase in both depressive and trauma symptoms while behavior self-blame appears to be related to a decrease in both types of psychological symptoms, supporting Janoff-Bulman (1979) original theory.

## Technology-Facilitated Sexual Violence: A Qualitative Approach

Lindsey Snaychuk & Melanie O'Neill, Vancouver Island University, Canada

### Introduction

Technology-facilitated sexual violence (TFSV) is a wide spread but understudied behaviour that has recently received more attention as a result of the current social climate. Preliminary studies have found that TFSV can have a negative impact on victims (Cripps & Stermac, 2016; Snaychuk & O'Neill, 2018) that warrants further investigation. The four dimensions of TFSV, as identified by Powell and Henry (2016), include: online sexual harassment, image-based sexual harassment, sexual aggression and coercion, and gender-based sexual harassment.

### Method

This study investigated the prevalence and nature of TFSV behaviours while examining one specific TFSV experience identified by undergraduate students ( $n = 73$ ), in which they were invited to identify and describe their last experience as a victim.

### Results

Content analysis was carried out on the open-ended responses and there were several identified themes that emerged and were consistent with existing definitions of TFSV (Powell & Henry, 2016) which included: (1) being pressured to send nude pictures; (2) being blackmailed with nude pictures; and (3) receiving unsolicited sexually explicit messages/images. Individual responses are examined and additional results are discussed.

### Discussion

Individual responses are examined and additional results are discussed. Suggestions for clinical assessment and intervention and possible policy refinement will be presented.

## Explaining the Heterogeneity in PTSD Symptoms with Individual Differences: The Role of Temperament and Early Maladaptive Schemas

Karolina Staniaszek, University of Warsaw, Poland

Agnieszka Popiel, SWPS University of Social Sciences and Humanities, Poland

Bogdan Zawadzki, University of Warsaw, Poland

### Introduction

Discrepancies between the prevalence of traumatic events and experiencing posttraumatic stress disorder (PTSD) symptoms, as well as different responses to treatment, suggest that individual factors are involved in the development and maintenance of posttraumatic symptomatology (de Vries & Olf, 2009; Morina et al, 2014). The most effective approaches in PTSD therapy refer to the classical and instrumental conditioning of fear and arousal-related reactions and the cognitive factors i.e. core beliefs as crucial in posttraumatic psychopathology (Brewin & Holmes, 2003). At the same time, temperamental traits (implying the intensity and stability of emotional and cognitive reactions) constitute important individual vulnerabilities in PTSD development and treatment process (Zawadzki & Popiel, 2012). Relationships between these factors remain, however, unclear. Moreover, recent studies suggest that posttraumatic symptomatology should not be considered as homogenic in terms of predictors, maintenance mechanisms, consequences and treatment responsiveness (Armour et al, 2012; Fletcher et al, 2017; Shevlin et al, 2017). The aim of this study is to verify the specificity of cognitions (related to early maladaptive schemas) associated with PTSD symptoms severity, taking into account the role of temperamental factors and plausible heterogeneity of posttraumatic reactions.

### Method

The sample consisted of 458 persons (18-68 y.o., 61% females) who experienced motor vehicle accidents (MVAs). 53% of them were diagnosed with full PTSD according to DSM-5 criteria. Participants filled out standardized self-report questionnaires assessing PTSD symptoms severity (PDS-5; Foa et al, 2015), early maladaptive schemas (YSQ-ES-PL; Staniaszek & Popiel, 2017) and personality dimensions based on Regulatory Theory of Temperament (FCZ-KT(R); Cyniak-Cieciura, Zawadzki & Strelau, 2016).

### Results

The role of early maladaptive schemas as posttraumatic psychopathology markers was confirmed. Multivariate linear regression and relative importance analyses showed that three schemas were specifically important in explaining posttraumatic stress disorder symptoms in this sample, over and above trauma severity: Social isolation, Vulnerability to Harm and Negativism/ Pessimism. Moreover, mediation analysis with bootstrapping showed that cognitions related to these schemas explained the relationship between temperamental emotional reactivity and PTSD symptoms severity. Finally, the hypothesis of posttraumatic symptomatology heterogeneity was confirmed with differential relations between clusters of symptoms and their predictors.

### Discussion

Findings show that individual vulnerabilities are reflected in the multidimensionality of posttraumatic reactions. It may suggest differential paths of psychopathology of symptoms clusters. Furthermore, this study underlines the importance of early maladaptive schemas, that may affect the idiographic interpretation of potentially traumatic event/ experienced symptoms, for a clinical manifestation of posttraumatic reactions (over and above temperamentally determined emotional reactivity). Schemas related to the sense of danger, generalized negative expectancies and feeling isolated from others seem to be especially important for the maintenance of PTSD symptoms after MVA. Clinical and research implications will be discussed.

## **Childhood Maltreatment and Adult Mental Disorders – Frequency of Maltreatment, the Association with Course and Severity of Symptoms, and the Mediating Role of Attachment**

**Nele Struck, Axel Krug, Dilara Yüksel & Tilo Kircher, Philipps-Universität Marburg, Germany**

**Udo Dannlowski, Universität Münster, Germany**

**Igor Nenadic & Eva-Lotta Brakemeier, Philipps-Universität Marburg, Germany**

### **Introduction**

Childhood abuse and neglect are associated with a heightened risk for mental disorders. The present study examines whether associations between certain forms of maltreatment and specific mental disorders exist. Besides, the diagnosis of a persistent depressive disorder (PDD; newly listed in DSM-5) is also considered. Childhood maltreatment (CM) is expected to play a particular role in the development of PDD. The influence of childhood maltreatment on onset, chronicity and severity of symptoms is examined. Furthermore, it is hypothesized that insecure attachment is a mediator between childhood maltreatment and symptoms of depression and anxiety.

### **Method**

Within a multicenter research project patients with the diagnosis of schizophrenia (SZ; N=107), bipolar disorder (BD, N=103) and depression (MDD, N=604) as well as healthy control persons (HC, N=715) were examined. Of the 604 patients with depression, N=65 could be classified as patients with PDD. The clinical symptoms were assessed with a wide test battery (e.g. SKID I, BDI-II, HAMD-21, SANS, SAPS, YMRS, HAMA). The five different forms of childhood maltreatment were assessed with the Childhood Trauma Questionnaire (CTQ-SF). Attachment was measured with the Relationship Scales Questionnaire (RSQ).

### **Results**

The three patient groups reported all five forms of maltreatment significantly more often than the healthy control group. There were no significant differences between SZ, BP and MDD, neither in the CTQ sum nor in the five subscales of the CTQ. However, the subgroup of patients with PDD reported significantly more CM than the other patient groups in all five subscales of the CTQ. CM was predictive for current symptoms of depression and anxiety but not for psychotic or manic symptoms (when controlled for demographic variables and current stressful life events). In the MDD and BP groups CM was predictive for an earlier onset while there was no association in the SZ group. In the MDD group CM was associated with a higher number of clinical stays while there was no association in the BD and SZ groups. Moreover, insecure attachment partially mediated the effect of CM on current symptoms of depression and anxiety.

### **Discussion**

These findings underline the role of childhood maltreatment in the development and the course of mental disorders, in particular in PDD.

## **Bereavement Rumination and Bereavement Adjustment: Test of the Mediating Effects of Metacognition and Reaction**

**Suqin Tang, Shenzhen University, China**

### **Introduction**

Rumination following bereavement has been associated with psychological distress (Doering et al., 2018; Eisma et al., 2015; Tang et al., 2019) and posttraumatic growth (Taku et al., 2008). Beside specific content of rumination, researchers have recently suggested metacognition on rumination and successive reaction to mediate the link from rumination to mental health outcomes (Schütze et al., 2017; Tang & Chow, 2017; Wenn et al., 2018). This study aimed to test this mediation hypothesis, for the first time, in people who are adjusting to loss. Moreover, given that previous findings were from Western cultures, which may be inapplicable to the Chinese people, who embody a family-centered cultural value system, this study adopted a conceptualization of bereavement rumination rooted in Chinese bereaved individuals' experiences.

### **Method**

A sample of 711 Chinese bereaved adults (310 men and 401 women) filled out an online survey that assessed bereavement rumination, metacognition on rumination, reaction to rumination (Bereavement Rumination Process Scale, BRPS; Tang, 2018), symptom levels of prolonged grief (PG-13; Prigerson et al., 2009; Chinese version: He et al., 2014), depression and anxiety (HADS; Zigmond & Snaith, 1983; Chinese version: Ye & Xu, 1993), and posttraumatic growth (PTGI; Tedeschi & Calhoun, 1996; Chinese version: Wang et al., 2011).

### **Results**

The metacognition "rumination as disturbance" mediated the path from rumination on questioning feelings and reactions to psychological distress, while the metacognition "rumination as assistance" mediated the relationship between rumination on seeking positivity and posttraumatic growth. The reaction "engagement in rumination" mediated the relationships of rumination on questioning feelings and reactions with both prolonged grief and posttraumatic growth, whereas the reaction "disengagement from rumination" mediated the relationship between rumination on considering others and posttraumatic growth.

### **Discussion**

The findings imply that how bereaved people perceive their rumination experience is an important topic that practitioners must examine because viewing rumination as detrimental, normal, or beneficial can yield different bereavement outcomes. Given the difficulty and inappropriateness of altering the naturally occurring ruminative thoughts of bereaved individuals, metacognition on rumination can be a highly feasible target for intervention. As potential future directions, metacognitive intervention can normalize bereavement experiences and facilitate meaningful interpretations of the experience while acknowledging the distress that rumination may bring to bereaved individuals. Regarding reaction to rumination, suggestions on whether bereaved people must continue to ruminate or distract themselves from each of their rumination episodes cannot simply be provided. Alternatively, the concept of coping flexibility (Bonanno & Burton, 2013) presents a better solution. In the bereavement rumination context, flexibility refers to one's ability to control his/her attention, namely, focusing on rumination or shifting attention from rumination to other tasks whenever realizing one is ruminating. Accordingly, the cornerstone during intervention is to help bereaved people develop the ability to determine the best time for them to deliberately engage in rumination and to temporarily distract themselves from rumination based on contextual information.

In conclusion, less-adjusted bereaved individuals may benefit from therapy focused on intervening metacognition on rumination and balancing reaction to rumination, in consideration of specific content of rumination.

## **Childbirth-Induced Posttraumatic Stress – An Investigation of DSM-5 Symptom Clusters and the Role of Traumatic Childbirth Memories**

**Freya Thiel & Gabriella Dishy, Massachusetts General Hospital, USA**

**Sharon Dekel, Harvard Medical School and Massachusetts General Hospital, USA**

### **Introduction**

Recent studies document that up to 25% of women may experience symptoms of postpartum posttraumatic stress (PP-PTSD) following childbirth. While the notion that routine childbirth could be experienced as traumatic and can trigger PTSD is receiving growing attention, it remains controversial. The DSM-5 conceptualizes several PTSD symptom clusters, namely re-experiencing, avoidance, alterations in cognitions and mood, and arousal and reactivity. Further, characteristics of the traumatic memory may be a crucial feature of PTSD etiology and maintenance, and trauma memory modification has been proposed to be central to effective PTSD treatment and recovery (Ehlers & Clark, 2000). Nonetheless, PP-PTSD symptom clusters and the role of traumatic childbirth memories in the development of PP-PTSD remain largely unknown. The present study therefore aimed to characterize (1) PP-PTSD symptom clusters in relation to the DSM-5, and (2) childbirth memories in relation to PP-PTSD symptoms.

### **Method**

As part of a large international online survey, we assessed a sample of 685 women who were on average 3 months postpartum. Self-report measures pertained to PP-PTSD (PTSD Checklist for DSM-5), postpartum depression (Brief Symptom Inventory), and childbirth memories (Birth Memories and Recall Questionnaire). Additionally, 209 women provided written childbirth narratives. We utilized hierarchical cluster analysis to detect grouping of the PP-PTSD symptoms. Further, we characterized childbirth memories in relation to PP-PTSD using self-report data and Linguistic Inquiry and Word Count (LIWC) software for written childbirth narratives.

### **Results**

Cluster analysis revealed four distinguished symptom groups: reliving (some re-experiencing symptoms), namely nightmares and flashbacks; avoidance coupled with unwanted memories (other re-experiencing symptoms); negative cognitions and mood; and hyperarousal reactivity. Regarding childbirth memories, PP-PTSD symptom endorsement was associated with higher self-reported emotional and perceptual details, reliving, centrality of memory to identity, involuntary recall, and lower coherence of the traumatic memory. Comorbid PP-PTSD and depression symptom endorsement followed the same pattern compared to depression symptoms only and no PP-PTSD or depression symptoms. In written narratives, PP-PTSD was associated with less references to (positive) affective processes, and more references to sadness and cognitive processes than no PP-PTSD.

### **Discussion**

Our findings show that the representation of symptoms of PTSD following stressogenic childbirth experiences appears for the most part to resemble DSM-5 symptom clusters. We document that childbirth memories in a sample of women endorsing symptoms of PP-PTSD resemble those described in the PTSD literature. Our findings are in line with seminal theories of PTSD, lending support to the notion that childbirth can be a traumatic event. While investigations of PP-PTSD may offer a prospective model to examine PTSD immediately after exposure, generalizations from childbirth narratives to other traumatic events should be tentative. Implications for future research will be discussed.

## **Long-Term Outcomes of Psychotherapy for Posttraumatic Stress Disorder: A Meta-Analysis**

**Maxi Weber & Sarah Schumacher, Freie Universität Berlin, Germany**

**Wiebke Hannig, Philipps University of Marburg, Germany**

**Ingo Schäfer, University Medical Center Hamburg-Eppendorf, Germany**

**Thomas Ehring, Ludwig-Maximilians-University, Germany**

**Birgit Kleim, University of Zurich, Switzerland**

### **Introduction**

Posttraumatic stress disorder (PTSD) is a prevalent condition associated with large personal and economic consequences (Wittchen et al., 2011). Current practice guidelines (e.g., American Psychological Association, 2017) recommend psychotherapy with an emphasis on processing the trauma memory and/or its meaning as effective and evidence-based first-line treatment for PTSD, including trauma-focused Cognitive Behavioral Therapy (TF-CBT). However, available evidence for such treatments is largely based on short-term outcomes obtained following treatment. The understanding of their long-term efficacy (i.e., evidence for reduced symptomatology indexed at least 1-year post-treatment) is limited. This systematic review and meta-analysis investigated the long-term outcomes of psychotherapy with and without a primary trauma focus for PTSD symptom severity and comorbid depressive symptoms in randomized controlled treatment trials (RCTs).

### **Method**

Eligible literature was searched by screening the databases Pubmed, PsychInfo, Psynex, PILOTS, and Cochrane Library as well as reference lists from relevant review articles and included primary studies. Inclusion criteria were (1) adults aged  $\geq 18$  years, (2)  $\geq 70\%$  of the sample met formal PTSD diagnosis, (3) random assignment to in-person psychotherapy or comparison group, (4) PTSD was the primary outcome, (5) and adequate data from long-term follow-up obtained  $\geq 1$ -year post-treatment.

### **Results**

19 RCTs comprising a total of 41 comparisons at follow-up met eligibility criteria. Active treatments were TF-CBTs (e.g., Prolonged Exposure) and non-TF-CBTs (e.g., Stress Management). Comparators were active treatments or non-directive control conditions (e.g., treatment as usual, supportive interventions). Analyses revealed large within-effect size estimates (pre, follow-up) of active treatments for PTSD severity ( $g = 1.4$ , 95% CIs [1.20, 1.66]) and depressive symptoms ( $g = 0.81$ , 95% CIs [0.61, 1.01]). These were significantly higher compared to within-effect sizes of control conditions for PTSD severity ( $p < .01$ ) and depressive symptoms ( $p < .05$ ). Within-effect size estimates of TF-CBT were large and comparable to those of non-TF-CBT for PTSD severity ( $p = .19$ ), but significantly higher for depressive symptoms ( $p < .05$ ). Heterogeneity was large. Military population, proportion of female participants, and type of PTSD measure significantly impacted effect size estimates.

### **Discussion**

Findings indicate that psychotherapy for PTSD is long-term efficacious. CBTs with and without a primary focus on processing the trauma demonstrated sustained efficacy. Empirical evidence was strongest to support the use of TF-CBTs. The number of RCTs was insufficient to recommend specific treatment types or confirm long-term benefits above one year. More high-quality studies with longer follow-up intervals are needed.

## **Fear of Sleep as Perpetuating Factor of Trauma-Related Sleep Disturbances**

**Gabriela Werner, LMU Munich, Germany**

### **Introduction**

Sleep disturbances are one of the main distressing symptoms in people suffering from trauma- and stressor-related disorders, especially posttraumatic stress disorder (PTSD). Furthermore, research often shows clinically relevant, residual sleep disturbances after trauma-focused, sleep-focused or even combined treatments in patients with PTSD. Therefore, fear of sleep, has been suggested as additional perpetuating factor for trauma-related sleep disturbances that seems to be mainly relevant for trauma-related sleep disturbances and not for people suffering only from insomnia. However, studies investigating the role fear of sleep plays for trauma-related sleep disturbances and how it is linked to insomnia and nightmares are extremely scarce.

### **Method**

Therefore, in a first step we investigated the links between various aspects of trauma-related sleep disturbances, for example insomnia symptoms, nightmares, fear of sleep and PTSD symptomatology, in a big online sample including healthy individuals as well as individuals with clinical relevant PTSD symptoms (N=754). On the basis of self-report questionnaires, we further compared fear of sleep between individuals with and without trauma exposure, individuals with PTSD and individuals with and without insomnia.

### **Results**

Besides high correlations between all measures in the expected directions, the results indicated higher fear of sleep in individuals with PTSD compared to individuals with and without trauma exposure (but no PTSD). Overall, fear of sleep was also increased in individuals with versus without insomnia. However, in the subgroup of individuals with PTSD no additional effect of insomnia on levels of fear of sleep was found.

### **Discussion**

Together, the results emphasize the importance of fear of sleep, especially for trauma-related sleep disturbances. Addressing fear of sleep more directly in standard sleep- or trauma-focused therapy might help to provide more specialized treatments with greater response rates, especially with regard to trauma-related sleep disturbances.

## **Examination of a Model of Factors Affecting Grief After Bereavement**

**Wataru Ishida, Meiji Gakuin University and Teikyo University, Japan**

**Yoshinobu Kanazawa, Meiji Gakuin University, Japan**

### **Introduction**

DSM-5 has made "Persistent complex bereavement disorder" a "Disorder requiring research in the future". We need research on grief. Factors of grief are "Situation of death" "Relationship with the dead" "Characteristics of the deceased" "Social factors". However, there is no research focused on this.

### **Method**

A questionnaire survey was conducted on 162 university students. The explanatory variable were "Situation factor of death" was divided into "a group experiencing sudden death" and "a group experiencing the death with fighting illness". In each group, multiple regression analysis was performed with "Relationship with dead", "Characteristic of the deceased", "Social factor" as independent variables, and "grief" as dependent variables.

### **Results**

In "the group experiencing sudden death", the explanatory variable were "Relationship with dead", "Characteristic of the deceased", "Social factor", and the objective variable was "grief", multiple regression analysis was done. The standard partial regression coefficient was "Characteristics of the deceased" and "Social factors" were significant. In "groups experiencing death with fighting illness", was also the same analysis. The standard partial regression coefficient was significant was "Relationship with the dead" and "Characteristic of the deceased".

### **Discussion**

"Characteristics of the deceased." were significant. There were differences in factors depending on "status of death". Staff intervening in grief needs to intervene because of this factor.

## Poster Session 8 (12.00-14.30)

### Behavioural Medicine - English Programme

- 1 **Pilot Investigation of Group Behavioral Activation for Chronic Low Back Pain (GBA-P)**  
Shuntaro Aoki, Fukushima Medical University, Japan
- 2 **Will this Patient Become Non-Adherent? Predicting Non-Adherence in Chronic Diseases with the Adherence Risk Profile (AdRisk)**  
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Jo Daniels, University of Bath, UK
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Dusanka Djurovic, Edukons University, Serbia
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Holly Evans, Sydney Children's Hospital and University of New South Wales Sydney, Australia
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Jean-Philippe Gouin, Concordia University, Canada
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Idyli Kamaterou, Surrey and Borders NHS Trust, UK
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Eduardo Keegan, Universidad de Buenos Aires, Argentina
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Agata Kolodziejczyk, Wrocław Medical University, Poland

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- 32 **Group Acceptance and Commitment Therapy (ACT) for Patients with Chronic Pain**  
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Luciana Moretti, Universidad Siglo 21, Argentina
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Beate Muschalla, Technische Universität Braunschweig, Germany
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Ivana Novakov, Oncology Institute of Vojvodina, Serbia
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Keira O'Dell, Salford Royal Hospital, UK
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Zeynep Emine Okur-Güney, Johannes Gutenberg University of Mainz, Germany
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Alissa Pencer, Dalhousie University, Canada
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Alessandra Pokrajac-Bulian, University of Rijeka, Croatia
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Natalia Poyato, Complutense University, Spain
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Juan Jose Sanchez-Sosa, National University of Mexico (UNAM), Mexico
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Amelia Scott, University of Sydney, Australia
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Milos Slepecky, Constantine the Philosopher University in Nitra, Slovakia
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Alain Souche, Geneva University, Switzerland
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Simona Stefan, Babes-Bolyai University, Romania
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Shinya Takeda, Tottori University Graduate School of Medical Sciences, Japan
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Bayley J. Taple, Northwestern University Feinberg School of Medicine, USA
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Jessey Terpstra, Leiden University, the Netherlands
- 49 **Availability and Efficacy of Psychological Interventions for People with Childhood-Onset Heart Disease and Their Families**  
Stephanie Tesson, Sydney Children's Hospitals Network and University of Sydney, Australia
- 50 **Mother-Infant Interaction and Dyadic Synchrony Following Diagnosis and Treatment of Complex Congenital Heart Disease**  
Stephanie Tesson, Sydney Children's Hospitals Network and University of Sydney, Australia
- 51 **Risk Factors for Development of Post Donation Fear of Kidney Failure in Living Kidney Donors: A Ten-Year Study**  
Xavier Torres, Hospital Clinic de Barcelona, Spain
- 52 **Long-Term Effects of Munchhausen by Proxy on Victim's Health: A Case Report**  
Christina Totzeck, Ruhr University Bochum, Germany
- 53 **Blended Treatment for Health Anxiety: A Pre-Post Intervention Pilot study**  
Sako Visser, University of Amsterdam, the Netherlands
- 54 **Cognitive Behavioral Stress Management (CBSM) Applied to Patients with Brain Injury**  
Vera Walburg, Institut Catholique de Toulouse, France
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Scott Waltman, Warrior Resiliency Program, USA
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- Anja Wittkowski, University of Manchester, UK
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Carolin Wolters, Cologne University, Germany
- 61 **Psychological Expertise Required for Disaster Relief: A Qualitative Analysis of the Great East Japan Earthquake**  
Miki Yamano-Ikeda, J.F. Oberlin University, Japan
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Eun-Seung Yu, National Cancer Center, South Korea
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Alice Zacharia, University College London Institute of Child Health, UK
- 64 **Therapy Adherence, Emotional Awareness and Cardiovascular Risk in HIV**  
Simone Cheli, University of Florence, Italy
- 65 **One-Year Follow-Up of Internet-Based Cognitive Behavioral Therapy Via Videoconferencing for Patients with Obsessive-Compulsive Disorder, Panic Disorder, and Social Anxiety Disorder**  
Kazuki Matsumoto, Chiba University, Japan
- 66 **Effect of Early Maladaptive Schemas on Insomnia in College Students: A Cross-Sectional Study**  
Shun Nakajima, National Center for Cognitive Behavior Therapy and Research, Japan
- 67 **Effects of Pulmonary Rehabilitation on Quality of Life and Exercise Capacity in Patients with IPF Compared to Patients with COPD**  
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Reham Aly, Ministry of Health, Egypt
- 69 **Self-Reference and Emotion Regulation Through Introspective Training**  
Anne Iris Miriam Anders, Ludwig-Maximilians-University Munich, Germany
- 70 **Dysfunctional Thinking in Major Depressive Disorder. A Culture-Moderated Meta-Analysis**  
Monica Bartucz, Babeş-Bolyai University, Romania
- 71 **The Psychometric Properties of the Turkish Version of the Self-Disgust Scale Revised**  
Sevgi Bektas, Hacettepe University, Turkey
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Olga Bogolyubova, University of Malta, Malta
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Claudia Bregman, Aigle Foundation, Argentina
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Naomi Faber, University of Connecticut, USA
- 75 **Some Thoughts on Implementing CBT in Latin America. The Case of Argentina**  
Alicia Facio, Asociación de Terapia Cognitiva y Conductual del Litoral, Argentina
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Nanthaka Fuseekul, University of Reading, UK
- 77 **Sociocultural Adjustment and Well-Being in Third Culture Kids and Their Families: A Longitudinal Study**  
Emma Jones, University of Basel, Switzerland
- 78 **Effect of Pet Interaction on Stress Reduction and Positive Mood Enhancement Among Pet-Owners and Non-Owners**  
Aliya Khalid, Government College University, Pakistan
- 79 **Automatic and Elaborative Cognitive Processes Involved in Emotion Regulation: Psychometric Analysis of CERQ in Argentinean Population**  
Leonardo Medrano, Universidad Siglo 21, Argentina
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Leonardo Medrano, Universidad Nacional de Córdoba, Spain
- 81 **Mediating Effects of Self-Compassion and Experiential Avoidance on the Relationship Between Psychological Stress and Hikikomori (Prolonged Social Withdrawal)**  
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Shane Pienaar-Du Bruyn, Denmar Psychiatric Hospital, South Africa
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Kullaya Pisitsungkagarn, Chulalongkorn University, Thailand
- 84 **Psychometric Evaluation of a Serbian Version of Unconditional Self-Acceptance Questionnaire**  
Stanislava Popov, Faculty of Sport and Tourism Novi Sad, Serbia
- 85 **Mental Health Literacy and Evidence-Based Practice in Mental Health Care Among Indonesian Health Practitioners**  
Nurul Praherso, University of Sydney, Australia
- 86 **The Impact of Rejected Asylum Application on the Mental Health of Farsi-Dari Speaking Asylum Seekers in Australia**  
Reza Rostami, University of New South Wales, Australia
- 87 **Factors Influencing Social and Occupational Functioning in Individuals with Prolonged Social Withdrawal (Hikikomori) and Their Families**  
Motohiro Sakai, University of Miyazaki, Japan
- 88 **Methodological Issues Conducting Cross Cultural Research on Emotions**  
Mariaelisa Santonastaso, Bournemouth University, UK
- 89 **The Effect of Negative Experience Related to Work-Family Multiple Roles on Depression of Employed Mothers with Preschool Children in Korea: The Mediating Effect of Sociotropy**

- Jin Hee Sul, Yonsei University, South Korea
- 90 **Cross- Cultural Issues in the Cognitive Behavioral Treatment of a Refugee College Student Suffering from PTSD: A Case Study**
- Olga Thomadaki, The American College of Greece, Deree College, Greece
- 91 **The Role of the Cognitive Individual “Social Capital” in the Psychological Dysfunction of University Students**
- Lorena Ishel Tinajero Chávez, National University of Mexico, Mexico
- 92 **New CBT-Based Online Self-Help Program for People Who Have Sexual Interest in Children**
- Nina Vaaranen-Valkonen, Save the Children, Finland
- 93 **Feasibility Study of Unified Protocol of Transdiagnostic Group Treatment for Emotional Disorders Among Japanese Population with Depressive and Anxiety Disorders**
- Noriko Kato, National Center for Cognitive Behavior Therapy and Research, Japan
- 94 **Development, Reliability, and Validity of the Japanese Version of Employee Silence Scale**
- Azumi Nakai, Saitama Prefectural Board of Education, Japan

#### **Old Age and Neurobehavioural Disorders - English Programme**

- 95 **Stress, Cognitive Fusion and the Simultaneous Presence of Anxious and Depressive Symptomatology in Caregivers of People with Dementia**
- Samara Barrera-Caballero, Universidad Rey Juan Carlos, Spain
- 96 **Adaptations of CBT for Severe Depression with Cognitive Impairment – A Case Report**
- Rodrigo de Almeida Ferreira, Rede Mater Dei, Brazil
- 97 **Association of Acceptance of Aging and Self-Reliance with the Mental Health of the Elderly**
- Yuko Fukase, Kitasato University, Japan
- 98 **Efficacy of an Intervention Program Based on a Brief Cognitive-Behavioral Psychoeducation with Balneotherapy in Informal Caregivers of Older People**
- Javier López Martínez, CEU San Pablo University, Spain
- 99 **Communication Empowerment Framework: An Integrative Framework to Support Effective Communication and Interaction Between Carers and People Living with Dementia**
- Lydia Morris, University of Salford, UK
- 100 **Development and Preliminary Validation of the Scale Guilt Associated with Self Perception as a Burden Scale (G-SPBS)**
- María del Sequeiros Pedroso-Chaparro, Universidad Rey Juan Carlos, Spain
- 101 **Functional Independence, Subjective Perception of Aging, and Guilt for Perceiving Oneself as a Burden: Effects on Personal Control and Depressive Symptomatology**
- María del Sequeiros Pedroso-Chaparro, Universidad Rey Juan Carlos, Spain
- 102 **A New Group Intervention to Promote Mental Health in Older Adults with Cognitive Decline**
- Chiara Ruini, University of Bologna, Italy
- 103 **Are Dementia Caregivers’ Dysfunctional Thoughts that Dysfunctional? Different Patterns of Associations Depending on Gender**
- Beatriz Simón-Orta, Universidad Autónoma de Madrid, Spain
- 104 **Familiar vs. Non-Familiar Personal Values in Dementia Family Caregivers: Associations with Mental and Physical Health**
- Carlos Vara-García, Universidad Rey Juan Carlos, Spain
- 105 **Cognitive Biases to Identify the Underlying Mechanisms of Loneliness in Older Adults**
- Nine Wolters, University of Amsterdam, the Netherlands
- 106 **Active Aging Promotion Program for Dementia Family Caregivers: A Pilot Study**
- María Del Sequeiros Pedroso, Rey Juan Carlos University, Spain

## Poster Session 8: Behavioural Medicine, Cross-Cultural Issues, and Old Age & Neurobehavioural Disorders

### Behavioural Medicine

#### Pilot Investigation of Group Behavioral Activation for Chronic Low Back Pain (GBA-P)

Shuntaro Aoki, Junya Matsumoto, Koji Otani & Wataru Toda, Fukushima Medical University, Japan

Ryo Motoya, Health Sciences University of Hokkaido, Japan

Hirooki Yabe, Fukushima Medical University, Japan

#### Introduction

Although CBT for chronic pain is effective psychotherapy for chronic low back pain (Richmond et al., 2015), the treatment period is lengthy and has a low cost-benefit. Behavioral activation, which is part of CBT for chronic pain, is a short-term treatment (Lejuez et al., 2001). However, group behavioral activation for chronic low back pain (GBA-P) and the short-term effect of pain severity, social functioning, and behavioral characteristics has not been examined. The purpose of this study was to develop GBA-P and to examine the short-term effects of GBA-P on three patients with chronic low back pain.

#### Method

This study received ethical approval from the Fukushima Medical University. GBA-P comprised four weekly 90-min session (1: activity monitoring, identification of values; 2: activity scheduling; 3: behavioral experiments; 4: reviewing the behavioral activation). The participants included three patients with chronic low back pain (A = male, 42 years old; B = male, 60 years old; C = female, 58 years old). A psychiatrist diagnosed them with chronic low back pain and somatoform disorder. The questionnaire and objective measurement of pain measured before and after treatment included: BPI (Pain severity), BADS (Activation and Avoidance/Rumination); and RDQ (Disability by low back pain).

#### Results

Although there was no difference in pain severity before or after GBA-P (A: pre 5/10, post 6/10; B: pre 7/10, post 7/10; C: pre 1/10, post 2/10), the RDQ score decreased more after treatment than before (A: pre 12, post 10; B: pre 9, post 8; C: pre 2, post 1). The activation score increased more after treatment in two members (A: pre 11, post 11; B: pre 31, post 33; C: pre 19, post 20). The avoidance/rumination score decreased more after GBA-P in all members (A: pre 16, post 14; B: pre 8, post 6; C: pre 10, post 6).

#### Discussion

The results showed that GBA-P has no short-term effect on pain severity. The increased amount of activity may have increased pain temporarily and decreased pain after a lapse of time (Richmond et al., 2015). However, social functioning increased after treatment. Because the aim of behavioral activation is to get life based on value (Lejuez et al., 2001), social functioning improves while they have pain. Furthermore, the Activation and Avoidance/Rumination score improved, and it is possible to be obtained to effect to aim on GBA-P. GBA-P was developed and evidence to conduct an intervention study was obtained.

#### Will this Patient Become Non-Adherent? Predicting Non-Adherence in Chronic Diseases with the Adherence Risk Profile (AdRisk)

Antje Arlt & Winfried Rief, Philipps University of Marburg, Germany

#### Introduction

Medication non-adherence is a common problem in the treatment of chronic diseases. Previous studies identified several barriers to medication adherence, but these factors are not systematically used to better predict non-adherence. The present study aims to develop and validate the Adherence Risk Profile (AdRisk), a new screening instrument to predict non-adherence and to identify patients at risk for non-adherence.

#### Method

The web-based sample consisted of 677 patients. They reported a diagnosis of Crohn's disease, type 2 diabetes mellitus, COPD, hypertension, rheumatoid arthritis or epilepsy, and were treated with medication. Standard item, reliability and test-retest reliability analyses were computed. To investigate the factorial structure, the sample was divided into two subsamples. A maximum likelihood (ML) factor analysis was conducted for subsample A and a confirmatory factor analysis (CFA) for subsample B. To examine concurrent validity, the instrument's two overall scores (ART,BT) as well as the four subscales were tested for their associations with adherence (assessed via the MARS-D).

#### Results

The AdRisk-scores and subscales showed significant relations to adherence, which was confirmed by hierarchical multiple regressions. The scale displayed good internal consistency (Cronbach.  $\alpha$ =.82; n=677) and test-retest reliability was  $\alpha$ =.83 (n=286). Results indicated a good convergent validity. The ML factor analysis extracted four components, explaining 61% of variance, which was confirmed by the CFA.

#### Discussion

The AdRisk displayed good psychometric characteristics. It should be used as an economic screening tools in order to asses a broad range of psychological barriers to medication adherence, and to identify patients at risk for non-adherence.

#### Improving Quality of Life in Cardiovascular Patients: The Moderating Roles of Illness Perception and Coping Strategies in Reducing Anxiety

Sali R. Asih, Putri Dewinta & Edo S. Jaya, Universitas Indonesia, Indonesia

#### Introduction

Globally, cardiovascular diseases (CVDs) are still the number one causes of death despite intensive attempts in fighting CVDs. It is estimated that more than 75% of CVDs-related deaths occurs in middle- and low-income countries, including Indonesia (WHO, 2019). Health-related quality of life (HRQoL) is an important factor in the context of prevention and treatment of CVDs. However, there is a dearth of studies examining HRQoL predictors in Indonesia. Illness perception referring to beliefs and cognitive presentations that patients have regarding the illness, is suggested to affect the HRQoL in which the mechanism needs to be illuminated. This study aimed to investigate the role of anxiety as mediator between illness perception and HRQoL. The moderating effect of coping strategies affecting the relationship between illness perception and anxiety was also investigated.

## Method

One hundred and sixty CVDs patients (84 males; M age = 44.4, SD = 16.6) were recruited offline (local health centers and national health associations) and online in this cross-sectional study. Short Form 12 version 2 (Ware, Turner-Bowker & Gandek, 2002) and Brief COPE (Carver, 1997) were used to evaluate the HRQoL and coping strategies respectively, in which higher score denoted better HRQoL and coping strategies. Brief Illness Perception (Broadbent, 2006) and Patient Health Questionnaire-4 (Spitzer, 1999) were used to assess illness perception and anxiety respectively. A moderated-mediation analysis adjusted for age and gender (Hayes, 2018) was used to analyze the data.

## Results

Significant effects of illness perception on anxiety ( $\beta = .0538, p < .001$ ) and anxiety on HRQoL ( $\beta = -45.2410, p < .001$ ) were found suggesting anxiety mediated the relationship between illness perception and HRQoL. Furthermore, significant direct effect of illness perception on HRQoL was found ( $\beta = -5.6670, p = .002$ ). Significant conditional indirect effects were found for moderate [ $\beta = -2.4341, 95\% \text{ CI: } -4.0861 - (-1.0412)$ ] and maladaptive [ $\beta = -3.9048, 95\% \text{ CI: } -6.4089 - (-1.7533)$ ] coping strategies. Further, it was found that coping strategies significantly moderated the relationship between illness perception and anxiety ( $\beta = -.0045, p = .006$ ). Moderate ( $\beta = .0863, p < .001$ ) and maladaptive ( $\beta = .0538, p < .001$ ) coping strategies worsened the effect of high threatening illness perception on anxiety.

## Discussion

It can be concluded that patients' perception regarding their illness affects their HRQoL directly and indirectly through anxiety. Further, the impact of high threatening perception on anxiety is magnified with maladaptive coping strategies for Indonesia CVDs patients.

## Sleep Difficulties as a Mediator Between Negative Affect and Antenatal Anxiety in Pregnant Women

**Julietta Azevedo, Mariana Marques, Ana Telma Pereira, Sandra Xavier, Cristiana Marques, Maria João Soares & António Macedo, University of Coimbra, Portugal**

### Introduction

Sleep difficulties are common during the perinatal period due to anatomical, physiological and hormonal changes, with most women reporting that these difficulties begin in early pregnancy and increase in frequency and duration throughout the gestation (Balsarak & Lee, 2011). Sleep disruption and insomnia are common during pregnancy and are also associated with anxiety and negative affect, contributing to higher risk of psychological distress. Previous results from our studies emphasize the protective role of sleep, showing that good sleepers are less likely to develop psychological distress (Marques et al. 2011). The present study aimed to investigate the mediator effect of sleep difficulties between negative affect and anxiety in pregnancy.

### Method

A sample of 339 pregnant women (mean age:  $32.32 \pm 5.152$ ; weeks of gestation:  $17.88 \pm 4.752$ ), being the majority Portuguese (90.3%), married/living with the partner (71.1%), primiparous (55.2%) and still working (63.1%), completed a battery of self-report measures, while waiting for their antenatal medical appointment, at their Local Health Medical Centers (Coimbra, Portugal).

### Results

Sleep difficulties (SD) showed a moderate positive correlation with Negative Affect (NA) ( $r = .40$ ), and with antenatal anxiety (AA,  $r = .51$ ), while AA showed a positive strong correlation with NA ( $r = .60$ ). Results from a simple mediation analysis (conducted with PROCESS 3.0) indicated that negative affect is indirectly related to AA through its relationship with sleep difficulties. The model accounted for 45% of the variance. Higher NA was associated with higher levels of SD ( $.16, p < .001$ ), and less SD were subsequently related to lower AA ( $b = 1.06, p < .001$ ). A 95% bias-corrected confidence interval based on 5000 bootstrap samples indicated that the indirect effect ( $ab = .1699$ ) was entirely above zero ( $.1080, .2473$ ). Moreover, NA was associated with greater AA, even after considering antenatal anxiety's indirect effect through SD ( $c' = .65, p < .001$ ).

### Discussion

It seems a difficult task to determine the causality between the studied variables, considering they all influence each other. However, our results suggest that helping pregnant women have a good sleep might be an important step to somehow buffer the potential impact that negative affect might have in antenatal anxiety.

## A Psychological Intervention for Total Knee Replacements: Preliminary Data

**Samantha Bay & Neil McLean, University of Western Australia, Australia**

**Michelle Byrnes, Perron Institute for Neurological and Translational Science, Australia**

**Markus Kuster, Sir Charles Gairdner Hospital and University of Western Australia, Australia**

### Introduction

Psychological factors play an important part in recovery from surgeries. There is some evidence that psychological and demographic factors may account for more variance in patient reported outcomes after total knee arthroplasty (TKA) and total hip arthroplasty (THA) than surgical factors (Giesinger et al., 2013). Despite having normal clinical and radiographic findings, one in eight patients still experience moderate to severe pain one year after TKA (Brander et al., 2003). Given these findings, it is surprising that little attention has been paid to development of psychological interventions designed to address the psychological factors associated with recovery from surgery. A recent systematic review was able to identify only 7 randomised controlled trials exploring psychological interventions in patients undergoing TKA or THA (Bay et al., 2018). It was concluded that more comprehensive and focused interventions that go beyond educating patients are needed (Bay et al., 2018). The aim of this study was to develop and evaluate a comprehensive psychological intervention designed to improve patient reported outcomes after TKA.

### Method

A therapy manual and patient workbook were developed by Bay, McLean, Byrnes and Kuster (the authors). Content included in the intervention was drawn from the systematic review and from information collected from a set of interviews with patients who were waiting for or had undergone TKA.

Components of the intervention included discussions of expectations of the surgery and the recovery, goal setting, exploration of values, identification and modification of thinking styles and underpinning negative mood, active coping strategies and pain management. Participants scheduled for TKA were randomised to either treatment as usual (TAU), or TAU with additional psychological intervention. Participants in the intervention group completed 6 sessions, with 2 sessions prior to surgery and four post-surgery. Outcome measures included scores on the Depression Anxiety and Stress Scale (DASS-21), Pain Catastrophizing Scale (PCS), Knee Osteoarthritis Outcome Score (KOOS) and Forgotten Joint Score (FJS-12). Data collection was at 2 weeks before surgery, at 4 weeks and 3, 6 and 12 months post-

surgery. Twenty six participants have been enrolled in the study (as of December 2018), and recruitment is ongoing. The intervention was delivered by clinical psychology postgraduate trainees under the supervision of experienced clinical psychologists.

#### **Results**

This study is ongoing, and preliminary findings will be discussed. The TAU and the intervention groups will be compared with 6 months follow up data available for the first wave of 26 participants.

#### **Discussion**

Psychological factors are thought to play an important role in recovery from TKA but there has been little attempt to address these factors pre and post-surgery. Considering the importance of psychological factors, it is expected that the data will show that a comprehensive psychological intervention will improve patient reported outcomes after surgery. The current study will yield evidence of the impact of psychological intervention on recovery and may have implications for recovery from surgery more broadly.

### **Medically Unexplained Symptoms in Children: An Experimental Investigation of the Impact of Internet Searching**

**Sophie Bennett, Francesca Meredith, Tyler Hughes & Roz Shafran, UCL Great Ormond Street Institute of Child Health, United Kingdom**

#### **Introduction**

Medically Unexplained Symptoms (MUS) among children and adolescents are associated with excessive utilisation of healthcare services and severe impairment to functioning. Evidence suggests that MUS can be maintained through reassurance seeking. Parents are increasingly turning to the internet to understand children's somatic symptoms. However, in adults, there is evidence that in those with high levels of anxiety such internet reassurance seeking is associated with a further increase in anxiety and maintenance of somatic symptoms. This has not been investigated in children to date. The present study investigated the impact of internet searching on parental responses to MUS in children using a vignette approach. We hypothesised that internet searching of MUS would result in increased anxiety and reassurance seeking and that this effect would be moderated by parental anxiety at baseline and type of website listed.

#### **Method**

127 adult participants completed the GAD-7 and read an online vignette in which they were asked to imagine they were a parent of a young person with MUS. They completed visual analogue scales (VAS) regarding their beliefs (the extent to which they believed the symptoms were serious), emotions (how anxious they were about the symptoms) and behaviours (how likely they were to seek a second medical opinion or further tests). Participants were then randomly assigned to using the internet for 10 minutes following one of three conditions: searching reputable evidence-based internet sites for information about the symptoms ('reputable search' condition  $n = 47$ ), searching any internet sites for information about the symptoms ('free search' condition  $n = 38$ ) or usual internet activity ('control' condition;  $n = 42$ ). They then completed the VAS for a second time.

#### **Results**

When considering both search conditions together, there was no difference between searching MUS symptoms online and the control condition for changes in belief, emotions and behaviours scores. Searching on the internet resulted in a decrease in mean VAS scores. When considering each search condition ('reputable' and 'free') separately, only searching reputable sites led to a significant decrease in behavioural responses compared to the control condition. There was no significant effect of pre-search anxiety on internet search condition.

#### **Discussion**

This is the first study to investigate the impact of internet searching of symptoms on emotional, cognitive and behavioural responses to childhood medically unexplained symptoms (MUS) after reading a vignette concerning a child with MUS. The results may be understood in the context of the CBT model of MUS in which reassurance seeking is a key maintaining factor of the presence of physical symptoms. In children, such reassurance is often mediated by parents, who provide the health history and who usually request medical tests and examinations. Contrary to the hypothesis, searching of symptoms on the internet led to a decrease in reported desire for further reassurance seeking. The present study suggests that parental internet searching of reputable websites in particular may decrease the likelihood of further reassurance seeking.

In conclusion, internet reassurance seeking impacted parental responses, specifically decreasing the urge for further reassurance seeking behaviours after searching reputable websites. Better understanding is needed of the conditions under which searching the internet is a functional response and under what circumstances it contributes to the maintenance of MUS and should therefore be a target for treatment.

### **Dr. Google vs. Medical Diagnostic App: What Are the Emotional, Body-Related and Behavioral Effects of a Search for Symptom Causes?**

**Sebastian Brand, Johanna Kolb, Michael Witthöft & Stefanie M. Jungmann, Johannes Gutenberg-Universität Mainz, Germany**

#### **Introduction**

Searching online for symptoms and their causes is a widespread phenomenon. In addition to online search engines such as Google, numerous health apps have emerged in recent years. The online search for symptom causes often has an escalating effect, which can trigger or intensify health worries about possible serious diseases and associated body-related and behavioral effects. Compared to online search engines, whose information is also significantly determined by the frequency of clicks (e.g., interesting but more serious diseases), the results of diagnostic health apps arise from the pattern of symptoms entered, which may be associated with weaker emotional and behavioral effects. This study therefore compares for the first time the emotional, body-related and behavioral effects of searching for the cause of symptoms using an online search engine and a medical app.

#### **Method**

In a sample of students and young adults ( $N=147$ , 74.1% female,  $M=23.48$  years,  $SD=5.11$ ) bodily symptoms were first provoked by a hyperventilation test. They were then randomly assigned to one of the three conditions: Search for the causes of the body symptoms experienced by hyperventilation via Google, via the medical app Ada Your Health Guide, or a waiting control condition.

#### **Results**

The hyperventilation test led to a significant increase in experienced body symptoms ( $p<.001$ ,  $d=0.80$ ). After hyperventilation, the waiting condition resulted in a significantly stronger decrease in negative affect than the Google search and Health App ( $p<.001$ ,  $\eta^2 = .07$ ), where the negative affect persisted. Regarding health anxiety, a marginally significant main effect of group was observed ( $p=.06$ ,  $\eta^2 = .04$ ), as evidenced by the increase in health anxiety caused by the Google search compared to the waiting control condition. In all conditions, the reduction of body symptoms was equally pronounced. Regarding the behavioral effect, both participants of the Google search condition and

the Health App condition reported a significantly stronger increase in the need to see a doctor soon compared to the control condition ( $p < .001$ ,  $\eta^2 = .09$ ).

#### **Discussion**

The results show that an online search for symptom causes can have relevant, unfavorable emotional and behavioral effects. We did not find that the use of a diagnostic app has significantly lower unfavorable emotional and behavioral effects than googling. Thus, our results support cognitive-behavioral models in which an online search for symptoms can represent a safety behavior that may amplify and maintain health anxiety.

### **Psychological Implications of Transitioning to Self-Management: Understanding the Experiences of Young Adults with Type 1 Diabetes and Their Parents or Caregivers**

**Vanessa Cobham, Anna Hickling & Genevieve Dingle, The University of Queensland, Australia**

**Helen Barrett, Mater Health, Australia**

#### **Introduction**

Young adults with type 1 diabetes are at increased risk of comorbid psychological disorders such as depression, anxiety, behavioural, and eating disorders (Kovacs, Goldston, Obrosky, & Bonar, 1997; Lyons, Libman, & Sperling, 2013). During this period, young adults are required to take on the responsibilities of managing their diabetes while concurrently moving from parent-directed paediatric healthcare settings to more self-managed adult healthcare settings. The repercussions of unsuccessful transition are significant. A decline in accessing diabetes services has been associated with worse diabetes management, metabolic control, and psychological well-being (Buschur, Glick, & Kamboj, 2017). Conflict around the transition of illness-responsibility from parents to youth may contribute to these outcomes. Indeed, young adults in a local hospital identified this transition as a challenge they want assistance with. Accordingly, the purpose of the current study was to better understand the lived experience of young adults with type 1 diabetes (aged 16 to 25 years) and their parents or caregivers during the transition from paediatric healthcare settings to a young adult healthcare setting.

#### **Method**

Participants included young adults aged 16 to 25 years old with type 1 diabetes who transitioned from a paediatric healthcare setting to a young adult outpatient clinic. Parent-child dyads completed semi-structured interviews on their experience of the transition, including what went well, what has been challenging, and any impacts on diabetes management and family dynamics. Interviews were then transcribed and coded for themes using the thematic analysis described by Braun and Clarke (2006).

#### **Results**

Data collection is ongoing; however, preliminary themes around autonomy, trust, fear, and burnout emerged from interviews with sixteen young adults and seven parents or caregivers. Interviews will continue until saturation has been reached.

#### **Discussion**

The implications of these results will be discussed in relation to the development of a consumer-driven brief family support program to assist families in transitioning diabetes management. Such a program has the potential to improve long-term diabetes and psychological health outcomes.

### **Development of a Brief Transdiagnostic Group Treatment for Cancer-Related Emotional Distress**

**Meghan Cody & Scott Smith\*, Mercer University College of Health Professions, USA**

**Maria Kangas, Macquarie University, Australia**

#### **Introduction**

Clinically significant emotional distress is present for one-half of cancer patients during treatment (Mehnert et al., 2018) and one-fourth of long-term survivors (Foster et al., 2009). Although effective psychological treatments for cancer-related distress have been developed (e.g., Hopko et al., 2011), too few individuals are able to access them due to barriers such as cost and shortage of providers. This paper describes the process of developing a brief group therapy protocol for distressed cancer survivors designed to efficiently target psychological factors that increase vulnerability to multiple mental health disorders. The intervention, Resilience through Openness, Activation, and Reflection (ROAR), aims to promote the use of approach rather than avoidance coping through two primary cognitive-behavioral therapy (CBT) techniques, exposure and behavioral activation.

#### **Method**

We will present data from two lines of research that have converged in the ROAR intervention.

#### **Results**

First, Kangas and colleagues (2014) developed a brief early intervention for distressed head and neck cancer patients (HNC-CBT) to prevent acute post-trauma anxiety reactions from developing into posttraumatic stress disorder (PTSD). HNC-CBT incorporates techniques such as cognitive reappraisal and exposure to threat cues with behavioral activation skills such as activity scheduling and problem-solving. A randomized study compared HNC-CBT to supportive counseling for 35 newly diagnosed patients receiving radiation therapy for HNC (Kangas et al., 2013). At 12-month follow-up, HNC-CBT was superior to supportive counseling at reducing the number of patients meeting case status criteria for PTSD, depression, and anxiety.

Second, Cody and colleagues (under review) have examined the relationships between overgeneral memory (OGM), rumination, experiential avoidance, and psychopathology symptoms in participants who had experienced acute medical events such as serious illness or stressful procedures. Participants ( $N = 61$ ) wrote a narrative of their medical stressor in as much detail as possible in 15 minutes and completed self-report measures. OGM in response to cue words, but not on ratings of stressor narratives, and rumination predicted worse PTSD symptoms. These results informed the current intervention by demonstrating that OGM as a general cognitive style – rather than impoverished memory for a specific stressful event – is related to distress. Initial participants from a new data collection assessing these mechanisms in cancer survivors ( $N = 4$ ) reported significant stressors, including diagnosis, surgery, and chemotherapy, that were associated with high ratings of pain, fear, helplessness, and catastrophic beliefs. As additional data are collected, mediation analyses will be conducted to examine the relationships between cancer experiences, psychopathology, and mechanisms of distress. These mechanisms will then be targeted in a pilot ROAR group, scheduled for spring 2019.

#### **Discussion**

ROAR synthesizes core treatment components of effective interventions for cancer-related distress to target active mechanisms of experiential avoidance, rumination, and overgeneral memory. The intervention represents an innovative application of CBT for cancer

patients and survivors. Moreover, the process of developing ROAR will be discussed as a model for successful international collaboration between researchers to extend the reach of CBT to more patients in need of effective treatments.

### **Health Anxiety in CFS/ME: Establishing Prevalence and Examining Association with CFS/ME Symptom Severity**

**Jo Daniels, University of Bath, United Kingdom**

**Paul Salkovskis, University of Oxford, United Kingdom**

#### **Introduction**

Chronic Fatigue Syndrome/Myalgic Encephalomyelitis (CFS/ME) is a debilitating condition that affects 0.2–0.4% of the population. Evidence-based recommended treatments yield only moderate effect sizes. Research suggests anxiety about health is common across a wide range of medical complaints, and may be relevant in CFS/ME. Previous small scale research has indicated the presence of health anxiety in CFS/ME, supporting the construct of health anxiety as a distinct from anxiety in this population. This study sought to identify the prevalence of health anxiety in a CFS/ME clinic sample over a 12 month period, and examine the association between symptom severity and intensity of health anxiety. A second objective was to study the psychometric properties of the HAI in this sample given rejection of this measure by a sub sample of the clinical population.

#### **Method**

A cross-sectional questionnaire study assessed prevalence of health anxiety in adults with CFS/ME; measures of psychological and physical wellbeing were used to test associations between key outcome variables. Questionnaires were given to all service-users due for assessment in clinic. Of those eligible to participate, 61% (N=172) completed and consented to the study.

#### **Results**

Using the Health Anxiety Inventory cut off of <18, 42% of the sample (N=172) report significant levels of health anxiety. Elevated health anxiety was associated with higher levels of severity across all measures. Stepwise multiple regression indicated physical functioning accounted for 12% of variance in fatigue. For physical functioning, depression (.21) fatigue (.057) and health anxiety (.023), accounted for 28.3% of variance. Psychometrically, the HAI presented similarly in this population as in other clinical populations, reliability of the measure in this population was acceptable ( $\alpha=0.86$ ).

#### **Discussion**

A significant proportion of those with CFS/ME experience levels of health focussed anxiety which is likely to exacerbate the negative effects and impact of fatigue. The HAI has been established as a reliable tool in this population and should be considered for routine use in this population, given high rates of health anxiety.

Further research should focus on RCTs testing the benefits of Health Anxiety focussed treatment interventions and the potential role of health anxiety in the impact of CFS/ME.

### **A Systematic Review and Meta-Regression of the Prevalence and Effects of Anxiety and Depression on Chronic Fatigue Syndrome Treatment Outcomes**

**Jo Daniels & Amy Caswell, University of Bath, United Kingdom**

**Adam von Ende, University of Oxford, United Kingdom**

#### **Introduction**

Anxiety and depression are thought to be common in Chronic Fatigue Syndrome, although the reported prevalence of these difficulties varies between studies. These comorbidities are known to have implications for patient wellbeing and health, and there is some evidence that they might have implications for outcomes to treatment for Chronic Fatigue. The current review aimed to examine the prevalence of anxiety and depression, and to investigate whether these difficulties affect fatigue and physical function outcomes in available randomised controlled trials of NICE endorsed evidence-based treatment.

#### **Method**

A systematic review, meta-analysis and meta-regression were completed. Published and unpublished (a) randomised controlled trials of (b) CBT or GET for (c) adults with (d) CFS, in which (e) post-intervention fatigue and/or physical function scores were reported, and (f) anxiety and/or depression scores were reported at baseline, were identified, from searches of three databases (Pubmed, Embase, PsycINFO) and reference lists of included studies and relevant reviews. Searches took place on 10th April 2017. Risk of bias was assessed using the Cochrane Risk of Bias tool. Estimates of depression and anxiety were summarised with a narrative review. Meta-regression models were used to explore whether anxiety and depression are associated with outcomes to treatment.

#### **Results**

outcomes to treatment.

Nine papers were identified and included in the review. The analysis indicated that reported rates of anxiety and depression were heterogeneous between studies, but that up to 55% of participants experience comorbid depressive disorders, with 10-20% experiencing major depressive disorder, and that 10-48% of participants experience a comorbid anxiety disorder. Meta-regressions indicated that depressive symptoms were associated with less improvement in physical function following treatment (nine studies). Depression was not associated with fatigue outcomes; anxiety was not associated with either fatigue or physical function outcomes.

#### **Discussion**

The findings have important implications for the support and treatment of patients with Chronic Fatigue Syndrome. For patients to receive the best possible care, it is imperative that clinicians and services address all presenting physical and psychological needs, to optimise treatment outcomes. Patients experiencing comorbid depression may benefit from essential interventions aimed at addressing depressive symptoms before or alongside treatment for Chronic Fatigue to increase treatment response.

### **Literature Review- Are Safety-Seeking Behaviours Relevant to Medical Conditions? A Systematic Review of Typology, Function and Impact**

**Jo Daniels, University of Bath, United Kingdom**

**Samantha Lloyd, North Bristol NHS Trust, United Kingdom**

#### **Introduction**

Cognitive behavioural therapy (CBT) has been increasingly applied to the understanding and treatment of physical health problems, with it shown to be associated with improved quality of life and reduced distress. However, the outcomes for CBT for many physical health

problems are moderate at best and there is a call for further research into potential maintaining mechanisms of distress in these conditions. The concept of safety seeking behaviours is suggested to have significantly contributed to effective cognitive behaviour interventions across anxiety disorders. This construct has been increasingly applied to other disorders, including physical health disorders, with development of models to include this concept being suggested to have similar potential for improving outcomes. The aim of this systematic review was to examine the current evidence for Safety Seeking Behaviours (SSB) across physical health conditions and to synthesise what is currently known of the typology, perceived function and impact of such behaviours.

#### **Method**

Electronic databases of Scopus, EMBASE, Medline and PubMed were searched. Search terms were deliberately broad based on the aims and novelty of the review and the advice of an information specialist: ('safety behavio(u)r', safety seeking behavio(u)r). Reference lists of included papers were also checked.

Eligibility criteria were papers on safety seeking behaviours written in English, in peer reviewed journals or grey literature. Due to conceptual issues outlined, and so as not to exclude relevant papers, studies reporting on 'safety seeking behaviours' or 'safety behaviours' were eligible for inclusion. Studies were eligible if they involved individuals with physical health or medical conditions, including those with comorbid psychological conditions. Due to developmental differences, studies relating to children or adolescents were not eligible. As this was a novel area of review with the aim of capturing the current state of the literature, papers involving a range of study designs were eligible, including conceptual papers but excluding reviews.

Titles and abstracts of studies generated by the initial search were screened by two researchers to assess eligibility (100%, and 20% respectively). In addition to those deemed to be eligible, where it was unclear based on title and abstract, studies were included for review at the full text stage. Disagreements were resolved through discussion until consensus was reached. Full texts of potentially relevant articles were then screened (100% and 20% respectively), with discrepancies discussed and resolved through discussion.

#### **Results**

28 eligible papers were identified and included in the review. Given the wide variety of study designs, a qualitative synthesis of the findings only was carried out.

Empirical studies ranged from a sample size of 1 to 2028, with a total sample size of  $N = 6350$ . Of the total sample, 3959 were in comparison groups of individuals without the physical health condition of interest, 127 were individuals with a physical health condition in the comparator condition of an intervention study (total comparator = 4086). All but two empirical studies reported mean age, ranging from 21.50 to 62.35, with a median age of 45.1 calculated. The overall sample included more females (64%).

SSB were reported across a range of physical health conditions, including diabetes, chronic subjective dizziness, insomnia, chronic pain, cardiac related conditions, IBS, sexual dysfunction and urinary incontinence. The inclusion of the SSB construct within models of a range of health conditions, suggests it to be a relevant, methodologically plausible and useful construct in understanding and treating psychological and physical health symptoms. Furthermore, there is also empirical evidence for the presence of SSB in a range of health conditions, providing support for the relevance of the application of the construct beyond psychological conditions to physical health conditions.

#### **Discussion**

The construct of SSB was found to be relevant to a number of different physical health conditions including insomnia, chronic pain, diabetes, tinnitus, sexual dysfunction, irritable bowel syndrome and cardiac-related conditions. Whilst idiosyncratic strategies were identified across health conditions, some commonality was also found, with all strategies having the function of preventing a feared catastrophe. Studies were found to be heterogenous in study design, definition and reporting of SSB. Conclusions: There is support for the relevance of SSB across a range of health conditions, where there are unique challenges to their identification. This has treatment implications for reducing distress and improving quality of life in medical conditions. However, there is a need for a more consistent approach in how SSB are conceptualised and measured across health conditions.

### **The Role of Self-Efficacy and Competitive Anxiety on Sport Performance**

**Dusanka Djurovic, Stanislava Popov & Jelena Sokic, Edukons University, Serbia**

#### **Introduction**

The meta-analysis of factors that affecting sports performance (i.e., Woodman & Hardy, 2003) show that cognitive anxiety and self-efficacy are the two most critical psychological factors of sports achievement. Previous studies left the unresolved relationship between these two factors. The question is, whether the lower level of general self-efficacy represents the basis for the development of competitive anxiety, or trait anxiety produces lower self-efficacy, and thus decreases sports achievement?

#### **Method**

In order to explore the relationship between these two factors, we examined 76 active athletes in collective sports (such as handball, volleyball, water polo and basketball) as well as their trainers. The following instruments were applied: Competitive Sports Anxiety Inventory (CSAI-2R; Martens et al., 2003), Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) and Questionnaire of sports achievement (ad hoc made instrument).

#### **Results**

The results show that cognitive anxiety negatively correlates with sports achievement ( $r = -.38, p \leq .01$ ), as opposed to somatic anxiety that does not show a significant association with achievement. However, the highest relationship is a positive correlation between General Self-Efficacy and sports achievement ( $r = .51, p \leq .01$ ). In Regression analysis, however, a significant predictor of sports achievement is only General Self-Efficacy ( $\beta = .389; p \leq .01$ ) while the significance of cognitive anxiety is lost ( $\beta = -.178; p = .339$ ). Additional Bootstrapping analyses, using Hayes' PROCESS macro tool, was conducted to examine potential mediating effect of the General Self-Efficacy in the relation between the competitive anxiety and sports achievement. We found a significant indirect effect of cognitive anxiety on achievement only through General Self-Efficacy ( $b = -.30, CI [-.73, -.07]$ ), while the direct effect is not significant once the mediator is introduced. In the reversed analyses, with

#### **Discussion**

The obtained result suggests that for improving sports achievement, psychological intervention should primarily focus on increasing self-efficacy.

## **Attachment and End-of-Life Communication with Young People**

**Holly Evans, University of New South Wales Sydney, Australia**

**Ursula Sansom-Daly, University of New South Wales Sydney, Sydney Children's Hospital and Sydney Youth Cancer Services, Australia**

**Richard Bryant, University of New South Wales Sydney, Australia**

### **Introduction**

Talking about dying can be distressing, but for young people with incurable diseases like advanced cancer, talking about their needs and wishes at end-of-life (EoL) is critical for achieving the best outcomes for patients and their families. There is a large gap in the literature on psychological factors influencing individual differences in when and how young people talk about their own death. Given the lack of research on young people's communication around EOL, and the known contribution of attachment theory in scenarios related to personal threat, this study examined the role of attachment theory in conversations about dying.

### **Method**

It was hypothesised that an attachment induction will increase participant's comfort with talking about death, compared to a neutral control induction. Eighty first-year psychology students participated in a two-group experiment where they visualised a supportive person (attachment induction) or neutral person (control induction) for 3 minutes. Participants were then led through a visualisation involving having terminal cancer and completed several purpose-designed self-report items assessing their comfort and likelihood of discussing EoL topics with family, friends or a psychologist (representative of the experience of speaking with a healthcare professional about these topics). Finally, participants completed a measure of adult attachment style.

### **Results**

A moderation analysis indicated that overall, promoting attachment through an attachment induction led participants to want to talk about death with friends and family ( $b = 1.31, t(74) = 2.94, p < .01$ ), but not with a psychologist. Interestingly, for those receiving the control induction, the more avoidantly attached participants were less likely to want to talk. A significant interaction was also found between attachment avoidance and group ( $F(1, 74) = 5.69, p < .05, \text{change } R^2 = .06$ ), such that in the control group, avoidantly attached individuals gravitated even further away from talking to support figures.

### **Discussion**

Overall, attachment plays a role in young people's engagement with EoL conversations, and this relationship is moderated by individual attachment style when thinking about talking to friends and family. This is congruent with attachment theory; friends and family may represent attachment figures while an unknown psychologist might not. This study also proposed new methodologies for study in this area. Additional research is required to further explore the relationship between attachment and talking about death. Further research has begun to further investigate the link between attachment style and how young people talk about death.

## **Community Implementation of an Online Cognitive-Behavioural Therapy Group Program for Adolescent and Young Adult Cancer Survivors**

**Holly Evans, Ursula Sansom-Daly, Brittany McGill, Kate Hetherington, Richard Cohn & Claire Wakefield, Sydney Children's Hospital and University of New South Wales Sydney, Australia**

### **Introduction**

The period following cancer treatment is a psychologically challenging time for adolescent and young adult (AYA) survivors of cancer, and there are currently no rigorously evaluated programs that provide skills-based support tailored for this population in Australia. We designed an intervention, 'ReCaPTure LiFe', to address this need. Recapture Life is a manualised program grounded in well-established cognitive-behavioural therapy principles and is delivered using online video-conferencing. Following the Phase-II randomised controlled trial (RCT) of the program to establish its efficacy, acceptability and safety, we have implemented Recapture Life in the community via established cancer support organisations.

### **Method**

Using a hybrid implementation-dissemination design, a randomised phase-III trial will evaluate the community implementation of Recapture Life compared with a peer-support control group. AYAs aged 15-40 will receive the interventions through our partner community organisations. The impact of the intervention on participants' distress and QoL will be assessed using validated measures. Aspects of the implementation process such as fidelity, feasibility, cost-effectiveness and maintenance of effects will be evaluated following gold-standard implementation research guidelines.

### **Results**

This poster will discuss the community implementation of Recapture Life and present early implementation data on the process of engaging community partners, developing and implementing training in community organisations, and tailoring online delivery to fit existing practice. Issues related to research data collection, sharing and storage will also be discussed.

### **Discussion**

Cost-effective psychological intervention in early cancer survivorship can reduce the burden on health-care systems, whilst simultaneously improving long-term mental health outcomes. The innovative online format of Recapture Life will increase the capacity of community organisations to meet the needs of AYA cancer survivors, including those in rural and remote areas, by providing equitable access to evidence-based care.

## **Benefits of Cognitive Restructuring, Acceptance and Distraction for Pain Intensity and Pain Tolerance**

**Raluca Georgescu & Anca Dobrean, Babes Bolyai University, Romania**

**Elena Predescu, Iuliu Hatieganu University of Medicine and Pharmacy, Romania**

### **Introduction**

Within traditional cognitive therapy, cognitive restructuring is often used to challenge the veracity of dysfunctional thoughts. In contrast, acceptance and commitment therapy (ACT) uses acceptance strategies to change the function of negative thoughts rather than modify their content. Previous research investigating short-term effects has shown that cognitive restructuring and acceptance increase pain tolerance more than distraction. Results of the previous studies shown that cognitive restructuring or acceptance does not differ from distraction with respect to pain intensity on short term. The present study sought to replicate and extend these findings by comparing short and middle-term effects of acceptance, distraction, and cognitive restructuring on pain tolerance and explore the effects on intensity.

### **Method**

Pain was induced in a sample of 110 participants using a cold-pressor task. Participants received a detailed rationale and training followed by instructions to practice the assigned technique as homework two times every day for 1 week and keep a diary.

### **Results**

Using MANOVA with repeated measure, results shown that all cognitive techniques produced substantial improvements but without differences between groups in terms of reducing pain intensity. Regarding pain tolerance, results shown that cognitive restructuring led to a higher increase in pain tolerance than acceptance or distraction did.

### **Discussion**

As a short and middle-term strategy, all strategies were useful in increasing pain tolerance and decrease pain intensity. Further studies should evaluate the preconditions under which these different strategies are most effective. Moreover further studies should target the mechanisms behind and the impact of interindividual differences. Knowledge about the types of strategies and interindividual differences that are useful in targeting diverse pain-related outcome measures is important for efforts to refine the treatment of both acute and chronic pain.

## **Chronic Stress and Sleep Efficiency Among Individuals with an Insomnia Disorder**

**Jean-Philippe Gouin, Thien Thanh Dang Vu, Dylan Smith, Aurore Perrault & Margaret McCarthy, Concordia University, Canada**

### **Introduction**

Cognitive-behavioural models of insomnia highlight the role of stress in precipitating the onset of insomnia episodes. However, little is known about the role of chronic stressors in the maintenance of insomnia over time. The goal of this study was to examine whether chronic stress is associated with insomnia severity among individuals with an insomnia disorder.

### **Method**

In this cross-sectional study, 52 participants who met DSM-5 criteria for an insomnia disorder completed the UCLA Life Stress Interview, a semi-structured interview assessing chronic stress in different life domains. Subsequently, the completed a sleep diary for 14 consecutive days. Sleep efficiency, the proportion of time in bed spent asleep, was calculated.

### **Results**

Results showed that greater chronic stress was associated with lower sleep efficiency among individuals with an insomnia disorder,  $r = -.35$ ,  $p = .01$ . This effect was driven by work stress,  $r = -.31$ ,  $p = .01$ , and financial stress,  $r = -.36$ ,  $p = .01$ . Interpersonal stress was unrelated to current insomnia severity,  $r = -.10$ ,  $p = .50$ .

### **Discussion**

Chronic stress continue to be associated with sleep disturbances among individuals who present clinical levels of insomnia.

## **Does Mindfulness Practice Reduce Suffering in People with Chronic Pain? A Mindfulness-Based Group Intervention.**

**Júlia Grau, Anna Soler, Laia Pijuan, Àngela Cabestany & Marta Sánchez, Consorci Sanitari de Terrassa, Spain**

### **Introduction**

Chronic pain is usually associated with emotional disorders and impaired psychosocial functioning. Research has supported the efficacy of cognitive-behavioural therapy, and it is recommended by clinical practice guidelines. Currently, the rise of third generation therapies has brought a new approach to treat pain conditions. In this context, new studies about mindfulness-based interventions show encouraging outcomes. However, higher quality investigation is required to obtain more consistent results.<sup>1,2,3</sup> The aim of the present study is to investigate whether an 8-session mindfulness-based group intervention (Mf) for chronic pain could provide better benefits than the traditional cognitive-behavioural group therapy (CB) in depression, anxiety, quality of life and pain.

### **Method**

A total sample of  $n=75$  participants with chronic pain were recruited for the study, which was conducted in a public adult mental health service. Forty-two participants attended the Mf and thirty-three attended the CB. Pain, quality of life, depression and anxiety were measured with McGill Pain Questionnaire (MPQ), 36-Item Short Form Survey (SF-36), Beck Depression Inventory II (BDI-II) and State/Trait Anxiety Inventory Revised (STAI-R). A repeated measures t-test was performed to examine differences between pre-treatment and post-treatment assessments in Mf group. A t-test for independent samples was conducted to compare changes in each variable between both groups. Alpha level was assessed at 0.05. Statistical analyses were performed with SPSS version 21.

### **Results**

The repeated-measures t-test for Mf group showed a significant improvement in anxiety-trait ( $t=3.559$ ;  $p=.001$ ), anxiety-state ( $t=2.325$ ;  $p=.025$ ) and mental health related quality of life ( $t=-3.257$ ;  $p=.002$ ). Other measures such as depression, despite showing a tendency to improvement, did not reach statistical significance ( $t=1.875$ ;  $p=.07$ ). The t-test for independent samples showed a significant differences in anxiety-trait ( $t=2.508$ ;  $p=.015$ ) and anxiety-state ( $t=2.375$ ;  $p=.020$ ), with a greater improvement in Mf.

### **Discussion**

The reduction of anxiety and the improvement in the quality of life related to mental health may involve changes in the response to pain, allowing more adaptive functioning. The fact that depressive symptoms do not reach statistical significance fits with other studies where improvement in depression mostly appear as a long-term effect.<sup>3</sup> Compared with CB, Mf seems to be more effective in reducing anxiety in patients with chronic pain. Future studies should provide long-term follow-up outcomes.

## **Development and Validation of the Activity Restriction Scale for Cancer Patients (Sickness Impact Profile for Cancer Patients: SIP-C)**

**Kotone Hata, Haruka Ono, Yuko Ogawa & Wakana Takeshita, Waseda University, Japan**

**Yoshihiko Kunisato, Senshu University, Japan**

**Shin-ichi Suzuki, Waseda University, Japan**

### **Introduction**

Introduction: Activity restriction is when cancer patients restrict various activities in daily living after their cancer diagnosis. Persisting activity restriction may lead to severe psychological distress. The Sickness Impact Profile (SIP) is a measure for illness related activity restriction (Bergner et al., 1981). We developed an activity restriction scale for cancer patients (SIP - C) based on the items of chronic pain version SIP which has a better factor structure stability compared to SIP (McEntee et al., 2016). Also, the subscale "Recreation and Pastimes" from SIP was re-added and then examined the reliability and validity of the SIP-C.

## **Method**

Methods: Participants included 118 cancer patients joining five individual cancer support groups from different prefectures in Japan. Participants completed a battery of questionnaires consisting of the following: Demographic and clinical information, European Organization for Research and Treatment of Cancer Quality of Life (QOL), Hospital Anxiety and Depression Scale, SIP, SIP-C. To analyze the reliability and validity of SIP-C, we tested these hypotheses below: 1) The Kuder Richardson 20 (KR-20) alpha of SIP-C will be more than .70, 2) SIP-C will be positively correlated with SIP, 3) SIP-C will be positively correlated with depression, 4) SIP-C will be negatively correlated with QOL.

## **Results**

Results: Exploratory factor analysis using the polychoric correlation coefficient revealed that SIP-C has a uni-factor structure. The SIP-C contains 26 items. The internal consistency based on the KR-20  $\alpha$  coefficient was .88, which was enough. From the results of the correlation analysis, SIP-C and SIP showed positive correlation ( $p < .01$ ), SIP-C and depression also showed positive correlation ( $p < .01$ ), SIP-C and QOL showed negative correlation ( $p < .01$ ). These results showed that the four hypotheses were supported.

## **Discussion**

Discussion: Acceptable reliability and evidence of convergent validity of SIP-C were demonstrated. Twenty-six items settled as the final items of SIP-C, and the response burden of the SIP-C was improved. Many of the items dropped were from the physical dimension from the original scale. The reason of this exclusion may be because around 40 % of the participants were survivors over five years. These survivors may be done with acute cancer treatment and have fewer physical disabilities. Although, many items from the psychosocial dimension were settled show that even after years of survivorship, patients experience psychosocial activity restriction.

## **Stress and the Mind-Body Connection**

**Yazz Headley, Saybrook University, USA**

### **Introduction**

Stress is the “nonspecific response of the body to any demand” (Selye, 1974, p. 140), “a physiological reaction, or response, regardless of the source of the reaction” (Everly, 1950, p. 6). Stress is believed to be caused by one’s beliefs and perceptions concerning an event (Dabney, Copes, Tewksbury, & Hawk-Tourtlot, 2013; Horiuchi et al., 2010; Rimmele & Lobmaier, 2012; Webster-Stratton, 1990). Whatever the definition may be, stress can be such a debilitating issue. Those who experience stress often find that it also has a disruptive and dispersive effect into so many other areas in their lives. Many see it as being able to affect their ability to think, act, or make decisions but many often forget that stress also affects the body. Stress accounts for a high percentage of visits to doctors in the US (Nerurkar, Bitton, Davis, Phillips, & Yeh, 2013). Our perceptions and how we handle stress enables us to move beyond just surviving but also to thrive.

Managing stress can help us

### **Method**

The sample will consist of 30 participants (aged between 21 to 65, who are feeling stressed), residents in the city of London and its surrounding areas. This proposed study will use the Electronic photonic Imaging (EPI) (Bio-well), self-assessment instruments such as the PHQ-9, GAD-7, and Holmes and Rahe Stress Scale, and Heart Rate Variability instrument (HRV) (ProComp2 Thought technology) which will measure heart rate and respiration. The EPI measures stress and energy levels through electro photonic Images and is based on the acupuncture meridians of the different organs in a persons body. The EPI was also known as the Gas Discharge Visualisation (GDV) instrument. CBT has been well researched over the decades and both the HRV and EPI/GDV have a large body of research on them too.

### **Results**

This study will examine if a set of 4 CBT sessions with the incorporation of relaxation and breathing exercises; will aid in reducing stress levels, increasing HRV, lessen the EPI/biofield levels and lower scores in the self-assessment instruments. The study will look to see if there is a measurable connection between the mind and the body through the use of self-assessments (which are often used in CBT), and the bio-well (that is often used in alternative therapies). The researcher will also seek to study the participant's experiences and responses to stress.

### **Discussion**

The results from the 30 participants will be finalised and analysed this March and the results will be listed on the poster. The energy scans and HRV levels along with CBT results will be illustrated.

## **Multiple Psychological Factors Predict Pain and Disability in a Five-Year Follow-Up Study of Knee Osteoarthritis Patients**

**Eeva-Eerika Helminen, City of Helsinki, Finland**

**Sanna Sinikallio, University of Eastern Finland, Finland**

**Jari Arokoski, University of Helsinki, Finland**

### **Introduction**

Increasing evidence has shown the importance of psychological (affective, cognitive, behavioural) variables in explaining and predicting osteoarthritis pain and disability. Over the past 20 years, pain-related cognitions, such as pain catastrophizing and self-efficacy, have become a major interest in psychosocial pain research. However, the number of long-term follow-up studies investigating their predictive role in knee osteoarthritis is limited.

### **Method**

This is a five-year prospective analysis of determinants of pain and functioning in knee osteoarthritis. The study patients participated in 2010–2013 in a randomized controlled trial investigating the effectiveness of a six-week cognitive-behavioural group intervention on knee osteoarthritis pain. We conducted a five-year follow-up study in fall 2016 with the same set of postal questionnaires we had used in the original trial. We sent the questionnaire to 108 participants of the original study and got a response from 74 (69%). Demographic, socioeconomic, disease-related variables as well as psychological measures of resources and coping, distress, fear of movement and catastrophizing were studied as potential baseline predictors for the five-year follow-up outcome.

### **Results**

Multivariate linear mixed model analyses revealed that minimal anxiety at baseline measured with the Beck Anxiety Inventory predicted significantly better results in all of the outcome measures of pain and function during the five-year follow-up. High pain self-efficacy predicted significantly better scores in RAND-36 function, mental (orthogonal/oblique) and physical (orthogonal/oblique) component summaries. Those satisfied with life reported higher scores in RAND-36 function and mental (oblique) component summary. A higher sense of coherence predicted better scores in RAND-36 mental (orthogonal/oblique) component summaries. Pain catastrophizing predicted

significantly higher WOMAC pain levels whereas fear of movement (kinesiophobia) predicted poorer functioning in RAND-36 mental component summaries (orthogonal/oblique) and physical component summary (oblique).

#### **Discussion**

The results revealed that both psychological resources as well as negatively charged emotions and expectations toward pain are important factors when dealing with knee osteoarthritis patients. Minimal anxiety symptoms at baseline had the strongest predictive value for lower pain, and better physical and mental functioning in knee osteoarthritis patients, and the statistical significance of this finding grew stronger in comparison to our findings at one-year follow-up. The role of resource factors (pain self-efficacy, sense of coherence, life satisfaction) was highlighted during the follow-up of these patients. Negatively charged expectations toward pain and function, that is, kinesiophobia and catastrophizing, were also important predictors in the follow-up.

### **Improving the Assessment of Functional Impairment in Tinnitus Patients: Validation of the German Version of the Tinnitus Functional Index Using a Confirmatory Factor Analysis**

**Eva Hüttenrauch, Philipps-University Marburg, Germany**

**Martin Jensen, Philipps-University Marburg, Germany, and Eriksholm Research Centre, Denmark**

**Cornelia Weise, Philipps-University Marburg, Germany**

#### **Introduction**

About 1-3% of the adult population experience tinnitus as a severe condition which causes distress in everyday life and is often accompanied by depression and anxiety. Cognitive-behavioral therapy (CBT) has been shown to be effective. A differentiated assessment of tinnitus distress is important to properly conduct CBT and to evaluate its efficacy. Recently, the Tinnitus Functional Index (TFI) has been developed to assess functional impairment, differentiated on eight subscales (e.g. interference with relaxation, reduced quality of life, emotional distress). It has been translated to German and an exploratory factor analysis confirmed the original factorial structure. The aim of our study was to re-investigate the factorial structure of the German TFI in an independent sample of tinnitus patients using a confirmatory factor analysis (CFA).

#### **Method**

In an online assessment, 299 participants completed the TFI, the Tinnitus Handicap Inventory (THI), and further measurements. CFA was conducted to investigate the factorial structure of the TFI. Three models were tested: (1) a general factor model (all 25 items of the TFI loading on one overall factor), (2) an 8-factor model as suggested by the previous publications (corresponding items loading on eight intercorrelated latent variables [TFI-subscales]) and (3) a bifactor model (combination of model 1 and 2).

#### **Results**

The mean age in our sample was 43.66 years (SD=14.54), 60.5 % were female, and the average THI sum score was 35.23 (SD=23.24), indicating mild to moderate tinnitus distress. CFA revealed an insufficient fit of the data to the general factor model with none of the goodness-of-fit indices meeting the recommended cut-off-levels (RMSEA=.193, CFI=.66 and TLI=.62). While for the 8-factor model a significantly better fit of the data was shown (CFI=.96, TLI=.95, RMSEA=.069), the best fit of the data was found for the bifactor model (RMSEA=.055, CFI=.98 and TLI=.97). The calculation of Cronbach's alpha as an indicator of internal consistency revealed satisfactory to excellent values (.83 – .96) for the eight subscales.

#### **Discussion**

The results of our study confirm the factorial structure of the TFI and suggest the importance of a general tinnitus impairment factor that contributes important unique variance beyond that of the eight first-order factors. Further research is needed to investigate the responsiveness of the TFI to treatment changes. In addition, longitudinal designs should assess the extent to which improved functionality in the TFI goes in line with improvements in comorbid disorders.

### **Fibromyalgia Self-Management- A Group Cognitive Behavioral Therapy Intervention for French Hospital Outpatients**

**Lizet F. Jammet, Christian Guy-Coichard & Sylvie Rostaing, Saint Antoine University Hospital, France**

**Colette Aguerre, François Rabelais University, France**

**Françoise Laroche, Saint Antoine University Hospital, France**

#### **Introduction**

Fibromyalgia (FM) is a chronic condition characterized by widespread pain, tender points, sleep disruption and fatigue (American College of Rheumatology criteria, Wolfe & al, 1990) with common comorbidity including mood, anxiety and cognitive disorders, as well as other pain syndromes (Goldenberg, 2008). Between 2 and 7% of the general population are affected (Glombiewski & al, 2010). Clinical studies and meta-analyses (Busch & al, 2008; Hauser & al, 2009; Thieme & Gracely, 2009; Bernardy & al, 2013; Clauw, 2014) have shown the effectiveness of Cognitive Behavioral Therapy (CBT) for Fibromyalgia (FM). CBT is also recommended by the European League Against Rheumatism (Carville; 2007; Macfarlane & al, 2016). The aim of this first long-term study carried out at Pain Center of Paris St Antoine University Hospital was to assess the efficacy of a Group CBT for improving the quality of life of fibromyalgia patients.

#### **Method**

112 Fibromyalgia (FM) outpatients, aged 23 to 66 years, were randomized in a Treatment Group (GCBT: a program of 8 weekly two-hour sessions of CBT), and a Reference Group (GREF: one single two-hour Therapeutic Patient Education session). Clinical outcomes: Pain intensity scale (VAS), emotional distress inventories (STAI-Y-A/B, BDI), health status (SF36), quality of life (FIQ), catastrophizing scale (CSQ) and motivation to change (PSOCQ), were evaluated before intervention at baseline (T0), and after, at 3 months (T1), 6 months (T2) and 12 months (T3). Statistical analyses were performed: descriptive statistics, a paired-sample "t test" was used to examine intra GCBT group change (from T0 to T1, T2 and T3); "Cohen's d" effect size was calculated. Analysis of variance (ANOVA) was also used to test the two levels' comparative analyses between GCBT/GREF at T0, T1, T2, T3.

#### **Results**

The study outcomes show the demographic and clinical characteristics of FM patients were consistent with other studies. Moreover, for the GCBT group, results at 12 months show significant improvement in FM's impact on quality of life (t=3.60, p<.01, d=.95), health status (t=-3.35, p<.01, d=-.76), catastrophizing (t=3.22, p<.01, d=.52), average pain intensity (t=3.12, p<.01, d=.47), level of anxiety (t=2.98, p<.01, d=.55) and depression propensity (t=2.62, p<.05, d=.43). More important, motivation to maintain the newly acquired strategies is enhanced (t=-5.38, p<.001, d=-1.40). Results between GCBT and GREF after treatment were comparable for most of the variables. Motivation to maintain new strategies remained significantly better in GCBT with a moderate effect size.

## **Discussion**

Our GCBT program proposed to FM hospital outpatients produced significant clinical improvement in FM self-management in the short term (3 months) and the long-term (12 months). This is in line with the results of other researches (Glombiewski & al, 2010; Bernardy & al, 2013; Williams & al, 2013; Claw, 2014)).

## **Prevention of Stress-Related Problems in Diabetes Patients – A Cognitive Behavioral Short-Term Group Intervention**

**Judith Lehnart, Catholic University of Applied Sciences Mainz, Germany**

**Lara Gomille, Andrea Benecke, Jennifer Grammes, Katharina Weigand & Michael Witthöft, Johannes Gutenberg University Mainz, Germany**

### **Introduction**

According to the IDF Diabetes Atlas, prevalence rates of diabetes type 1 and type 2 are increasing worldwide (IDF, 2017). In Germany, approximately 6.5 million people suffer from diabetes mellitus, 95% of them from D.M. type 2. It is also known that the comorbidity of mental disorders in diabetic patients is increased and that psychological strain often causes impaired diabetes self-management resulting in impaired glycemic control and increased risk of later stage consequences (Buchberger et al., 2016). Furthermore, a meta-analysis by Winkley et al (2006) illustrates that psychological interventions help to improve glycemic control in patients with type 1 diabetes. Still it remains unclear whether cost-effective low-threshold short term group interventions can help to prevent high levels of diabetes related stress and to improve glycemic control.

### **Method**

We developed a 6-unit cognitive-behavioral group intervention for patients with type 1 and type 2 diabetes, which aims at the reduction of diabetes-related stress and the increase of well-being. The program includes these topics: the relationships between stress and diabetes, stress-related cognitions and problem-solving techniques, mindfulness-based interventions, PMR and resource-activating interventions. Group size was 4-7 participants and all groups were led by a psychotherapist or psychotherapist-in-training who also specialized in psychodiabetological therapy. Questionnaires on diabetes-related stress (Problem Areas in Diabetes Questionnaire, PAID), acceptance of diabetes (Diabetes Acceptance Scale, DAS), and general stress (Perceived Stress Scale, PSS) were obtained as well as information on glycemic control (HbA1c) and medical treatment. Each variable was measured three times (pre-intervention, post-intervention and 6 months after treatment). Group interventions took place from October 2017, to June 2018. The final sample consisted of 52 (32 female, 20 male) participants, who were randomly assigned to either treatment or waiting list condition. Mean age was 51.3 years (ranging from 18 to 73 years). 25 (14 female) participants were diagnosed with type 1 diabetes, 27 (18 female) with type 2 diabetes.

### **Results**

By comparing levels of general and diabetes-related stress before and after the group intervention, results show that CBT short-term group therapy generally improved stress management and reduced diabetes-related stress, which may help to increase glycemic control. General stress was reduced independent of type of diabetes (PSS pre-post:  $t(47)=4.5$ ,  $p<.01$ , Cohen's  $d=.67$ ). Diabetes related stress was reduced from 42 to 36 points which means a reduction from a very high level to a high level of stress (PAID pre-post:  $t(47)=2.6$ ,  $p<.01$ , Cohen's  $d=.38$ ). Data on long-term effects will be available soon.

### **Discussion**

The findings suggest that a short-term cognitive behavioral intervention for patients with diabetes enables them to deal with the challenges of managing a chronic disease. Regarding the increasing prevalence rates for diabetes, we conclude that it is important to offer effective low-threshold programs.

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## **Pilot Review: Assessing the Effectiveness of CBT for Depression, Anxiety and Long-Term Conditions for Adults over 65 Years of Age**

**Idyli Kamaterou, Vandana Gupta & Soraya Aweys, Surrey and Borders NHS Trust, United Kingdom**

### **Introduction**

Long-term conditions are more prevalent in older adults. Patients with chronic conditions suffer from related psychosocial factors, anxiety and depression that have an impact on their quality of life. As an IAPT service we looked at innovative ways to improve access to Older People as there was very poor uptake locally but also at a national level.

### **Method**

An 18-month pilot was designed to assess the effectiveness of individual and group CBT in reducing depression and anxiety and improving the management of LTC. Every person referred to the pilot was offered a face-to-face assessment before a treatment plan involving individual or group CBT was developed. Psychometric tools were used to assess people's symptoms and track their progress.

### **Results**

People who entered therapy (both individual and group) showed clinical recovery of both anxiety and depression symptoms. However, individual therapy was more effective in treating anxiety symptoms. People's confidence in managing their long-term condition improved in both treatment types but marginally more in the group setting.

### **Discussion**

An interesting finding was that a lot of participants refused having treatment. The main reasons were: feeling able to cope/ not feeling they need support, being busy with appointments for their physical health/ not able to find time for therapy and ill health.

## **Interventions Based on Rumination in Patients with Medical Disease and Chronic Pain**

**María Guadalupe Rosales & Eduardo Keegan\*, Universidad de Buenos Aires, Argentina**

### **Introduction**

Chronic pain is a health problem that affects 20% of the world's population (Treede et al., 2015). Several treatments have been developed based on the evidence to treat people affected by this condition. The Cognitive Behavioral Therapy is the front-line psychological intervention recommended for subjects with chronic pain (NICE, 2009; IASP, 2011; NIMH, 2009). Over the past few years, the recent cognitive-behavioral models have placed an increasing emphasis on the development of treatments with a transdiagnostic approach focused on cognitive processes, such as rumination and worry.

Rumination implies a kind of active thinking regarding a stressor event, thoughts and emotions it evokes and the consequences that such event has for one's life and the future. Therefore, it is useful to identify the patients' way of thinking when receiving a clinical diagnosis (Watkins, 2008) to understand how they think their chronic physical disease (Soo & Sherman, 2013).

### **Method**

The transdiagnostic conceptualization (Frank & Davidson, 2014) of three patients with different medical diseases but similar suffering of six-month chronic pain is presented. For this study, a sample consisting of one thirty-year-old woman with an endometriosis diagnosis, a forty-one-year-old man with myofascial syndrome and a thirty-eight-year-old woman with a neck pain diagnosis was selected. In each conceptualization, it was highlighted the presence of rumination about the physical symptomatology.

The protocol of the cognitive-behavioral therapy for chronic pain (Flor & Turk, 2011; Moix & Kovacs, 2009; Otis, 2007) was applied and rumination-oriented strategies were added, which were originally designed for the treatment of depression (Watkins, 2016), adapted, in this case, to rumination linked to pain. The aim of the treatment was oriented to reduce the severity of pain and the associated disability level, to decrease the negative rumination about pain and to increase the functional

### **Results**

Scores of the scales measured before and after the treatment were obtained. Results regarding the perception of severity and disability of pain, rumination and depressive symptomatology are provided. In the three selected cases, a significant improvement was obtained in each variable mentioned.

### **Discussion**

It is concluded that the rumination-oriented interventions reduced not only the severity and disability of pain but also the comorbid depressive symptomatology in patients with physical disease and associated chronic pain.

## **Role of Cultural Beliefs in Caregiving: An Exploratory Study Based in New Delhi, India**

**Rati Khurana & Nimisha Kumar, SGT University, India**

### **Introduction**

A caregiver is a person who provides care to a physically or mentally ill patient but is not reimbursed for his/her services unlike professionals (Schulz & Sherwood, 2008). There is general agreement that providing care to a disabled individual is demanding and taxing for the caregiver. Settineri (2014), suggests that caregivers who provide care for patients suffering from both physical and mental health ailments report a lower level of quality of life and higher level of stress. Aged caregivers, individuals of low financial status, and those with constrained social support report less mental and physical wellbeing than guardians who are more youthful and have better monetary and relational assets (Pinquart, 2001).

However, caregiving may also be associated with positive aspects and personal growth experiences. Veltman et al (2002) reported positive aspects of caregiving too, ranging from gratitude to love and pride. Even though caregiving is a taxing job, caregivers have described

### **Method**

Sixty primary caregivers of physically and mentally ill patients completed The Caregiver Strain Index (Sullivan, 2004) and Positive Aspects of Caregiving (Tarlow et al., 2004) in addition to sharing their caregiving experiences through a semi-structured interview. The aim was to explore the role of cultural beliefs in caregiver strain as well as positive aspects of caregiving in the primary caregivers of physical and mentally ill patients living in New Delhi, India. The objectives were:

1. To assess the level of strain and positive aspects of caregiving in the caregivers of the mentally and physically ill patients.
2. To compare the strain and positive aspects of caregiving reported by caregivers of physically and mentally ill patients.
3. To understand the cultural beliefs and values that motivate the caregivers to carry on with their caregiving roles despite the strain as well as positive aspects of caregiving through a brief semi-structured interview.

### **Results**

A majority of caregivers of both the physically and mentally ill patients reported a high level of caregiver strain. It was noted that the female caregivers were more stressed than the males. Females who were caregivers of patients with paralysis specifically showed very high levels of stress and less positive aspects of caregiving and called the illness very confining for them.

The common cultural trends that were encountered were societal pressure, dependency of wives on their ill husbands, dependency of husbands on their ill wives for their kids, fear of judgements, fear of god and obligation.

### **Discussion**

Caregiving strain is a matter of concern for primary caregivers and individuals seem to carry on with this role after a point more out of obligation and societal pressure than love and concern for their ill family member. Positive aspects of caregiving can be effectively built into culturally sensitive interventions for caregivers to achieve motivational enhancement and cognitive restructuring

## **Beliefs About Cancer, Early Maladaptive Schemas and Level of Depressive and Anxiety Symptom in Oncological Patients**

**Agata Kołodziejczyk & Karolina Fila-Witecka, Wrocław Medical University, Poland**

**Jakub Obolewicz, Lower Silesian Oncology Center, Poland**

### **Introduction**

In collective consciousness, cancer has always been seen as one of the biggest threats to life and health (Kangas M et al. 2002). A cancer diagnosis can be a traumatizing and extremely stressful event and many recent studies show, that coping strategies are determined by personality factors (Brunault P et al. 2016), cognitive functioning and a person's emotional state. The individual differences among people, reflected in their beliefs about the disease will therefore have an impact on their ability to adapt to the new situation. In the present study we

explored the beliefs cancer Patients have about their disease, the Early Maladaptive Schemas they manifest as well as the presence of any depressive or anxiety symptoms, related to their illness.

#### **Method**

Qualitative and quantitative methods were used to conduct the research. One Hundred oncological patients from the Lower Silesian Centre of Oncology were recruited for our study, 82 of which returned a completed set of questionnaires and were included in statistical analyses (62 women and 20 men, age M= 55.5). We collected demographic data on sex, age, place of residence, marital status, education, diagnosis, time of treatment and kinds of treatment used so far. Initially, the Patients' took part in a short interview regarding their beliefs about cancer. Afterwards they were asked to complete the Polish adaptation of the Young Schema Questionnaire (YSQ) as well as the Hospital Anxiety and Depression Scale (HADS).

#### **Results**

Since the study yielded a significant amount of data, statistical analysis is still in progress, we were, however, able to establish the presence of some preliminary tendencies. The patients' beliefs about cancer were grouped, using grounded theory, yielding 5 groups of beliefs. The interviewees most commonly described their disease as: growth (12.2%), something neutral (19.5%), threat (23.2%), loss (19.5%) or deprivation (25.6%). The male respondents did not consider cancer as growth and Patients treated longer than 2 years did not find cancer neutral. Most growth beliefs were presented by women undergoing chemotherapy. A strong domination of the Self-sacrifice schema in all patients, regardless of sex, education, diagnosis or marital status (mean accordingly: 16.46, 17.0, 16.04, 19.4) was observed. Urological patients had higher scores on the following schemas: Hypercriticalness (M= 15.0) Approval-seeking (M= 19.0), Negativity (M= 16.6) and Abandonment (M= 15.0). Also, unmarried patients scored high on the Insufficient self-control schema (M= 16.11). Contrary to that, widowed patients had low results on the Mistrust, Defectiveness and Enmeshment schemas (M= 5.67 each). Lastly, the Self-sacrifice schema was strong with every kind of belief but it was the strongest with growth (M= 20.0). Depressive and anxiety symptoms weren't significant in the tested group (M= 6.11, 8.04- accordingly).

#### **Discussion**

Although most Patients' declare negative beliefs about their disease there are some differences in their perception, depending on sex, disease duration and type of cancer. In the same way, some cognitive schemas are found more often than others suggesting there may be a relationship between the disease, demographic variables and the activation of early Maladaptive Schemas in cancer Patients.

### **Relationship Between Personality Factors, Early Maladaptive Schemas, Coping Styles and Autonomous Nervous System Measurements**

**Antonia Kotianova & Milos Slepecky, Constantine the Philosopher University in Nitra, Slovakia**

**Ivan Majercak, Pavol Josef Safarik University in Košice, Slovakia**

**Jan Prasko & Marta Zatkova, Constantine the Philosopher University in Nitra, Slovakia**

**Michaela Chupacova, Psychagogia, Slovakia**

**Ingrid Tonhajzerova, Comenius University, Slovakia**

#### **Introduction**

Objective: Early maladaptive schemas were developed primary in childhood through the interaction between youngster disposition and the early experiences of stress, deprivation or frustration. Distressing situations during childhood or adulthood have also been connected with dissociation and with the improved cardiovascular disease risk, although their precise contribution is unknown. Emotional distress stimulates sympathetic activity producing the fluctuations in cardiovascular system – tachycardia, an increase in blood pressure, and relocation of blood flow. The connection between early maladaptive schemas, coping styles, dissociation and reaction of the autonomous nervous system is unknown. The aim of the study is to search for the relations between early maladaptive schemas, dissociation, coping styles and autonomous nervous system.

#### **Method**

227 participants took part in this cross-sectional study and completed the Young Schema Questionnaire (YSQ-S3), Young Compensation Inventory (YCI-S3), Young-Rygh Avoidance Questionnaire (YRAQ), Dissociative Experience Scale (DES), and a demographic questionnaire and psychophysiology measures. The differences in the autonomic nervous system activity, indexed by HRV, were measured by the analytic methods that are using the power spectral analysis of the beat-to-beat interval (R-R interval) series which quantifies the HRV (heart rate variability). HRV was assessed 5 minutes in the rest and 5 minutes during a mental arithmetic task. Power spectrum was calculated via a fast Fourier transformation. for very low frequency (VLF), low-frequency (LF) and high frequency (HF) powers.

#### **Results**

Our study show the differences between sexes in the connections among early maladaptive schemas, dissociation and autonomic system parameters. Using regression analysis there were following results:

In women there are significant predictors of the relation between particular early maladaptive schemas (positive in Negativism/Pessimism, Enmeshment, Entitlement; negative in Self-sacrifice, Vulnerability to harm or illness) and parasympathetic parameters (SDRR).

In men there is significant predictors of the relation between relative LF and HR mean and Mistrust/Abuse (positive) and Emotional deprivation (negative) in both measured conditions. Dissociation has significant relations with most HRV parameters, but in regression analysis the relation of early maladaptive schemas and HRV parameters were higher; dissociation does not pass.

#### **Discussion**

The relationship between early maladaptive schemas and autonomic nervous system is different among sexes. It can be in connection with different vulnerability to cardiovascular diseases.

### **Generalized Worrying as a Mediator in the Relationship Between the Cognitive Representation of the Illness and Depression Symptoms Among Patients with Type 1 Diabetes**

**Julia Krawczyk, Poznan University of Medical Science, Poland**

**Michał Ziarko, Adam Mickiewicz University in Poznan, Poland**

#### **Introduction**

According to the International Diabetes Federation, over 400 million people around the world are currently struggling with diabetes. It is estimated that by 2046, the number of patients will increase to 629 million people. Diabetes leads to numerous health complications, increases the risk of premature death and can be a heavy burden, which may lead to mental health impairment, including depression,

considered as one of the factors, that reduces adherence to treatment. Many studies have shown a relationship between the perception of one's own diabetes and the severity of depression symptoms. Moreover, many reports indicate that not only cognitive assessment may be associated with depression, but also a tendency to ruminate, over-think or worry. In the current study, we wanted to check whether the tendency to worry (the quantitative aspect of thinking) could play a role of a mediator variable between the perception of diabetes (subjective cognitive assessment) and symptoms of the depression.

#### **Method**

The study involved 229 patients with type 1 diabetes (141 women and 88 men, with mean age  $\pm$ SD of 30.2  $\pm$ 10.3). Participants completed a set of questionnaires: the Polish version of Illness Perception Questionnaire (IPQ; Moss-Morris et al., 2002; Wojtyna et al., in print), The Centre for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977; Ziarko et al., 2013) and Anxious Thoughts Inventory (AnTI; Wells, 1994). The Polish version of IPQ is consisted of seven dimensions: timeline (acute/chronic), perceived consequences, perceived personal control, perceived treatment control, illness coherence, perceived frequency of symptoms and emotional representation. CES-D consists of 20 statements that estimates the frequency of depressive symptoms experienced over the last week. AnTI measures tendency to worry about one's own health or social relations and estimates the metacognitive tendency to "worry about self-worrying".

#### **Results**

Mediation analysis was performed. The relationships of several dimensions of illness perception and depressive symptoms were mediated by a tendency to worry: perceived consequences ( $a=0,24^{**}$ ;  $b=0,70^{**}$ ;  $c=0,26^{**}$ ;  $c'=0,09^*$ ;  $z=3,44$ ;  $p<0,01$ ; 95% CI[0,68;0,27]), perceived treatment control ( $a=-0,16^*$ ;  $b=0,70^{**}$ ;  $c=-0,26^{**}$ ;  $c'=-0,15^{**}$ ;  $z=-2,26$ ;  $p<0,05$ ; 95% CI[-0,21;-0,01]) and emotional representation ( $a=0,49^{**}$ ;  $b=0,65^{**}$ ;  $c=0,45^{**}$ ;  $c'=0,14^*$ ;  $z=7,10$ ;  $p<0,01$ ; 95% CI[0,22;0,42]).

#### **Discussion**

The study confirmed that generalized tendency to worry is the significant mediator in the relationship between the cognitive representation of the disease (perceived consequences, perceived treatment control, emotional representation) and the symptoms of depression. It means that an important area of work with people with type 1 diabetes, who report symptoms of the depression, are psychological interventions that affect not only cognitive content and illness perception but also interventions that affect patients tendency to worry (the frequency of thoughts).

### **Subjective Well-Being in Face of Chronic Disease: The Impact of Psychological Resources**

**Johanna Merleker, Psychologische Hochschule Berlin, Germany**

**Daniel Keil, Philipps-Universität Marburg, Germany**

**Johannes Laferton, Philipps-Universität Marburg and Psychologische Hochschule Berlin, Germany**

**Klaus Kenn, Philipps-Universität Marburg and Schön-Klinik Berchtesgadener Land, Germany**

**Nikola Stenzel, Psychologische Hochschule Berlin, Germany**

#### **Introduction**

Chronic Obstructive Pulmonary Disease (COPD) is a lung disease characterized by chronic obstruction of lung airflow that is not fully reversible. COPD has a major impact on patients' quality of life; moreover, People with COPD often suffer from psychological comorbidities (anxiety, depression). Recent studies suggest that psychological resources (i.e. sense of coherence, resilience, social support) act as protective factors (Keil et al., 2017). However, the different psychological resources and their impact on several outcome variables (i.e. anxiety, depression, and quality of life) are often examined separately. The aim of this study is, to integrate several factors into one model to get a better understanding of the underlying mechanisms.

#### **Method**

Individuals with COPD ( $n = 730$ ; 372 female; 60.8 years old) were assessed through an online survey administered via COPD patient organizations in Germany. Patients filled in the German nine-item version (SOC-L9) of Antonovsky's Sense of Coherence Scale, the Resilience Scale (RS-13) and the 7-item short version of the social support questionnaire (German: Fragebogen zur sozialen Unterstützung, FSzou-k7). To assess the quality of life, Patients filled in the COPD-Disability Index (CDI) and the Short-Form-Health Survey (SF-12). Depression and anxiety were assessed with the Patient Health Questionnaire (modules: GAD-7, PHQ-9).

#### **Results**

The authors used a structural equation model in order to simultaneously examine the impact of psychological resources on psychological comorbidities and quality of life in COPD patients. Within this model, moderating and mediation influences were examined. The model supports the relevance of the psychological resources for psychological comorbidities and quality of life in COPD patients.

#### **Discussion**

The present study shows that psychological resources act as protective factors in COPD and might help people to adjust to their chronic disease. Since this was a cross-sectional online study, future studies should use a longitudinal design and examine psychological resources with outcome criteria such as hospital admissions (due to psychological comorbidities as well as due to exacerbations), further aspects of quality of life and mortality.

### **Group Acceptance and Commitment Therapy (ACT) for Patients with Chronic Pain**

**M. Cristina Miyazaki, FAMERP Medical School, Brazil**

**Eduardo Miyazaki, Hospital de Base, Brazil**

**Roberto Banaco, Associacao Paradigma, Brazil**

#### **Introduction**

Chronic pain is one of the main causes of demand for healthcare. Medication, the first line of treatment for chronic pain, has been linked to some negative consequences, such as opioid dependence, leading to a growing interest on psychosocial treatments. Objective: To assess psychological inflexibility, pain intensity, quality of life, anxiety and depression symptoms, self-efficacy and social support among patients with chronic pain pre- and post-intervention in a group based Acceptance and Commitment Therapy (ACT).

#### **Method**

Method: Quasi-experimental study with pre and post-test. Patients screened for the Pain Clinic, in 2017, were invited to participate in the study. Out of the 16 who agreed to participate and met the inclusion criteria, six participated in the intervention: eight sessions of 90 minutes of ACT in group, one session per week, with pre- and post-intervention evaluation with the following instruments: Acceptance and Action

Questionnaire II (AAQ-II), Brazilian version, Visual Analogue Pain Scale (EVA), SF-36 Quality of Life (QoL) Inventory, Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI), Self-efficacy Scale for Chronic Pain CPSS) and Social Support Scale (MOS).

#### **Results**

Patients (n=6) mean age was  $52,16 \pm 5,63$ ; mean time with pain was  $11,5 \pm 5,78$  years and five of them used morphine. After the intervention there was a reduction in psychological inflexibility ( $36,6 \pm 5,7$  pre and  $18,6 \pm 12,54$  post) but four out of six patients ended up below the clinical score; there was a significant reduction in pain ( $p = 0,026$ ), improvement in QoL (SF-36) for Functional Capability ( $p = 0,003$ ), Pain ( $p = 0,046$ ), Vitality ( $p = 0,010$ ), Social Aspects ( $p = 0,010$ ), Emotional Aspects ( $p = 0,022$ ) and Mental Health ( $p = 0,003$ ); significant reduction in anxiety (BAI) symptoms ( $p = 0,028$ ) and depression (BDI) symptoms ( $p = 0,028$ ); improvement in self-efficacy scores ( $p = 0,028$ ), self-efficacy for pain management ( $p = 0,027$ ), functionality ( $p = 0,046$ ) and other symptoms ( $p = 0,028$ ); the social support score also increased but with no statistical significance. An inverse correlation between QoL, depression symptoms, domains of QoL, and psychological inflexibility was found.

#### **Discussion**

Data shows that group based ACT intervention seems a promising intervention to be integrated in the interdisciplinary treatment provided for Chronic Pain.

### **A Pilot Study to Evaluate the Effectiveness of a Cognitive-Behavioral Intervention on Chronic Pain Patients from Córdoba (Argentina)**

**Luciana Moretti & Leonardo Medrano, Universidad Siglo 21, Brazil**

**Heinz-Dieter Basler, Philipps Universität Marburg, Germany**

#### **Introduction**

Although it is well-known that cognitive-behavioral therapy is efficacious for the treatment of chronic pain (CP) patients, studies that have evaluated its efficacy lose external validity because the scenario used in these investigations are highly different from natural settings. Likewise, the results found so encouraging were generally from studies that evaluate the efficacy of cognitive-behavioral therapy in contexts and with methodological designs that allow to control or exclude variables that may bias the results. Although these studies are strong in the internal validity of their methods, they lose ecological validity because they have little resemblance in the way they are administered to everyday clinical practice in the ambulatory and clinical settings of professionals. For that purpose, the aim of this study is to determine the effectiveness of a cognitive-behavioral treatment for patients with chronic pain from Córdoba (Argentina) in a natural ambulatory setting.

#### **Method**

A quasi experimental design with no control group was implemented, in which a 14-session treatment program was used with 6 patients with chronic pain. No exclusion criteria were applied to participants, all participants who enrolled in the treatment received it.

#### **Results**

After the treatment, participants showed statistically significant reductions on the 'worst pain experienced' and on 'average pain'. Moreover, patients exhibited increments on health-related quality of life related to 'role limitations due to emotional problems', 'emotional wellbeing', 'loss of energy and fatigue' and 'social functioning'. Effect size measures revealed to be from moderate to big (d between .44 and .81).

#### **Discussion**

These results suggest that the treatment program administered showed to be effective to diminish perceived pain and to improve health quality of life among chronic pain patients. While the results of the pilot study are encouraging, evaluation of this program is required in a larger number of participants.

### **Self-Rating of Capacity Limitations in Mental Disorders: The Mini-ICF-APP-S**

**Beate Muschalla, TU Braunschweig, Germany**

**Michael Linden, Laila Keller & Nils Noack, Charité Berlin, Germany**

#### **Introduction**

Chronic illness must not only be described on the level of symptoms, but in respect to capacity restrictions and disability. This reflects a bio-psycho-social understanding of illness as outlined also in the ICF (WHO, 2001). For the measurement of capacities special instruments are needed, such as the Mini-ICF-APP, an internationally validated and used observer rating instrument.

#### **Method**

Additionally to the observer rating, the self-rating Mini-ICF-APP-S has been developed, which covers 13 capacity dimensions, "soft skills", which are of relevance in mental disorders. Data from a clinical sample (N=1143) and a general population survey (N=102) are reported.

#### **Results**

Relevant differences in self-reported capacity levels are found between clinical and non-clinical samples, different diagnostic groups, patients who are unfit or fit to work, younger and older persons, males and females. For example, men perceived stronger assertiveness, while women see themselves stronger in relationships. Patients who were presently unfit for work see their overall capacity level lower than patients who were fit for work. From the patient sample, 31% reported a strong impairment in at least one psychological capacity dimension. The strongest capacity impairment was reported by patients with complex disorders (personality disorders, organic disorders), lowest impairment was perceived by patients with eating disorders or specific reactive disorders or phobias.

#### **Discussion**

The Mini-ICF-APP-S is an economic short rating for the patient's self-report of 13 established psychological capacities.

### **Emotional State and Quality of Life in Breast Cancer Patients: Examining the Moderation Effect of Psychological Inflexibility**

**Ivana Novakov, Oncology Institute of Vojvodina, Serbia**

**Zdenka Novović, University of Novi Sad, Serbia**

#### **Introduction**

The process of breast cancer diagnosis and treatment is accompanied by intensive emotional stress - around one-third of breast cancer patients manifest high levels of distress one year after diagnosis or longer (Vahdaninia, Omidvari, & Montazeri, 2010). Literature suggests that psychological flexibility may have protective role regarding distress, for a range of different physical conditions, including breast cancer (Mojtabaie & Asghari, 2014). The psychological flexibility involves a readiness to experience unpleasant inner contents in an accepting and

nonjudgmental manner, while psychological inflexibility implies an excessive negative evaluation of unwanted thoughts, emotions, and sensations, unwillingness to experience these contents, and increased efforts to control or avoid them (Hayes, 1994). As findings on the role of psychological flexibility in the context of cancer are still scarce, the aim of our study was to explore if psychological (in)flexibility may have a moderation role in the relation between emotional state and quality of life in breast cancer patients.

#### **Method**

The study was conducted on 64 women during adjuvant radiotherapy for breast cancer at Oncology Institute of Vojvodina (Mean age = 58,36; SD = 11,30). Psychological inflexibility was measured with Serbian adaptation of Acceptance and Action Questionnaire II (AAQ II; Bond et al., 2011), emotional state of patients was assessed with Depression, Anxiety and Stress Scales 21 (DASS 21; Lovibond & Lovibond, 1995), while quality of life was evaluated with The Quality of Life Instrument – Breast Cancer Patient Version (QOL-BC; Ferrell, Dow, & Grant, 1995).

#### **Results**

Three moderation analyses were performed with depression, anxiety and stress as predictors, quality of life as criterion, and psychological inflexibility as moderator. All three analyses resulted in statistically significant models. In the first model,  $F(3,60)=19.92$ ,  $p<.001$ , the significant direct effect of depression was obtained,  $b=-14.24$ ,  $p<.001$ , and interaction effect was also significant,  $b=.42$ ,  $p<.001$ . Likewise, in the second model,  $F(3,60)=21.14$ ,  $p<.001$ , the main effect of anxiety was detected,  $b=-16.61$ ,  $p<.001$ , while interaction effect was significant as well,  $b=.47$ ,  $p<.001$ . In the last model,  $F(3,60)=17.51$ ,  $p<.001$ , only the main effect of stress was significant,  $b=-8.39$ ,  $p=.003$ .

#### **Discussion**

Our findings suggest that anxious and depressive mood of cancer patients differently affects their quality of life on different levels of psychological flexibility. The higher psychological flexibility – the better is quality of life, when anxiety and depression symptoms are low or moderate. It means that when patients accept their mood symptoms, even when they are prominent, they can live their lives with purpose and satisfaction. The direct effect of stress, without moderation of psychological flexibility, might be the consequence of somatic nature of stress symptoms which could not be so easily accepted. Our results go in line with previous findings supporting the hypothesis that psychological flexibility may have a protective role in the context of distress and quality of life of breast cancer patients. These findings are also promising in the sense that interventions aimed at strengthening psychological flexibility in breast cancer patients could be of great benefit in order to improve their quality of life.

### **Health Professionals' Understanding of and Attitudes Towards Treating Non-Epileptic Attack Disorder**

**Keira O'Dell, Salford Royal Hospital, United Kingdom**

#### **Introduction**

Non Epileptic Attack disorder (NEAD) is a complex clinical phenomenon; each case is carefully formulated and investigated, with a particular emphasis on triggers, teaching grounding techniques and increasing access to the unconscious drivers. How NEAD is treated is critical to recovery; however, little research has been completed to investigate professionals' understanding and how they feel about treating the complexity. This research investigated professionals' (N=47) understanding and attitudes to treating NEAD.

#### **Method**

Participants completed a questionnaire designed to establish the level and nature of professional education, supervision of NEAD within the service they work for, the degree of comfort and anxiety about treating NEAD, and whether they feel competent in its treatment. These participants were selected based on their working in services in which they would likely be referred people with NEAD. As the quantitative data were normally distributed it met the assumptions of a parametric test.

#### **Results**

Backwards elimination regression analysis revealed that comfort in treating NEAD and appropriateness of supervision were significant predictors of perceived competence in treating NEAD, both associated with increased perceived competence with a large effect size. However, anxiety about treating NEAD did not significantly predict perceived competence, evidenced by its removal in the second step of the regression, not significantly changing the R-squared value.

#### **Discussion**

This study investigated the contribution of several factors related to working with NEAD and found that health professionals' perceived competence is likely to be higher if they are in receipt of appropriate supervision and factors are in place that make them feel comfortable in treating NEAD. Anxiety of the professional did not have an effect.

### **The Experience and Expression of Anger in Patients with Somatic Symptom Disorders and Their Partners**

**Zeynep Emine Okur Gueney, Johannes Gutenberg University of Mainz, Germany**

**Heribert Sattel, Technical University of Munich, Germany**

**Michael Witthoeft, Johannes Gutenberg University of Mainz, Germany**

**Peter Henningsen, Technical University of Munich, Germany**

#### **Introduction**

Somatic symptom disorders (SSD) are characterized by distressing bodily disturbances causing significant dysfunction. Excessive thoughts, feelings and behaviors accompany the symptoms. Previous research has confirmed a link between anger regulation difficulties and SSD with predominant pain (Fernandez and Turk, 1995; Burns, Quartana & Bruehl, 2011; van Middendorp et al., 2010). However, there is little known whether anger regulation difficulties are also observed in patients' partners. This study aimed to examine anger experience and expression of patients with SSD with predominant pain, their partners and pain-free healthy controls.

#### **Method**

The German version of the the Spielberger Anger Expression Inventory (STAXI; Schwenkmezger, Hodapp, & Spielberger; 1992) was administered to 22 patients (16 women and 6 men with mean age±SD of 42,7 ± 8,6) with persistent somatoform pain` (ICD-10 F45.40 or ICD-10 F45.41), partners of the patients (N=22, mean age±SD of 46,9 ± 8,2) and 34 healthy controls (16 women and 14 men with mean age±SD of 35,9 ± 12,2). The scale examines state (state-anger) and trait anger experience (trait-anger) with sub-scales of anger temperament and anger reaction in response to provocation, as well as outward uncontrolled expression (anger-out), suppression of anger (anger-in) and control of anger (anger-control).

## Results

A one-way between-groups analysis of variance was conducted to examine the impact of group membership (e.g. patient, partner, healthy control) on STAXI subscales. Except state anger and total STAXI scores, statistically significant between-group differences were found in trait anger,  $F(2, 75) = 6.54, p = .002$ ; and anger-temperament,  $F(2, 75) = 7.66, p = .001$ ; anger reaction,  $F(2, 75) = 3.34, p = .04, 2$ ; anger-in,  $F(2, 73) = 3.68, p = 0.3$ ; anger-out,  $F(2, 73) = 5.29, p = .007$ ; and anger control,  $F(2, 71) = 4.01, p = .02$ . Post-hoc group comparisons using the Bonferroni correction indicated that at each anger regulation domain, the mean score for patients was significantly higher than those of healthy controls. The only difference between patients' and their partners' anger regulation style was revealed in temperament scores, which was higher in the patient group. No difference was found between patients' partners and healthy controls in any of the STAXI subscale or total scores.

## Discussion

The present study could replicate the previous findings, which have reported elevated anger experience and dysregulated anger expressivity in patients with chronic pain compared to healthy controls. However, such a difference between patients and healthy controls was not found between patients and their partners, suggesting that patients' partners might also play a potential bi-directional role in anger regulation difficulties of patients.

## Self-Help Cognitive Behavioural Therapy for Insomnia (CBTi) for Adults: Mapping the Therapeutic Structure of Available CBTi Programs

Alissa Pencer, Rebecca Tucker, David Gardner & Andrea Murphy, Dalhousie University, Canada

### Introduction

Insomnia disorder is common with 6-10% of the adult population meeting DSM-5 criteria and up to one-third reporting symptoms (American Psychiatric Association, 2013). Cognitive behavioural therapy for insomnia (CBTi) is recommended as first-line intervention for insomnia. The effectiveness of self-help CBTi options, including those delivered via the internet, has been demonstrated in recent clinical trial findings (Seyffert et al., 2016). Importantly, these convenient approaches provide benefits while overcoming barriers to traditional, in-person CBTi. However, before promoting the widespread use of self-help CBTi programs, it is important to map the structure of the CBTi programs currently being researched. Using a scoping review approach, the current study aims to identify and characterize the available self-help CBTi resources for adults with insomnia.

### Method

The primary focus of this poster presentation will be on mapping the number of self-help CBTi programs used across the research literature, whether they include one or more of the five core CBTi components (stimulus control, sleep restriction, sleep hygiene/education, relaxation, and cognitive techniques), and what those components look like in relation to established CBTi protocols. The presentation will also provide a quick snapshot of any related research literature and how outcomes may change across studies including different core components. A scoping review framework following six stages as outlined by Arksey and O'Mally (2005) underpins the review process. The keywords for the searches were developed by the research team in consultation with a librarian. Studies for inclusion were limited to those that had adult participants, English-language publication, and self-directed CBT specifically for insomnia with at least one core CBTi component.

### Results

Seven databases were searched, finding 3,735 entries that potentially fit the inclusion criteria. After removing 1,181 duplicate entries and excluding another 1,995 through the initial title and abstract screening, 551 entries were included in the full-text review. Of those 551 entries, 137 were excluded and 221 were not available. Data extraction on the 190 remaining entries is ongoing.

### Discussion

Our scoping review of self-help CBTi interventions for adults will provide important information about how well current self-help CBTi programs align with established CBTi protocols, as well as mapping the related research literature and noting any gaps in the programs and research currently available. This process will provide a comprehensive overview of the self-help CBTi landscape for both research and practical/clinical purposes.

## The Perceived Causes of Illness, Anxiety, and Depression in Cardiac Patients

Alessandra Pokrajac-Bulian, Miljana Kukic, Tamara Mohoric & Petra Anic, University of Rijeka, Croatia

### Introduction

Cardiovascular disease (CVD) is the leading cause of death not only in western, industrialized countries, but also in transitional countries, like Croatia. The development of CVD can be affected by psychological factors such as the emotional states of anxiety and depression (Dorian & Taylor, 1984). Depression tends to take a chronic course, and comorbid anxiety disorders are common in CVD and add to the disease weight (Witcher et al., 2000). The aim of this study was to determine the significance of the perception of causes of illness in relation to the negative affect in patients with CVD.

### Method

A total of 177 CVD patients (29% women) participated in the study. The age ranged from 32 to 89 years ( $M = 63.40, SD = 11.78$ ). The Croatian version of the Perceived Causes of Illness Scale, the subscale of the IPQ-R (Illness Perception Questionnaire-Revised, Moss-Morris et al., 2002) has been adapted and verified. Using CFA, we compared two proposed models. Three-factor model showed better fit to the data compared to the original four-factor model. The three factors distinguish among attributions of the causes of the illness to: personal problems, uncontrollable factors and general risk factors.

### Results

Using LPA analysis, patients were divided into two groups: the first group consisted of those who generally do not think about the causes of their illness, and they don't tend to attribute illness causes to any factors, while the other group consisted of patients who think about the possible causes and attribute them to various factors. Significant differences in anxiety and depression have been obtained between these two groups of patients. Patients who think more about the causes of their illness were also more anxious and depressed, compared to the patients who do not think about the possible causes of their illness.

### Discussion

We can conclude that in counselling and therapeutic work it is important to recognize the tendency to think more frequently about possible causes of the illness, because attributions can lead to the higher levels of emotional disturbance (e.g. depression and anxiety), which is also associated with worse outcomes of heart disease.

## **Well-Being in Persons with Severe Mental Disorders: Is There Room for Interventions?**

**Natalia Poyato & Carmen Valiente, Complutense University, Spain**

**Jennifer Gottlieb, Boston University, USA**

**Antonio Perdigon, Fundacion Manantial, Spain**

**Carmelo Vazquez, Complutense University, Spain**

### **Introduction**

Despite the well-known World Health Organization (WHO) definition of health as "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity", most of indicators of health status focus on illness, disease, disability, and negative mental states rather than rates of wellness and positive functioning (Ryff, 1989). Well-being measures are sometimes included in research and practice but typically as a secondary outcome (Schrang, Bird, Tylee, Coggins, Rashid & Slade; 2013). Even though being more optimistic, having more life satisfaction, or having a better life are main therapeutic goals reported for patients (Dynamare, 2015), these are not often directly targeted in therapy. There is also meta-analytic evidence showing that, in psychosis, cognitive-behavioral interventions are effective to reduce symptoms but not to improve well-being (Martínez et al., 2019, in press). Therefore, further knowledge is needed about the features, antecedents, and limits of well-being in people with mental disorders to provide adequate treatment plans.

The main aim of this study was to investigate differences in wellbeing between a rather large sample of individuals with severer mental disorders and general population. As a secondary aim, the study analyzed the relation between traumatic events and well-being as those events seem to have a large impact on life satisfaction both in the general population (Krause, 2004) and clinical samples (Karatzias et al., 2013).

### **Method**

Data from 323 patients attending regional community mental health services (Manantial Foundation) were collected. To evaluate wellbeing, The Pemberton Happiness Index (Hervas & Vazquez, 2013), a 21-item self-report that assesses remembered and experiential hedonic and eudaimonic well-being was administered. Traumatic events were assessed by the Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000).

### **Results**

A series of correlation analyses and ANOVAs showed that patients had significantly higher scores in experiential than in remembered. Also, compared to data from the general population in the PHI, individuals with SMD significantly had lower scores of wellbeing in both subscales. In terms of diagnostic status, the results show a significant effect for type of diagnosis ( $F(4,316)=6.532, p<.000$ ). In particular, post-hoc tests showed that individuals with a diagnosis within the Schizophrenia spectrum disorder, had higher scores on the PHI than the rest of the groups, followed by personality disorder, anxiety disorders and mood disorders. The duration of the disorder was also related to well-being scores. Correlations between the time passed from the first contact with mental health services to the date of the study (mean of 17 years) and well-being scores showed a positive correlation although it did not reach significance ( $r=.036, p=.519$ ). Finally, the number of different traumatic events was negatively and significantly correlated to the PHI score ( $r=-.142, p=.011$ ).

### **Discussion**

These initial data suggest that patients have a low level of well-being regardless the time being in contact with mental health services. Also, the role of traumatic past events seems particularly relevant in these patients (Gottlieb et al., 2017) that should be treated to improve their mental health and, eventually, their feelings of well-being. A discussion of these issues, along with the possibilities of directly intervening, with evidence-based techniques, to improve well-being in patients with a SMD will be presented.

## **Treating Chronic Conditions in Public Health Facilities with Disadvantaged Patients: Challenges and Success Stories in Mexico**

**Juan Jose Sanchez-Sosa, National University of Mexico (UNAM), Mexico**

### **Introduction**

Socioeconomic conditions prevalent in developing countries tend to involve serious limitations to the effectiveness of behavioral and cognitive interventions unless specifically designed adaptations of clinical strategies are developed, applied and evaluated. A relatively high proportion of recipients of public health services miss basic skills (linked to poverty and little education) normally taken for granted under average social conditions. In this context applied researchers and therapists require to exert valuable levels of creativeness in order to adapt and apply techniques and strategies otherwise considered rather standard.

Interestingly, limitations to effective systematic interventions in developing countries stem not only from the depressed socioeconomic and educational conditions of healthcare users and their families but also from undue institutional policies and attitudes by hospital staff or authorities. These attitudes frequently arise from a long-standing rigidity often linked to an uncritical adoption of narrow bio-medical models as well as organizational characteristics seldomly evaluated regarding their efficiency.

### **Method**

Coping with these challenges requires an intelligent combination of solid professional training of cognitive-behavioral therapists, political dexterity while leading professional and research incursions into healthcare public institutions and above all, methodologically robust demonstrations of strong and durable clinical effects in the very context of those public hospitals and institutions and their disadvantaged patients.

### **Results**

The present paper describes the fifteen year evolution of one of the top graduate training programs in behavioral medicine in the Spanish-speaking world. Its transformation includes how the access of cognitive-behavioral graduates and faculty evolved from endlessly knocking on doors pleading for access to hospital services as clinical training sites, to a systematic regard of graduates as highly appreciated professional and research assets in eight flagship public specialized hospitals in Mexico City. These hospitals' authorities now pursue contact with the graduate program offering specialized health services as formally acknowledged training sites.

### **Discussion**

This evolution includes the description of training-linked clinically successful interventions on such pervasive health problems as diabetes, hypertension, heart disease, breast cancer, chronic pain, asthma, intensive care, GAD, bone cancer, HIV and, more recently, burnout and stress management in medical residents and nurses. This UNAM graduate program's standing with Mexico's National Council for Science and Technology has allowed for directly financing students through scholarships and widening its scope to international students.

## **A Qualitative Examination and Theoretical Model of Anxiety in Adults with Epilepsy**

**Amelia Scott, Louise Sharpe, Zoe Thayer & Laurie Miller, The University of Sydney, Australia**

**Toh Wong, Kaitlyn Parratt & Armin Nikpour, Royal Prince Alfred Hospital, Australia**

### **Introduction**

There is an elevated prevalence of anxiety disorders among people with epilepsy, and the co-morbidity of anxiety in epilepsy is associated with adverse medical and psychosocial outcomes. Despite its importance, little is known about what psychological or clinical epilepsy factors may be associated with the development of anxiety. The aim of this qualitative study was to determine what factors may explain why some people with epilepsy develop anxiety disorders and others do not.

### **Method**

Adults with epilepsy were recruited from an outpatient epilepsy service. Semi-structured interviews were conducted with 26 participants, 15 of whom reported clinically significant levels of anxiety. Grounded theory analysis was used to develop a theoretical model of anxiety development in the context of epilepsy.

### **Results**

Qualitative analyses revealed a number of processes that appeared to account for the development of anxiety in the context of epilepsy. These included inflated estimates regarding epilepsy-specific risks and excessive attempts to avoid these risks. Such excessive avoidance often resulted in greater interference with participants' role functioning, thus risking ongoing quality of life. A number of pre-morbid and contextual factors also appear to be implicated in the development of anxiety.

### **Discussion**

This investigation provides a comprehensive account for the development of anxiety in epilepsy, which is consistent with existing cognitive behavioural theories of anxiety development and maintenance. Importantly, this model provides a foundation for future research and appropriate treatment strategies to address anxiety in people with epilepsy.

## **Relationship Between Personality Factors, Dissociation, and Body Anthropometric Measures**

**Milos Slepecky, Constantine the Philosopher University in Nitra, Slovakia**

**Jan Prasko, University Palacky Olomouc, Czech Republic**

**Ivan Majercak, Pavol Josef Safarik University in Košice, Slovakia**

**Tomas Solar, Antonia Kotianova & Marta Popelkova, Constantine the Philosopher University in Nitra, Slovakia**

**Michal Kotian, Psychagogia, Slovakia**

### **Introduction**

Psychological parameters, like temperament and character traits, level of dissociation, could play a role in the development of overweight, that is associated with the risk of developing cardiovascular disease. The processing of the visceral afferent signals has the potential to enhance our understanding of overweight and obesity. Emotional eaters were characterized by a heightened interoceptive signals but reduced meta-cognitive awareness of their interoceptive abilities, which could be connected with dissociation. The investigation aimed to explore the association between dissociation, personality traits, and anthropometric characteristics.

### **Method**

227 participants took part in this cross-sectional study and completed the Temperament and Character Inventory-Revised (TCI-R), Dissociative Experience Scale (DES), and a demographic questionnaire. The anthropometric parameters were measured: Waist/Height ratio, Waist/hip ratio, Body fat percent and Visceral fat percent. To detect relationships between personality traits, dissociation, and anthropometric measures, partial correlation and backward stepwise regression, controlling for age, was calculated.

The average age was 39.6 + 12.9 years. There were more women (n=137; 60.4 %) than men. The 41.8 % of participants were overweight or obese (n=95).

### **Results**

Novelty-seeking (NS) weakly negatively correlates with Body fat percent and Visceral fat percent in women, but not in men. Regression analysis found significant link between Harm-avoidance and Waist/height ratio, Waist/hip ratio, and in women, but also not in men. The regression analysis confirms result in women and in men found significant link between Reward-dependence and Body mass index, Waist/height ratio, Waist/hip ratio and Visceral fat percent. According the multiple regression analysis there is a significant relation between Self-directedness and Waist/height ratio in men. In regression analysis, the links between a level of dissociation measured by DES and Waist/height ratio, Waist/hip ratio, Body fat percent and Visceral fat percent in men were found.

### **Discussion**

Significant associations between personality traits, dissociation and body anthropometric measures were recognized.

## **Cognitive-Behavioural Group Therapy for Chronic Pain Patients: Issues and Challenges**

**Alain Souche, Valérie Piguet, Jules Desmeules & Christine Cedraschi, Geneva University, Switzerland**

### **Introduction**

Cognitive and behavioral techniques (CBT) are used in the approach of chronic pain, based on the assumption that pain and disability are not (only) influenced by somatic issues but also by psychosocial factors. CBT aims at improving quality of life while targeting disability.

Psychoeducation, activity-centered and cognitive techniques are central, drawing on the identification of an activity that is not only important and meaningful for the patient but also realistic.

### **Method**

In a previous study conducted in our group, semi-structured interviews investigating patient's views about engaging in group CBT indicated that participants' expectations were satisfied, except for pain decrease (Gurny et al, 2009). Although they may have often negatively anticipated the group situation, all patients evaluated positively the experience: they felt less lonely, listened to and understood by the other participants. After 3 months, 80% of the patients had modified some of their daily behaviours. After 12 months, 55% of the patients witnessed a lasting change over the impact that pain had on their life. Even if patients expect a decrease of their pain, disappointment is not an obstacle to the process of change. Issues raised during the therapy are various, encompassing fear of and complete focus on pain but also loss of activities and anger. Usual CBT techniques are used, adapted according to the specific psychotherapeutic objectives defined with the patient. This should allow the patient to overcome the impossibility to function 'as before' while figuring out how to cope 'as for now'.

## Results

We build here on our clinical experience, after having conducted four to six groups a year during the last fifteen years, each with four to eight patients (participating to an information session about the aims and means of the group therapy; seven therapy sessions; one booster session at three months follow-up).

## Discussion

The ways to explore possible alternative options during the group therapy will be presented and discussed (psychoeducation, exposure, cognitive restructuring, behavioural modeling, cognitive coping strategies), along with their benefits as described in the patients' narratives after the group therapy. Indeed, various well validated CBTs are designed to help patients change their daily life style and live better with pain. These changes include defining biophysical limits as well as meaningful and realistic activities, while identifying the emotions accompanying these activities. Beyond the CBT model, the importance of a stable therapist-patient relationship needs to be emphasized, accepting possible therapeutic failures and exploring the meaning of the painful complaint, insofar as it allows considering the complexity of taking care of these patients.

## General Threat and Health-Related Attention Biases in Illness Anxiety Disorder

Simona Stefan, Alexandru Zorila, Elena Brie & Raluca Georgescu, Babes-Bolyai University, Romania

### Introduction

Illness anxiety disorder, formerly known as hypochondria, has been conceptualized in the psychological literature as an anxiety disorder, and its dimensional correlate is usually referred to as health anxiety. Similarly to other anxiety disorders, health anxiety has also been investigated in the context of attention biases as maintaining factors. However, so far, there is little consensus in the literature concerning the types of biases most relevant to health anxiety (i.e., facilitation, difficulty in disengaging, or avoidance), and whether biases occur towards generally threatening or specific stimuli.

### Method

The current study aimed to investigate the presence of all three types of biases in relation to both general-threat and health-related threat pictures in clinical participants with illness anxiety disorder as compared to participants with low levels of health anxiety. In order to measure attention biases, we used a Posner Spatial cueing computerized task and visual stimuli.

### Results

MANOVA showed a single significance difference on the disengagement bias  $F(1,58) = 14.786$  and  $p < .00$ ,  $\eta^2 = 0.203$ , the others not reaching significance; facilitation bias,  $F(1,58) = 0.619$ ,  $p < .434$ ,  $\eta^2 = 0.011$  and avoidance bias,  $F(1,58) = 2.764$ ,  $p = .102$ ,  $\eta^2 = 0.045$ . These results imply that all participants had a greater difficulty to disengage from health threatening stimuli than from general threatening stimuli and that we couldn't evidence any significant facilitation or avoidance biases (within or between group).

### Discussion

Participants with illness anxiety disorder, as well as low anxious participants displayed higher difficulty disengaging from illness-related threat images than from general-threat stimuli. Also, neither group showed facilitation or avoidance biases towards specific or general threat stimuli. Limits and implications are discussed.

## Correlation Between Subjective Happiness and Pleasant Activities in the Workplace in Nursing Staff for Older Individuals

Shinya Takeda, Tottori University, Japan

Shigeki Nakayama, National Institute of Technology, Japan

### Introduction

Happiness and well-being at work are very important to maintain optimal mental health. The purpose of this study was to investigate the correlations between nursing staff's mental health, number of years worked, night shifts performed, and pleasant activities at the workplace were investigated. Furthermore, qualitative differences in pleasant activities at the workplace were investigated for factors that exhibited statistically significant differences.

### Method

143 nursing staff working at care facilities for older individuals who had no missing data were analyzed (mean age:  $43.4 \pm 11.3$  years; men: 40, women: 103). Questions consisted of basic attributes, subjective happiness scale (SHS) and pleasant activities in the workplace were conducted. Three-way ANOVA was performed using SHS, work experience, and night shift work as independent variables and the number of pleasant activities as a dependent variable.

### Results

Participants were divided into three groups based on the SHS score percentile (low SHS group, medium SHS group, and high SHS group) and two groups based on less than 10 years of work experience or 10 years or more of work experience. There were 53 participants in the low SHS group, 55 in the medium SHS group, and 35 in the high SHS group. There were 70 participants in the < 10 years of work experience group and 73 in the  $\geq 10$  years of work experience group. There were 72 participants who worked night shifts and 71 who did not. Results of SHS indicated a significant trend for the main effect, with more pleasant activities in the high SHS group than in the low SHS group. The main effect of working night shifts was significant, with fewer pleasant activities in participants who worked night shifts than in those who did not. The interaction was found to be significant, with fewer pleasant activities in participants in the low SHS group who worked the night shift compared to those who worked the night shift regardless of work experience. A pleasant activity category shared by groups with high subjective happiness regardless of night shift work was "reframing."

### Discussion

The outcomes of this study suggested that it is important to expand the repertoire of pleasant activities at the workplace to increase the subjective happiness of nursing staff for older individuals. Moreover, it appears that many nursing staff with high subjective happiness are implementing reframing. Reframing, which involves reconsidering things from a different viewpoint, appears to be a powerful pleasant activity that increases the subjective happiness of nursing staff for older individuals. Therefore, strategies to enable the nursing staff to easily implement reframing need to be investigated.

## **Emotional Distress in Women with Pelvic Floor Disorders: Integrating CBT in Urogynecology**

**Bayley J. Taple, Claire Weaver, Noël C. Selsinger, Kimberly S. Kenton & James W. Griffith, Northwestern University, USA**

### **Introduction**

One in four American women reports bothersome lower urinary tract symptoms (LUTS; e.g., urgency, frequency; Nygaard et al., 2008), which greatly impact their quality of life, including mental health (Coyne et al., 2009). LUTS lead to emotional distress (i.e., anxiety and depression), and in turn emotional distress can exacerbate these symptoms (Felde, Ebbesen, & Hunskaar, 2017). Current methods to treat LUTS, such as physical therapy and medications, do not address their emotional impact. As such, we are conducting an ongoing, multidisciplinary randomized control trial integrating behavioral treatment in the urogynecology context.

### **Method**

Women with bothersome LUTS and anxiety are recruited from the Northwestern Medicine Integrated Pelvic Health Program (IPHP) a transdisciplinary clinic including urogynecologists, urologists, and physical therapists. Participants (current N=13, projected N=40) are randomized to one of two interventions: cognitive behavioral therapy (CBT) or supportive therapy. All participants attend therapy once per week for 12 weeks. Assessments of LUTS, anxiety, and other indicators of psychological and physical functioning are completed at baseline, mid-treatment, post-treatment, and at 3- and 6-month follow-ups using validated instruments. As the study is ongoing, this presentation focuses on preliminary analyses of baseline characteristics.

### **Results**

At baseline, women endorsed bothersome pelvic floor symptoms, with mean $\pm$ -SD Pelvic Floor Distress Inventory (PFDI-20, possible range 0-300) score of 76.41 $\pm$ 44.34. Mean urinary subscale distress score (possible range 1-100) was 46.72 $\pm$ 22.60. Women also reported symptoms of anxiety and depression on the Patient Reported Outcomes Measurement Information System (PROMIS-29) M=58.15 $\pm$ 8.67 and M=53.78 $\pm$ 9.56 respectively. Anxiety was positively associated with symptoms of pelvic floor distress,  $r=.15$ .

### **Discussion**

Women with bothersome LUTS have symptoms of depression and anxiety that are greater than the population average. Findings supported our hypothesis, such that urinary symptoms are related to increased anxiety in this patient population. Therefore, we expect that women with bothersome LUTS will benefit from CBT. Going forward, through interdisciplinary collaboration, we plan to examine the impact of behavioral treatment on both emotional distress and urinary symptoms.

## **Guided Internet-Based Cognitive-Behavioral Therapy for Patients with Rheumatic Conditions: A Systematic Review**

**Jessy Terpstra, Rosalie van der Vaart, He Jie Ding, Margreet Kloppenburg & Andrea Evers, Leiden University, the Netherlands**

### **Introduction**

Rheumatic conditions are complex chronic pain conditions, often characterized by adjustment problems, such as anxiety and depression, distress, sleep problems, and fatigue. Internet-based cognitive-behavioral therapy (iCBT) has shown to support self-management of patients with somatic and mental conditions. The objective of our review was to evaluate the effect of guided iCBT for rheumatic conditions, examining psychological, disease-related physical, and impact on daily life outcomes.

### **Method**

PubMed, PsycINFO, and Embase were searched by two independent raters, combining search terms indicative of rheumatic conditions, the internet, and cognitive-behavioral therapy. Studies were included if they met the following criteria: patients  $\geq$ 18 years old with a rheumatic condition, randomized controlled trial, English language, access to the full-text article, published up until July 2017, 20 or more participants in each condition, original data, internet treatment based on cognitive-behavioral therapy, therapist-guided. Study and sample characteristics as well as clinical variables were extracted.

### **Results**

A systematic search identified 4639 studies, of which 6 trials were included. In five out of five studies that reported between-group effects for psychological outcomes, medium to large effects were found. In three out of five studies that measured disease-related physical outcomes small to large effects were found, whereas two out of five found no significant effects on these outcomes. In two out of two studies that measured impact outcomes medium to large effects were found.

### **Discussion**

Findings suggested that guided iCBT for rheumatic conditions can be effective, particularly regarding psychological outcomes. The potential of iCBT, especially to improve physical and impact on daily life outcomes in rheumatic conditions needs to be further examined.

## **Availability and Efficacy of Psychological Interventions for People with Childhood-Onset Heart Disease and Their Families**

**Stephanie Tesson, The Sydney Children's Hospitals Network and The University of Sydney, Australia**

**Phyllis Butow, The University of Sydney, Australia**

**Gary Sholler, The Sydney Children's Hospital Network and The University of Sydney, Australia**

**Louise Sharpe, The University of Sydney, Australia**

**Adrienne Kovacs, Oregon Health & Science University, Australia**

**Nadine Kasparian, The Sydney Children's Hospital Network and The University of New South Wales, Australia, and Harvard University, USA**

### **Introduction**

Diagnosis and treatment of childhood heart disease is a major source of stress. Families face a range of unique stressors, including complex treatment decision-making and demands, uncertainty about the future and for some, prolonged periods of separations during hospitalisation. Parents of children with heart disease report marked psychological stress, including elevated rates of anxiety, depression and traumatic stress. Children and adolescents experience a greater risk of neurodevelopmental impairment compared to their healthy peers, as well as higher rates of internalising and externalising difficulties which may persist into adulthood. Clinical guidelines recommend accessible and evidence-based mental health care for people with childhood-onset heart disease and their families, but the availability, format, and efficacy of psychological interventions is largely unknown. We aimed to identify, synthesise and critically evaluate the evidence on psychological interventions for this population, and provide evidence-based recommendations for health policy, practice and research.

## **Method**

Six electronic databases were systematically searched for English language studies. Eligible studies reported on: (1) a controlled trial of a psychological intervention; designed for, (2) children, adolescents, or adults with a childhood-onset heart condition (congenital heart disease, inherited arrhythmias, cardiomyopathies), and/or their family members. Outcomes included: intervention type (i.e., theoretical model, content, format, delivery mechanism), intervention efficacy (i.e., changes in anxiety, depression, psychological distress, coping, quality of life, neurodevelopment, physical health, family functioning), and cost-effectiveness.

## **Results**

Nine psychological interventions were identified. Of these, one trial evaluated parent-infant psychotherapy, four interventions involved parent-child dyads (three aimed at procedural preparation, one aimed at school readiness), and four trials tested a psychological intervention for adolescents or adults. Intervention content, format and theoretical orientation varied markedly within and across trials, ranging from 1-12 sessions, using a combination of online and face-to-face modalities, and with most incorporating blended components of psycho-education, cognitive-behaviour therapy, supportive counselling, problem-solving therapy, mindfulness or relaxation. Psychological therapy was most commonly delivered by a multidisciplinary team, as an adjunct to medical or allied health care. Parent-infant psychotherapy showed some promise in improving maternal mental health; however, evidence of efficacy was generally limited and most trials lacked methodological rigour.

## **Discussion**

Despite strong evidence for psychological care for people with other chronic illnesses, this review revealed the limited availability and efficacy of interventions for people with childhood-onset heart disease and their families. Lack of access to timely and effective psychological interventions can compromise neurodevelopmental, psychological, social, academic and occupational functioning, and quality of life. Establishing an evidence-base of high-quality psychological interventions represents an urgent priority for this population. This necessitates development of conceptual frameworks to guide intervention development and subsequent testing in methodologically-robust trials. Research would benefit from examining efficacy using longitudinal assessments of mental health with clinical cut-offs, and exploring processes and mechanisms underlying treatment effects. Cost-effectiveness measures would assist in determining feasibility, sustainability and impact of implementation.

Our review provides a platform for developing psychologically-informed interventions for this highly vulnerable population of people with childhood heart disease and their families. Conceptually-driven frameworks and methodologically robust research designs are needed to enhance the evidence-base.

## **Mother-Infant Interaction and Dyadic Synchrony Following Diagnosis and Treatment of Complex Congenital Heart Disease**

**Stephanie Tesson & Gary Sholler, The Sydney Children's Hospitals Network and The University of Sydney, Australia**

**Claudia Nielson-Jones, The Sydney Children's Hospitals Network, The University of Sydney and University of New South Wales, Australia**

**David Winlaw, The Sydney Children's Hospitals Network and The University of Sydney, Australia**

**Nadia Badawi, The University of Sydney and The Children's Hospital at Westmead, Australia**

**Nadine Kasparian, The Sydney Children's Hospitals Network and The University of New South Wales, Australia, and Harvard University, USA**

## **Introduction**

Congenital heart disease (CHD) affects 1 in 110 newborns and about 25% of these babies undergo lifesaving surgery before 6 months of age. Diagnosis and treatment of complex CHD is associated with a range of potential challenges during the perinatal period, including family and parental adjustment to a 'new normal', periods of parent-infant separation, the infant's need for hospitalisation and invasive medical procedures, and difficulties with infant feeding, sleeping and settling. Parents also report marked psychological distress, often manifesting as elevated rates of depression, anxiety and post-traumatic stress. Early life adversity is a well-known risk factor for disruptions to the mother-infant relationship, laying the foundations for infant brain development, immune system functioning and self-regulatory capacities. Despite this, limited research has examined how cardiac diagnosis and treatment may influence the developing mother-infant bond. This prospective case-control study aimed to investigate the nature and quality of infant-mother interaction following CHD diagnosis, and determine how biopsychosocial factors may influence relational outcomes.

## **Method**

Using a prospective cohort design, this study invited mothers of babies with: (1) a fetal or postnatal diagnosis of complex CHD, receiving treatment at the Sydney Children's Hospitals Network, or (2) a healthy fetal morphology scan at 18-22 weeks gestation, receiving antenatal care at Westmead Hospital or the Royal Hospital for Women, Sydney, Australia. Participants completed a structured neuropsychiatric interview during pregnancy (fetal cardiac diagnosis and healthy controls) or at 3-months postpartum (postnatal cardiac diagnosis), and validated questionnaires at 32-weeks gestation, 3- and 6-months postpartum. Questionnaires assessed a range of biopsychosocial variables, including: social determinants of health, pregnancy and birth-related factors, and psychological factors, such as anxiety, depression, post-traumatic stress, attachment style, mother-baby bonding, coping styles and family functioning. Medical risk factors were collected via medical records. Infant-mother interaction was assessed at 6-months using the CARE-Index. This videotaped play interaction identifies patterns of maternal and infant behaviour, and the quality of the dyadic relationship (dyadic synchrony).

## **Results**

Data analysis is underway and preliminary findings will be reported at the conference. Descriptive statistics will be used to determine the prevalence of mother and infant patterns, and levels of dyadic synchrony, with analysis of variance used to explore between-group differences (CHD diagnosis vs. no diagnosis). A series of sequential regression models will then be used to examine the association between dyadic synchrony and biopsychosocial factors, aiming to determine the unique contribution of CHD-specific factors to dyadic synchrony scores, over and above social determinants, pregnancy and birth-related factors, and psychological factors.

## **Discussion**

Results will expand our currently limited understanding of how life-threatening illness during infancy may influence the developing infant-mother relationship. Findings will also assist in characterising how the diagnosis of complex CHD affects patterns of mother and infant behaviour and levels of dyadic synchrony, and assist in identifying risk and protective factors for disruptions to the infant-mother relationship. Vitaly, this research will inform the development of conceptually-driven models to improve screening and early identification of 'at risk' dyads following cardiac diagnosis, and guide the development of tailored, evidence-based interventions for primary prevention and early intervention in the perinatal period.

## **Risk Factors for Development of Post Donation Fear of Kidney Failure in Living Kidney Donors: A Ten-Year Study**

**Xavier Torres & Ana Menjivar, Hospital Clinic de Barcelona, Spain**

**Isabel Delgado, Hospital Universitario 12 de Octubre, Spain**

**Teresa Rangil & Laura Cañas, Hospital Germans Trias i Pujol, Spain**

**Mireia Musquera, Hospital Clinic de Barcelona, Spain**

**James Rodrigue, Harvard Medical School, USA**

### **Introduction**

Transplantation from the unselfish donation of living kidney donors (LKDs) is a safe and the best treatment for end-stage renal disease. However, inferences about the safety of LKDs might overlook relevant psychological variables. Among them, the impact of fearing the failure of the non-donated kidney is still unknown. For this reason, we aimed at characterizing those living donors who develop higher fear of kidney failure after donation.

### **Method**

208 living kidney donors (LKDs) were randomly selected and stratified by year of donation (2005-2015). 174 general population participants without history of, or a current renal disease and/or without first-degree relatives suffering a renal disease were recruited as comparison group.

Correlations between the Fear of Kidney Failure Questionnaire (FKF) and anxiety, depression, and fear-related personality dimensions were calculated. LKDs and general population participants were grouped by Cluster Analysis of the FKF scores. Clusters were compared on demographic and clinical variables to describe those LKD and general population participants with higher scores in the FKF. Clusters were further characterized by calculating the most specific logistic regression models.

### **Results**

The FKF was positively correlated with depressive and anxiety symptoms, and neuroticism.

The Cluster Analysis classified LKDs into three groups: low (68%), moderate (20%), and high fear of kidney failure (12%).

Groups did not differ in demographics or donation outcomes. However, higher FKF scorers were less satisfied with the experience of donation, showed a higher percentage of potential cases of depressive and anxiety disorders, higher scores in neuroticism, and needed to be visited both by the Nephrologist and the Family Physician.

Once controlled the effect of depressive or anxiety symptoms, FKF higher scorers were best characterized by higher scores in neuroticism. These results were not replicated in the general population subgroup.

### **Discussion**

Post donation fear of kidney failure is infrequent among LKDs. However, a subgroup of them, best characterized by a higher neuroticism, shows a high fear of non-donated kidney failure, a worse quality of life, and might present with anxiety and depressive disorders. This characterization seems specific to LKDs.

## **Long-Term Effects of Munchausen by Proxy on Victim's Health: A Case Report**

**Christina Totzeck, Verena Pflug & Juergen Margraf, Ruhr University Bochum, Germany**

### **Introduction**

Munchausen by proxy (MbP) as a factitious disorder is characterized by a distinct behavioral pattern: A caregiver, mostly the mother, induces physical or psychological symptoms in people under their care. So far, the diagnosis is still understood very poorly. Furthermore, it remains infrequently reported in later life, specially concerning the impact on the victim's physical and psychological health.

### **Method**

Here, we report a case of an older adult who was raised by a MSBP patient and developed herself factitious symptoms. The 54-year-old woman suffered from induced knee pain and stiffness as well as from several anxiety disorders. We decided to include the patient in an anxiety study that offered an exposure-based and intensified CBT. Therapy was conducted individually in 12 sessions that were given over a span of 7 weeks, with each session lasting 100 minutes. 2 and 4 months after the last session, booster sessions were administered, also lasting 100 minutes.

### **Results**

The post-treatment data as well as the data from the 6-months follow-up tended to show that the patient did not meet the diagnostic criteria for anxiety disorders and depression. In addition, the HAM-A score fell to 8, the BDI-II scored 0.

### **Discussion**

The case report symbolizes an example of the serious short- and long-term effects of MSBP on victims. In addition, results show, that CBT was a useful treatment reducing not only the anxiety and depressive disorders but also the factitious disorder according to the DSM-IV criteria and self-report instruments. CBT helped to improve the patient's quality of life and was considered to be an acceptable intervention for the patient, with ongoing positive results six months after the last session of psychotherapy. This finding is consistent with the few reports on the effectiveness of CBT in factitious disorders.

## **Blended Treatment for Health Anxiety: A Pre-Post Intervention Pilot Study**

**Sipke Douma, Pro Persona, the Netherlands**

**Sako Visser\*, University of Amsterdam, the Netherlands**

### **Introduction**

Excessive health anxiety is a persistent disorder that is associated with high levels of distress, impairment and health costs. Health anxiety encompasses inappropriate and persistent worries about health-related fears that arise when bodily sensations or changes are misinterpreted and believed to be dangerous symptoms of a serious disease. In the DSM-IV it is generally classified as 'Hypochondriasis' and in the DSM-5 health anxiety is represented using the classifications 'somatic symptom disorder' and 'illness anxiety disorder'. Cognitive behavioral therapy (CBT) is the preferred treatment to reduce health anxiety, but has downsides such as limited accessibility and high costs. Internet-based treatments may be a useful add-on to face-to-face therapy. This study explores a blended CBT treatment where face-to-face and online contacts are combined. Such a blended treatment has the possibility to be more effective than regular CBT and improve the accessibility of treatment.

## **Method**

Design: pre-post intervention where 17 participants with health anxiety receive a blended treatment. Intervention: Treatment is based on the steps of the commonly used face-to-face CBT-treatment protocol. During 12 weeks participants will receive four face-to-face contacts and a maximum of eight digital contacts where the therapist provides written feedback on homework.

Outcome measures: - level of health anxiety: Whitley Index (WI) Illness Attitude Scale (IAS) - Psychological symptoms: Brief Symptom Inventory (BSI) - quality of life: RAND-36 Health Survey (RAND)

Assessment: T0 During intake T1 Start of treatment (three weeks after T0) (WI & ZAS) T2 After six weeks of treatment (WI & ZAS) T3 At the end of treatment (maximum of 12 sessions) T4 Three months after treatment

Analysis: The results on health anxiety will be compared with the results of regular face-to-face CBT treatment based on literature.

Explorative analysis will be conducted on the quality of

## **Results**

WI: T0-T1 no significant difference = presumed stable baseline Between T1 versus T2/T3 and T2/T3 significant decrease Effectsize (Cohen's d) T1-T3: 0.91 and T1-T4: 1.26 Between T3-T4 no significant difference

IAS: T0-T1 no significant difference = presumed stable baseline Between T0 versus T2/T3 significant difference Between T1 versus T2 and T3 no significant difference ( $p = .06$ ) Between T3-T4 no significant difference

BSI T0-T3 significant decrease of complaints T3-T4 no significant difference

RAND T0-T3 and T3-T4 no significant difference

## **Discussion**

This is a pilot study that attempts to create a blended treatment that matches the regular treatment protocol. Promising results based on effect sizes of the primary outcome (WI) that seem comparable with the results from the regular treatment. The blended treatment seems to reduce levels of mental complaints based on the WI; IAS and BSI, but not quality of life (RAND).

## **Cognitive Behavioral Stress Management (CBSM) Applied to Patients with Brain Injury**

Margot Droitecourt & Vera Walburg\*, Institut Catholique de Toulouse, France

### **Introduction**

The objective of this study was to evaluate the efficiency of a Cognitive and Behavioral Stress Management (CBSM) method for patients suffering from brain injuries. The CBSM purpose is to permit a better understanding for patients concerning their cognitive and behavioral functioning, their pathology, as well as to manage the stress and emotional consequences (Antoni, 2003).

### **Method**

An experimental group (N = 18), included into ten CBSM sessions, was compared to a control group (N = 16) with classic Cognitive Behavioral Therapy (CBT). All participants suffered from brain injury. Both groups completed several questionnaires, measuring anxiety and depression symptoms (HADS), stress intensity (DASS 21), coping strategies (WCC-R), as well as overall and perceived health (DUKE health profile) prior to intervention (T1), after intervention (T2) and one month later (T3).

### **Results**

Statistical analyses showed a significant decrease of depression symptoms and stress intensity scores, a greater use of problem-solving oriented coping at time 2 and time 3 among patients who benefitted from CBSM compared to those with CBT. We also observed better overall health, although no difference in terms of perceived health.

### **Discussion**

The CBSM applied to patients with brain injury seem to have a positive impact, which should be confirmed in a further study with a larger sample. This study also allowed us to highlight the importance of individual psychological work with those patients, especially on the identification of emotions, a prerequisite for the CBSM.

## **Tele-Behavioral Health Delivery of CBT-I with and Without CBT-I Coach for the Treatment of Insomnia in Military Service Members: Preliminary Results**

Lynette Pujol, Scott Waltman\*, Bret Moore, Julie Landry & Alan Meiers, Warrior Resiliency Program, USA

Shelley Knowles, Brooke Army Medical Center, USA

### **Introduction**

Insomnia is a prevalent and treatable condition that negatively affects military performance and quality of life for Active Duty Service Members (ADSMs). Cognitive Behavioral Therapy for Insomnia (CBT-I) is a widely researched, evidence-based treatment for chronic or severe insomnia. A free smart phone application-based program (Cognitive Behavioral Therapy for Insomnia – Coach), developed by the Veteran's Administration and the Telemedicine and Advanced Technology Research Center (TATRC), assists providers and patients in the delivery of CBT-I. The purpose of this project is to evaluate the use of CBT-I delivered through tele-behavioral health (TBH) with and without the use of CBT-I Coach for the treatment of insomnia in ADSMs.

### **Method**

Following an intake and 2-week sleep diary completion, a 4-session abbreviated CBT-I protocol (cf., Espie et al, 2007) delivered through TBH was used for the project. Subjects were ADSMs who were not taking sedative/hypnotics for sleep. Twenty-six ADSMs were randomized to use a traditional paper diary or the CBT-I Coach. Fitbits were worn during sleep as an objective measure. CBT-I treatment was delivered through TBH to participants in both groups by trained providers from a central TBH hub to an active military post. Five people had an intake, but dropped out of the study prior to completion for unknown reasons. Subjects were 68% male with an average age of 29 (SD=7.7; Range=19-43 years). Seven people (36%) of completers were randomized to the paper diary condition and 63% (n=12) were randomized to the CBT-I Coach app condition.

### **Results**

Nonparametric analyses found significant differences in sleep quality ( $p < .05$ ), insomnia severity ( $p < .01$ ) and beliefs about sleep ( $p < .01$ ) pre and post treatment. However, these preliminary results showed no differences between subjects using the paper diary and the CBT-I Coach application on the same measures.

## **Discussion**

The sample size is small, so results are preliminary. We continue to collect data for this study. Delivering CBT-I through TBH will increase access to this evidence-based therapy, increase the quality of care for installations without sufficiently-trained or available staff and may reduce the morbidity, mortality and cost associated with long-term use of sleep medications for insomnia (Williams et al., 2014).

## **Do Children Suffering from Functional Abdominal Pain Benefit More from a Specific Cognitive-Behavioral Intervention than from an Unspecific Attention Control Intervention? Results of a Randomized Controlled Trial**

**Petra Warschburger, University of Potsdam, Germany**

**Claudia Calvano, Charité University Medicine, Germany**

**Sebastian Becker, Princess Margaret Children's Hospital Darmstadt, Germany**

**Christian Hudert, Charité University Medicine, Germany**

**Carsten Posovszky, University Medical Centre Ulm, Germany**

**Enno Iven, Catholic Children's Hospital Wilhelmstift, Germany**

**Friedrich Ebinger, Kinder- und Jugendmedizin des St. Vincenz-Krankenhauses Paderborn, Germany**

### **Introduction**

Functional abdominal pain (FAP) is highly prevalent among children and associated with increased psychosocial strain. The aim of this trial was to compare the efficacy of a cognitive-behavioral group intervention (CBT) among children suffering from FAP with an attention control group program (AC), hypothesizing the superiority of CBT on pain as primary outcome.

### **Method**

We conducted a prospective, multicenter, randomized-controlled efficacy trial (RCT) with four time points of measurements (pre and post intervention, 3-month- and 12-month-follow-up; Warschburger et al. 2014) based on a previous single-site RCT (Groß & Warschburger, 2013). Participants, assessments and data analyses were blinded with respect to treatment allocation. The recruitment (01/2014-03/2016) and the group interventions (09/2014-05/2016) took place in five outpatient clinics for pediatric gastroenterology in Germany. 383 children aged 7-12 years presenting with chronic abdominal pain of unknown origin were eligible for the study and included in the screening. 127 participants were block randomized with a 1:1 ratio to either the CBT (n=63) or the AC (n=64). Both treatments comprised 6 weekly group sessions for the children and 2 parent sessions. CBT aimed at the enhancement of child's self-management by providing coping skills and relaxation techniques. The AC covered education

### **Results**

First analyses revealed that treatment success rates, i.e., at least 80% reduction in pain intensity, in the CBT did not differ from those in the AC (OR = 0.53, 95% CI 0.34-1.35). Linear mixed models showed that both for the primary outcome of pain intensity and for the broad range of secondary psychosocial outcomes, a comparable benefit over time was observed in both groups.

### **Discussion**

Our data did not support the superiority of the CBT compared to the AC. This observation underlines the importance of unspecific factors in the treatment of pediatric FAP. Therefore, dismantling trials analyzing the mechanisms and the agents of change in FAP treatment are warranted.

## **Stress as a Warning Sign for Tinnitus Patients? Results of an Ambulatory Assessment Study**

**Cornelia Weise, Philipps-University Marburg, Germany**

**Urs Nater, University of Vienna, Austria**

**Jana Strahler, Justus-Liebig University Giessen, Germany**

### **Introduction**

Despite the fact that many tinnitus sufferers report stress as a precipitating factor for tinnitus distress, only few studies prospectively investigated the relation between stress and tinnitus. In previous studies, the hypothalamus-pituitary-adrenal (HPA) axis - as one of the major stress responsive systems - showed irregularities in basal levels as well as in response to experimental stress in patients with chronic tinnitus. Thus, the aim of the current pilot study was to explore the relation between stress in day-to-day-life and tinnitus-related distress in acute tinnitus patients, utilizing an ecological momentary assessment (EMA) approach. Given the diverse previous results, both directions, i.e. the influence of stress on tinnitus and vice versa, were investigated.

### **Method**

14 male participants with recent onset tinnitus (tinnitus duration < 3 months) were assessed over seven consecutive days. At the beginning of the test period, participants answered a survey on general tinnitus distress, chronic stress and further variables. Perceived stress and tinnitus-related distress in day-to-day-life were assessed six times a day with a pre-programmed electronic diary. In parallel to each entry, participants provided a saliva sample via passive drool to examine the possible mediating role of HPA activity by means of salivary cortisol (sCort).

### **Results**

Hierarchical linear modelling showed perceived stress and sCort levels to predict subsequent tinnitus-related distress, however only by trend. A comparatively stronger effect was found for the impact of tinnitus-related distress on perceived stress. By contrast, sCort was unrelated to tinnitus-related distress in the preceding time frame. Additionally, sCort levels only partially mediated the relationship between stress and tinnitus-related distress.

### **Discussion**

In the current study, a reciprocal relationship between stress and tinnitus-related distress was found. Given the small sample size, the reciprocity of stress and distress as well as findings on HPA axis functioning as a mediator of this relation can only be considered preliminary. Yet, these pilot findings suggest that therapeutic approaches for tinnitus sufferers should particularly take into account the relationship of stress and tinnitus distress.

## **Women's Psychological and Emotional Response to a Prenatal Diagnosis of Fetal Growth Restriction: A Qualitative Investigation**

**Anja Wittkowski & Claire Blakeley, The University of Manchester, United Kingdom**

**Debbie M. Smith, Leeds Trinity University and University of Manchester, United Kingdom**

**Edward Johnston, Manchester's Children's Hospital and University of Manchester, United Kingdom**

### **Introduction**

Fetal growth restriction occurs when a fetus fails to reach their genetically predetermined potential growth (Miller et al., 2008). In some cases, women need to make decisions regarding the continuation of their pregnancy, which may include premature delivery by caesarean or termination (Vayssiére et al., 2005). Although recommendations for physical care provision exist, little remains known regarding the mother's psychological wellbeing following a diagnosis of fetal growth restriction. Thus, this study aimed to explore women's psychological experiences following a prenatal diagnosis of fetal growth restriction, with eventual loss, and understand women's decision-making processes during pregnancy, with a view to inform clinical practice.

### **Method**

Six women, who had attended a specialist service offered in the North West of England following a prenatal diagnosis of fetal growth restriction, participated in qualitative interviews. Data were analysed using interpretative phenomenological analysis (IPA) for which a sample of six participants was deemed acceptable.

### **Results**

Three superordinate themes emerged from the analysis: 'A fine line between being supportive and unhelpful', 'Understanding the situation and decision to be made' and 'Parental responsibility'. Women received social support from family, partner, friends and healthcare teams. However, sometimes this information was withheld, leading to feelings of isolation. Despite this, women were able to discuss helpful strategies they were utilising. Women also reported difficulties and uncertainties about making decisions but at the same time maintained hope for a more positive outcome and acknowledged the precious life of their unborn child. Finally, women expressed a sense of responsibility, an established connection with their unborn or young child and a need to protect them, and many had imagined their futures following their pregnancy.

### **Discussion**

Women drew on various factors which influenced their decision-making and their experience of care. Recommendations for services in care planning including the provision of clear information. Notably, women spoke of being desperate for a positive outcome despite the diagnosis of fetal growth restriction. This study provides insights into the complex psychological dilemmas women experience when maternal healthcare teams try to facilitate informed decision-making and provide emotional support.

## **Children with Single Ventricle Congenital Heart Defects: Considering the Parent Experience**

**Anja Wittkowski & Midori Lumsden, The University of Manchester, United Kingdom**

**Debbie M. Smith, Leeds Trinity University and University of Manchester, United Kingdom**

**Emma Twigg & Rafael Guerrero Vargas, Alder Hey Children's NHS Foundation Trust, United Kingdom**

### **Introduction**

Congenital heart defects (CHD) are often detected during routine antenatal scans and as a result the pregnancy and parenthood journey differ for parents of children with CHD, including diagnosis, surgery and after care to the child developing their own independence. As a result of CHD, parents can experience heightened stress and worse psychological health compared to parents of typically developing children. However, the experiences of parents have not yet been explored qualitatively. Thus, this study aimed to explore the lived experiences of parents who have children with a diagnosis of single ventricle CHD, from diagnosis through to their childhood and adolescence.

### **Method**

Semi-structured qualitative interviews were undertaken with 12 parents who were recruited from a children's hospital in the North of England, UK. The children were diagnosed either antenatally or postnatally and had completed the Fontan surgery at least six months prior to the start of recruitment. Interpretative Phenomenological Analysis (IPA) was used to identify themes across parents' accounts of their lived experiences.

### **Results**

The analysis revealed three superordinate themes: 1) striving for normality, 2) super parents, and 3) accepting CHD and their role. The parents' narratives indicated that they experienced a period of emotional distress which often started at the point of diagnosis. However, over time parents developed their own way of accepting and integrating the experience of CHD into the general family life. Parents described a journey that allowed them to develop their own sense of normality of family life and this process appeared to be related to the parents becoming experts in and taking responsibility for the management of their child's physical health care. This became more challenging when their children reached transitional stages, such as puberty or approaching adulthood.

### **Discussion**

This is the first study to explore the lived experience of parents whose child has CHD and completed the Fontan surgery. Our findings provide relevant insights into the psychological experiences of parents which have the potential to guide healthcare professionals in the ways they can promote emotional well-being and provide help and support to these families at crucial time points during their journey.

## **Sham WiFi Exposure Leads to Stronger Somatosensory Bias in Healthy Participants**

**Carolin Wolters & Jana Harzem, Cologne University, Germany**

**Michael Witthöft, University of Mainz, Germany**

**Alexander L. Gerlach & Anna Pohl, Cologne University, Germany**

### **Introduction**

In Western populations, up to 10% report harmful effects of exposure to weak electromagnetic fields (EMF) induced by wireless communication. However, under double-blind testing conditions, these self-reports could not causally be explained by EMF. According to predictive coding theory, symptom report decoupled from sensory input occurs when learned knowledge about the world predicts the presence of stimuli with a high level of confidence (Van den Bergh, et al., 2017). In previous studies, manipulation of expectations led to

symptom induction and increased intensity ratings of tactile stimuli during sham WiFi exposure (e.g. Bräscher et al., 2017). Up to now, it remains open, whether increased intensity ratings were due to higher sensitivity or a liberalization of responses. Lloyd and colleagues (2008) developed a somatic signal detection task (SSDT) to assess response bias for bodily symptoms. They were able to evoke illusory perceptions and a liberal response bias in patients with medically unexplained symptoms when asking them to identify subtle vibrotactile stimuli.

We examined the influence of sham WiFi on (i) response bias and (ii) sensitivity for tactile stimuli using the SSDT.

#### **Method**

A healthy student population ( $n = 83$ ) completed the SSDT twice (Sham WiFi on / off) in a randomized order after watching a film that promoted adverse health effects of EMF. As part of the cover story, the testing room was prepared with a WiFi warning sign and two blinking but non-functioning WiFi signal repeaters. Tactile stimulation was based on individual thresholds. As in the original SSDT, we included trials with an LED. Potentially due to cross-modal sensitization, presenting LED stimuli increases illusory perceptions. Participants filled out the Multidimensional Assessment of Interoceptive Awareness (MAIA), the Whiteley Index (WI) and the Patient Health Questionnaire (PHQ-15) to assess individual levels of illness anxiety and somatic symptoms. Somatosensory accuracy  $d'$  and response bias  $c$  were calculated according to signal detection theory. We calculated a repeated measures ANOVA with the factors WiFi and LED on/off.

#### **Results**

There was a main effect for WiFi (on/off) on response bias  $c$ ,  $F(1, 80) = 7.25$ ,  $p < .01$ ,  $\eta^2 = .083$ , with a stronger tendency to perceive a tactile stimulus as present in the sham WiFi condition. At the same time, there was no main effect for the WiFi condition regarding somatosensory accuracy  $d'$ ,  $F(1, 80) = .27$ ,  $p = .608$ . There were main effects for light (on/off) for both  $d'$  and  $c$ , with increased accuracy and bias in the LED on conditions. There were no significant correlations between  $d'$  or  $c$  and WI or PHQ-15. Response bias  $c$  was negatively correlated with the MAIA scales “attention regulation” and “self-regulation” in both SSDT runs.

#### **Discussion**

Our study extends previous findings by demonstrating a more liberal somatosensory response bias but not enhanced accuracy during sham WiFi exposure. The results suggest that predictive coding theory applies to symptom perception when illness-relevant cognitive schemata are activated. Top-down influences on illusory perceptions might reflect a “better safe than sorry” decision strategy that assures not to miss potentially hazardous environmental stimuli.

### **Psychological Expertise Required for Disaster Relief: A Qualitative Analysis of the Great East Japan Earthquake**

**Miki Yamano-Ikeda, J.F. Oberlin University, Japan**

**Arisa Ozaki, Oz Child Development Support Office, Australia**

**Satoko Araki, Graduate School of Psychology**

#### **Introduction**

The Inter-Agency Standing Committee guidelines on mental health and psychosocial support (MHPSS) in emergency settings (IASC, 2007) suggest providing the inter-sectoral MHPSS services in a four-layered pyramid. In Japan, the importance of MHPSS in disaster relief has become recognized after the Great Hanshin Awaji Earthquake. However, it has not unclear, who is where, when and what mental health service should be provided. Therefore, this study aimed to clarify the content of support and psychological expertise required for providing MHPSS during disaster relief for the Great East Japan Earthquake.

#### **Method**

Between July and October 2017, a graduate student of Oberlin University attended a semi-structured interview with 11 mental health professionals (1 doctor, 2 nurses, 8 clinical psychologists; 4 men and 7 women with mean age  $\pm$  SD of  $52.1 \pm 9.9$ ) who had disaster relief assistance experience; the interviews lasted for 60 minutes per person. The major questions used in the interview focused on the following: 1) demographic data, 2) support type, 3) contents of support services and coordination with other occupation/organizations, and 4) impression of other disaster support. The method was approved by a local ethical committee.

#### **Results**

A qualitative descriptive analysis was conducted by a total of 6 people (5 graduate students majoring in clinical psychology and 1 expert). For indirect support, it was necessary to visit evacuation centers from 3 weeks to 5 months after the disaster, 5 months to 1 y and 4 months after direct support: community support for temporary housing, 1 y 4 months to 7 ys after: support related to radiation damage. In addition, responses to special needs were classified as follows: individual psychological consultation, support for supporters in the disaster area, and local dispatching coordination of supporters as backward support.

#### **Discussion**

When providing support services in a disaster area, it is essential from a clinical psychological viewpoint to acquire an understanding of the overall support activities and assessment of MHPSS and case work according to the timing of the disaster; it is considered a basic response under disaster relief, which is commonly used by the supporters. Meanwhile, support activities directly involving mental health professionals, mainly clinical psychologists, require expert clinical psychological knowledge and skills.

### **The Impact of Cancer-Related Fatigue on Perceived Ability to Work and Quality of Life in Early Breast Cancer Survivors**

**Eun-Seung Yu & So-Youn Jung, National Cancer Center, South Korea**

**Ji Sung Yoo, Department of Rehabilitation Medicine**

#### **Introduction**

Cancer survivors frequently experience cancer-related fatigue (CRF) and functional morbidities, but these symptoms are often under-recognized and seldom managed. This study aims to identify the impact of CRF on breast cancer survivors' perceived ability to work after anti-cancer treatment.

#### **Method**

Participations were eighty nine early breast cancer survivors within 6 months after treatment. The questionnaire related to previous and current job status, return to work, and CRF related symptoms were conducted. The quality of life and perceived ability to work were measured using an item from the Functional Well-Being subscale of the FACT-F (version 4), which asked participants to respond to the statement “I am able to work (including housework)”. Perceived ability to work was scored on a five-point Likert scale (0 = not at all, 1 = a little bit, 2 = somewhat, 3 = quite a bit, 4 = very much).

## **Results**

50.6% of the early breast cancer survivors reported mild fatigue (1-3), 28.1% were moderate (4-6) and 14.6% were severe fatigue (7-10). The survivors with fatigue reported 70.8% percent of them physical fatigue, 5.6% emotional fatigue and 6.7% cognitive fatigue, and 2.2% of patients reported difficulty returning to their daily lives due to concerns about fatigue. The Score of perceived ability to work were reported 1.1% not at all, 3.4% somewhat, 33.7% quite a bit and 61.8% very much. Employment status were 77.5% of the early breast cancer survivors continued their job, 26.1% did voluntary retirement and 1.4% lost their jobs. Among 77.5% of the survivors who continued their work, 46.1% were on full time, and 12.4% were on part-time work and 9% were off work. The fatigue score by NRS and the score of perceived ability to work were statistical correlation ( $p < 0.001$ ). Fatigue score was significantly associated with physical ( $p < 0.001$ ), emotional ( $p = 0.018$ ), and functional well-being ( $p < 0.001$ ).

## **Discussion**

CRF in early breast cancer survivors after treatment was associated with perceived ability to work and quality of life. Appropriate programs for managing CRF were may needed.

## **The Experience of Mental Health Difficulties in Children with Epilepsy: A Qualitative Study**

**Alice Sibelli, King's College London, United Kingdom**

**Alice Zacharia\*, UCL Great Ormond Street Institute of Child Health, United Kingdom**

**Rona Moss-Morris, King's College London, United Kingdom**

**Roz Shafran, Isobel Heyman & Sophie Bennett, UCL Great Ormond Street Institute of Child Health, United Kingdom**

### **Introduction**

#### **Background**

Up to 70% of children with epilepsy have mental health problems, such as depression, anxiety and behavioural difficulties. However, the mental health problems are not adequately detected or treated by existing health services. Patients with epilepsy and associated neurodevelopmental comorbidities are typically excluded from Randomised Controlled Trials of interventions for mental health problems so we do not know whether standard interventions are efficacious and we need further information on the extent to which standard interventions may need personalising for this group.

#### **Aim**

This qualitative study aimed to explore how parents experience the emotional and behavioural difficulties of their children with epilepsy in an online diagnostic interview in order to investigate the presentation of mental health difficulties in children with epilepsy and therefore the extent to which existing interventions may need personalising.

### **Method**

#### **Design**

A routine voluntary screening programme for child mental health disorders was implemented within paediatric neurology clinics within a specialist paediatric hospital. This programme used the online Development and Well-Being Assessment (DAWBA), a package of closed and open-ended questionnaires and interviews designed to assess ICD-10 and DSM-IV psychiatric diagnoses in children and adolescents. The DAWBA reports were rated by a trained clinician to determine the presence of psychiatric disorders and open text sections were analysed qualitatively. This allows pairing of the qualitative data regarding presentation of disorders with matched data on diagnoses in a unique methodology.

#### **Research questions**

The research questions focused on the common themes derived from the parents' descriptions of each mental health disorder and whether there were any specific themes related to epilepsy.

#### **Participants**

One hundred and three DAWBA questionnaires were completed online by parents. The mean age of the child was 11.36 years (43% female).

#### **Analysis**

Inductive, data driven content analysis was conducted following the guidelines. Codes were developed by the first author after reading the raw data from all parents. 20% of participants were coded independently by the second researcher. The first author re-applied the codes to the whole sample and broader themes were generated.

### **Results**

Forty children met criteria for anxiety disorder diagnoses, 10 for depression, 34 of oppositional defiant disorder, 1 for Disruptive Mood Dysregulation Disorder, 15 for ADHD and 51 for autism. Parents typically described the large impact of epilepsy on several areas of the child's life (mainly social life & friendships, school performance, sleep difficulties, thought processes, child's self-esteem and change in personality) but non-epilepsy, mental-health related themes were more frequent and present across disorders.

### **Discussion**

The implications of the findings of the current study will be discussed in the context of whether it is necessary to develop tailored interventions for mental health difficulties in children with epilepsy and their families or whether existing interventions may reasonably be utilised.

## **Therapy Adherence, Emotional Awareness and Cardiovascular Risk in HIV**

**Simone Cheli, University of Florence, Italy**

**Sonia Sofia, Azienda Ospedaliera Cannizzaro, Italy**

**Paul H. Lysaker, Richard L. Roudebush VA Medical Center, USA**

**Benedetto M. Celesia, University of Catania, Italy**

**Giancarlo Dimaggio, Centro di Terapia Metacognitiva Interpersonale, Italy**

### **Introduction**

Psychological factors that may contribute to negative outcomes in persons with HIV are capacity to recognize emotions in self and others and to regulate own emotions. In a first study on 100 adults, we explored whether emotion recognition and regulation deficits predicted adherence to antiretroviral therapies (ART), as assessed with both self-report and viral load testing. Results showed that alexithymia and impairment of the ability to recognize other's emotions contribute to ART non-adherence (Sofia et al., 2018).

Our second idea was that the same psychological factors could predict heightened cardiovascular risk in HIV, with risk possibly being mediated by ART non-adherence.

#### **Method**

We assessed 124 patients with HIV, 81% males, aged 45.24 ±9.27 y. Demographic and biological parameters together with cardiovascular predictors were considered. Intima-Media Thickness (cIMT continuous measure) was examined by B-mode ultrasonography, while depressive symptoms were studied by the Beck Depression Inventory (BDI-II), emotional inhibition by the Emotional Inhibition Scale (EIS), alexithymia by the Toronto Alexithymia Scale (TAS-20) and emotional dysregulation by the Difficulties in Emotional Regulation Scale (DERS).

IMT was significantly correlated with age ( $r=0.44$ ;  $p<.0001$ ), total cholesterol ( $r=0.23$   $P<.05$ ), years since infection ( $r=0.42$ ;  $P<.0001$ ), and C reactive protein ( $r=0.34$ ;  $p<.0001$ ). IMT was not significant related to BMI. Participants who reported adherence had significantly lower IMT scores than participants who reported some non-adherence.

#### **Results**

Alexithymia and emotion dysregulation were significantly linked with the IMT total. The BDI and EIS total were not significantly correlated with the IMT scores. Alexithymia resulted as an independent predictor of cardiovascular risk, independently from other psychological and biological parameters, including viral load.

#### **Discussion**

psychological treatments for persons with HIV are increasingly needed. Our study contributes to identify targets such as alexithymia and emotion dysregulation. If clinicians are able to address them, these persons may gain benefits in terms of more adherence to medication, which would result in prolonged survival, and less cardiovascular risk.

### **One-Year Follow-up of Internet-Based Cognitive Behavioral Therapy Via Videoconferencing for Patients with Obsessive-Compulsive Disorder, Panic Disorder, and Social Anxiety Disorder**

**Kazuki Matsumoto, Chihiro Sutoh & Toshiyuki Otani, Chiba University, Japan**

**Kazue Nagai, Gunma University, Japan**

**Akiko Nakagawa & Eiji Shimizu, Chiba University, Japan**

#### **Introduction**

Regarding short-term intervention effects, cognitive behavioral therapy for anxiety disorder has been established sufficiently in systematic research; the long-term effectiveness of cognitive behavioral therapy, however, has not been fully evaluated. This study aimed to evaluate the long-term effectiveness of individual remote cognitive behavioral therapy for psychiatric outpatients diagnosed with obsessive-compulsive disorder (OCD), panic disorder (PD), and social anxiety disorder (SAD). This study was a follow-up study subjecting patients who completed clinical trials reported previously (Matsumoto et al., 2018).

#### **Method**

The participants included 29 patients who completed individual remote-CBT. Primary outcomes were Yale-Brown Obsessive-Compulsive scale score for patients with OCD, panic disorder severity scale score for those with PD, and Liebowitz social anxiety scale for those with SAD. Secondary outcomes were Generalized Anxiety Disorder 7 and Patient Health Questionnaire 9 scores for all participants. Evaluation time points were at the beginning of treatment (first session) and after treatment (last session; 3-months; 6-months; and 12-months).

#### **Results**

As of February 2019, follow-up is ongoing and all evaluations are scheduled to be completed by 31 March 2019. On the day of WCBCT 2019, we will report on the results of the completed research. This study was approved at the Medical Research Ethics Review Board of the Graduate School of Medicine, Chiba University (Ethical number: 3048).

### **Effect of Early Maladaptive Schemas on Insomnia in College Students: A Cross-Sectional Study**

**Shun Nakajima, National Center for Cognitive Behavior Therapy and Research, Japan**

**Naoya Iwata, Teikyo University, Japan**

#### **Introduction**

Early maladaptive schemas (EMSs) are key vulnerability factors for psychological disorder such as depression and personality disorder. Depression and personality disorder shared a high degree of comorbid with insomnia. Increased interest in understanding the causes of disorder comorbidity has stimulated a search for transdiagnostic factors that play a role in the etiology and co-occurrence of multiple types of psychopathology. However, there is no study that evaluate the association of EMSs and insomnia. In this study, we investigated EMSs as vulnerability factor for insomnia.

#### **Method**

This study is derived from a project for examining mental illness and psychopathology in Japanese college student. All participants who were ages 1) 18 years or older, and 2) under 30 years old, were recruited from undergraduate students enrolled in the psychology course at a private university in Tokyo, Japan. All participants provided their informed consent to participate in the investigation. Questionnaire items included: demographic information; the Japanese version of Insomnia Severity Index (ISI: Munezawa et al., 2009); the Japanese version of Young Schema Questionnaire short form (YSQ-SF: Oshima et al., 2018). The ISI was used to assess insomnia severity experienced during the previous 2 weeks. The YSQ-SF is one of the most widely used measures of individual early maladaptive schemas. To analyze the results, we used correlation analysis and multiple regression analysis. Multiple regression analysis was conducted, with the ISI score as a dependent variable and the YSQ-SF score as

#### **Results**

A cross-sectional questionnaire survey was administered to 150 participating college students (52.6% female, mean age 20.3 years). The average scores of the ISI and YSQ-SF in all participants were, respectively, 8.56 (SD 5.89) and 201.27 (SD 57.33). The YSQ-SF score significantly correlated with ISI score ( $r=0.51$ ,  $p<0.01$  [95%CI: 0.38, 0.62]). Multiple regression analysis showed the YSQ score significantly predicted the ISI score ( $B=0.05$ ,  $p<0.01$ ).

#### **Discussion**

We performed our study to clarify the association of EMSs and insomnia. The results confirmed the hypothesis that EMSs affected the severity of insomnia. It is noteworthy that our study showed novel mechanism of insomnia. This finding raises the possibility that the EMSs as transdiagnostic factor might act to not only depression and personality disorder but also insomnia.

Furthermore, this evidence provides partial support for enhanced therapeutic efficacy for Cognitive Behavioral Therapy for Insomnia (CBT-i). Recently, the efficacy of Cognitive Behavioral Therapy for Insomnia (CBT-i) in patients with pharmacological treatment-resistant chronic insomnia on its effectiveness is yet to be produced. Our findings raise the possibility that CBT-I take in intervention technique focused on EMSs from schema therapy based on EMSs theory may enhance the treatment effectiveness. Further research is needed.

### **Effects of Pulmonary Rehabilitation on Quality of Life and Exercise Capacity in Patients with IPF Compared to Patients with COPD**

**Nina Piel, Psychologische Hochschule Berlin, Germany**

**Johannes Laferton, Philipps-Universität Marburg and Psychologische Hochschule Berlin, Germany**

**Tessa Schneeberger, Inga Jarosch & Rainer Glöckl, Schön Klinik Berchtesgadener Land, Germany**

**Rembert Koczulla & Klaus Kenn, Schön Klinik Berchtesgadener Land and Philipps-Universität Marburg, Germany**

**Nikola Maria Stenzel, Psychologische Hochschule Berlin, Germany**

#### **Introduction**

Idiopathic Pulmonary Fibrosis (IPF) is associated with severe physical limitations and reduced mental and physical quality of life. Previous research indicates, that patients with IPF benefit from pulmonary rehabilitation (PR, Kenn et al., 2013; Schneeberger et al., 2016). However, when comparing the effects of a PR program for patients with Chronic Obstructive Pulmonary Disease (COPD) and IPF, COPD patients showed greater improvements in health-related quality of life compared to IPF patients (Huppmann et al., 2012). The aim of this study was to get further insight into the mechanisms of changes in IPF patients and identify predictors for quality of life after PR. Moreover, we wanted to compare these results to the PR-effects in COPD patients.

#### **Method**

The present study is focused on the effects of an average 27-day duration inpatient PR program on  $n = 291$  IPF patients in terms of exercise capacity, measured as walking distance (6MWD) and health-related Quality of Life (HRQL, SF-36) compared to the effects on a sub-sample of  $n = 291$  through Nearest Neighbor Matching by age and gender assigned COPD patients. There were two measurement times, at the beginning of PR-treatment and at discharge.

#### **Results**

Multivariate analyses revealed a significant increase in exercise capacity and HRQL, with significant differences between both patient groups. Post-hoc analyses revealed differences in the SF-36 scales of general health perceptions, vitality, social functioning, and mental health. Furthermore, regression analyzes are reported, to investigate predictors of changes in IPF patients.

#### **Discussion**

The results show that PR is capable of enhancing HRQL in IPF patients (i.e. vitality, mental health). Regarding the differences between both patient groups, future studies should evaluate more IPF-specific PR programs also addressing psychiatric comorbidities and motivational aspects.

## **Cross-Cultural Issues**

### **Cultural Reflections in Practicing Cognitive Behavior Therapy in the Arab World**

**Reham Aly, Ministry of Health, Egypt**

**Hisham Ramy, Ain Shams University, Egypt**

#### **Introduction**

Evidence-based practice of cognitive behavior therapy has long been adopted as an effective therapy for treating psychiatry disorder. In many situations it is the chosen therapy for such a debilitating disease. Due to its proven efficacy & readiness applicability it has proven to be the 1st choice of therapy for mild to moderate anxiety & depression across different life spans from adolescents to geriatrics. Yet; cross cultural differences have seldom been considered in the approach towards managing these disorders. Many differences lie between populations & countries in defining what is accepted & what is not with regard to personal interactions. Even across the one country many differences may color the perception of appropriate behavior & communication. Hence no one-size-fits all can be adopted here.

#### **Method**

This multi-centered qualitative study consisted of individual semi-structured interviews with patients with emotional disorders ( $n = 30$ ); focus groups with lay members from selected groups ( $n = 20$ ); focus groups or semi-structured interviews with CBT therapists ( $n = 12$ ); and mental health practitioners ( $n = 20$ ). Data were analyzed thematically using evolving themes and content analysis.

#### **Results**

There was consensus from the respondent groups that CBT would be an acceptable treatment if culturally adapted. This would incorporate culturally-based patient health beliefs, attributions concerning emotional disorders, attention to help seeking pathways, and technical adjustments.

#### **Discussion**

While individualization of therapy is generally accepted as a principle, in practice therapists require an understanding of patient-related factors that are culturally bound and influence the way the patient perceives or responds to therapy. The findings of this study have practical implications for therapists and mental health practitioners using CBT with people with emotional disorders in a sample of Egyptian patients.

### **Self-Reference and Emotion Regulation Through Introspective Training**

**Anne Iris Miriam Anders, Ludwig-Maximilians-University Munich, Germany**

#### **Introduction**

The background of this research is the development of an introspective intervention, gradual cognitive training, based on ten years of study of Buddhist philosophy, Tibetology and Tibetan medicine in original language contexts. These introspective methods consisting of topdown and bottomup effective components and starting with a simple focusing exercise cover a systematic gradual approach application-oriented learning process. In terms of the training of beginners it is the stabilizing effect of single focus which may get combined with multiple focus techniques.

## Method

The research was conducted with psychotherapists, psychotherapy patients and students, who after six hours of teaching on the introspective intervention carried out individual daily ten-minutes training and were evaluated after one, three and six months. The hypothesis of improvement in observing and reflecting thoughts, emotions and body was analyzed by means of qualitative as well as quantitative methods. The qualitative data from 86 probands were analyzed to consist not only of techniques and effects, but also of essential aspects, transient experiences and integration aspects. In terms of the quantitative approach, self-reference was operationalized to cover observation and reflection of thoughts, emotions and body.

## Results

In the qualitative data from 86 probands two effect structures were identified, the changes in self-reference and in dealing with one's own emotions. The quantitative study included 83 subjects in the training group and 71 subjects in the control group. 72% of them trained up to ten minutes daily and 39,5 % used integration into everyday activities sometimes. The factor analysis of the questionnaires with quartimax showed eleven factors. Within one month of training, the aspects of reflection of physical perception decreased and the perception of focused strength, awake relaxation and internal expanse significantly improved significantly. However, after three months of training, the own reflection of feelings, the perception of mental clarity, the distancing from one's own thoughts, emotions and emotion-loaded memories increased significantly.

## Discussion

Generally, results showed that the systematic training of introspection unfolds with a gradual process. Whereas the qualitative data have some quantifiable aspects for further research they also enabled for an understanding of the high importance of essential aspects as well as integration of results into daily activities for the training process and further advancement. Although there were some results in changes in self-reference and emotion regulation thought systematic introspective gradual cognitive training the subtle mechanisms along with the respective modulators and mediators remain to still be investigated in. As the individual processes that introspective training from a Buddhist background enables follow certain patterns their investigation allows to discover not only general mechanisms and key points of the learning processes, but also the development of therapeutic models far beyond the psychological self-reference model investigated in so far. The resultant understanding regarding the impact of self-reference on the individual as well as on the therapeutic relationship reaches far beyond individual outcomes. It counteracts stereotyping and the recently surfacing indoctrination, manipulation and abuse in Buddhist and meditation groups by providing a scientific foundation.

## Dysfunctional Thinking in Major Depressive Disorder. A Culture-Moderated Meta-Analysis

Monica Bartucz & Daniel David, Babeş-Bolyai University, Romania

### Introduction

Depression is classified by the World Health Organization as the most burdensome disease in the world in terms of total disability-adjusted years among the midlife adult population. Most of the available psychological models of mental health emphasize several individual factors (psychological, biological, relational and socio-economic) that contribute to the appearance and maintenance of Major Depressive Disorder (MDD). Although these models may explain why some individuals develop MDD in a certain population, they cannot explain why the prevalence of MDD varies from one culture to another. The recent literature on this topic highlights a series of cultural dimensions that may predict the prevalence of mental disorders. The present meta-analysis aims to investigate the impact of the Individualism-Collectivism cultural dimension on the relationship between dysfunctional beliefs, derived from the Cognitive Behavioral Therapy model, and MDD.

### Method

We conducted a systematic search of the literature and included 66 studies, conducted across 15 countries, comparing dysfunctional beliefs in healthy groups and clinically depressed groups.

### Results

Levels of dysfunctional beliefs differed significantly between the two types of groups ( $g=1.632$ ;  $K=66$ ; 95% CI [1.445; 1.819]). Individualism moderated significantly the relationship between MDD symptoms and automatic thoughts ( $b=.21$ ;  $S.E.=.003$ ;  $p<.001$ ), dysfunctional attitudes ( $b=.011$ ;  $S.E.=.005$ ;  $p=.03$ ), schemas ( $b=.021$ ;  $S.E.=.007$ ;  $p=.006$ ) and irrational beliefs ( $b=-.021$ ;  $S.E.=.010$ ;  $p=.046$ ).

### Discussion

The findings highlight that although dysfunctional beliefs are universally involved in the etiopathology of depressive disorders, there is a significant influence of the Individualism-Collectivism cultural dimension on the relationship between cognitive mechanisms and depression.

## The Psychometric Properties of the Turkish Version of the Self-Disgust Scale Revised

Sevgi Bektas, Nuray Mustafaoglu Cicek & Mujgan Inozu, Hacettepe University, Turkey

### Introduction

Self disgust is defined as experience of repulsion toward the self (behaviour, physical or psychological characteristics). It is characterized as a maladaptive and persistent phenomenon. Recent studies start to focus on self-disgust, and so far it was stated that self-disgust plays important role in both acquisition and maintenance of psychopathology symptoms. Therefore it is important to examine this phenomenon with further studies. Firstly, Self-Disgust Scale was devised in order to measure self-disgust symptom level by Overton and his colleagues (Overton, Markland, Taggart, Bagshaw and Simpson, 2008) and the scale is revised by Powell, Overton and Simpson (2015). The aim of the present study was to examine validity and reliability of the Turkish version of the Self-Disgust Scale-Revised (SDS-R; Powell et al., 2015).

### Method

The sample consisted of 279 undergraduate students (245 females; 34 males; Mage 21.11 years;  $SD=2.08$ ) who were asked fill out a set of questionnaires including the SDS-R, the Disgust Propensity and Sensitivity Scale-Revised (DPSS-R), Obsessive Compulsive Inventory-Revised (OCI-R), Self-Compassion Scale, Penn Inventory of Scrupulosity (PIS) and Vancouver Obsessional Compulsive Inventory-Mental Contamination (VOCI-MC) scales. Following a period of approximately 4 weeks a sub-sample of the participants were asked to complete the questionnaires for the second time.

### Results

Consistent with the findings of the original study (Powell et al., 2015), confirmatory factor analysis supported the uni-dimensional and two-dimensional structure of the Turkish version of the SDS-R ( $\chi^2/sd = 2.70$  AGFI = .86, GFI = .91, CFI = .90, NFI = .85, RMSEA = .08,  $p <.001$ ;  $\chi^2/sd = 2.47$  AGFI = .90, GFI = .94, CFI = .93, NFI = .88, RMSEA = .07,  $p <.001$ , respectively). The results revealed acceptable test-retest and internal consistency coefficients, and also good construct, convergent and criterion validity information for the Turkish version of the SDS-R, which can be utilized in the Turkish culture in order to evaluate individual differences in terms of self-disgust symptoms.

## **Discussion**

The results of the present study indicated a good reliability and validity information for the Turkish version of the SDS-R, supporting the cross-cultural nature of the scale.

Keywords: Self-disgust scale, Turkish reliability, Turkish validity.

## **Mental Health Literacy in University Students: A Cross-Cultural Comparison of the U.S. and Russian Samples**

**Olga Bogolyubova, University of Malta, Malta**

**Elena Kazennaya, Moscow State University of Education, Russia**

### **Introduction**

Mental health problems are common among university students, but only a small fraction of this population seeks professional help (Kim et al., 2015). Research suggests that the extent to which the patients can benefit from mental health services is influenced not just by service availability, but also by patients' mental health literacy (MHL), which includes ability to recognize specific disorders (Jorm et al., 1997). Failure to seek treatment may stem from inability to correctly label one's symptoms, which, in turn, leads to incorrect beliefs regarding their course (Coles & Colemann, 2010). Given the numerous collective traumas of the 20th century and a long-standing tradition of stigmatizing mental health problems, lower levels of MHL may be observed in Russian populations in comparison to Western samples. Our research investigates this hypothesis in a cross-cultural study of MHL in university students from Russia and the U.S.

### **Method**

A set of 7 vignettes, depicting common mental health conditions (Social Anxiety Disorder, GAD, Panic Disorder, OCD, PTSD, Depression, Schizophrenia) was presented to a sample of university students ( $n = 299$ ) from the U.S. (54.2%) and Russia (45.8%). The mean age of the participants was 18.97 ( $SD = 1.34$ ); 59.5% were male. For each of the vignettes, participants were asked the following question: "What, if any, is the most likely diagnosis in this case?" Each vignette had two versions (with male or female persona), which were compiled to form two versions of the questionnaire; participants were randomly assigned to one of the two versions. Participant responses were independently coded by two raters as correct (1 = use of DSM 5 terminology) or incorrect (0 = other responses). Inter-rater agreement was excellent ( $k = 0.92$ ).

### **Results**

MHL levels varied across disorders, with high recognition of depression (75.6%) and schizophrenia (54.8%), but very poor recognition of GAD (7%) and Panic Disorder (3.7%) in both subsamples. Correct labeling across disorders was statistically different with  $Q(6) = 560.755$ ,  $p < .0005$ . No significant effect of vignette gender was found. An association between participant gender and correct identification of Social Anxiety Disorder, Depression, and Schizophrenia was observed, but remained significant only in Russian participants when the subsamples were examined separately. MHL level was significantly lower in the Russian subsample with lower percentage of correct labeling for all 7 disorders. This difference was particularly pronounced for OCD ( $X^2(1) = 72.601$ ,  $p < .0005$ ), PTSD ( $X^2(1) = 128.048$ ,  $p < .0005$ ), and Depression ( $X^2(1) = 59.513$ ,  $p < .0005$ ).

### **Discussion**

Correct recognition differed across disorders with MHL for anxiety disorders being particularly poor. MHL level in the Russian subsample was significantly lower, indicating a strong need for mental health education.

## **Versatility of Integrative Cognitive Behavioral Therapy in Different Social Contexts**

**Claudia Bregman, Aigle Foundation, Argentina**

### **Introduction**

Aiglé Foundation in Argentina implements a Training Program in Social Skills to promote the development of personal resources that allow coping critical situations of social vulnerability, within the framework of the PSYCHOLOGICAL CARE PROGRAM FOR PEOPLE IN A SITUATION OF SCARCE RESOURCES - PATER (Fernández-Álvarez, 2015).

Effective Social Skills are repertoires of social behaviors that tend to cause positive reinforcement and generally result in positive consequences. The training of social skills is a program designed to improve interpersonal and communication skills (Cavallo, 2005).

### **Method**

This program is aimed at people who are in a situation of scarce resources. They arrived at this circumstance mainly because of the loss of stable employment, migration from neighboring countries or from other provinces of the country, with access to precarious jobs, with insufficient wages to attend the vital needs, uprooting experience, among others. The program includes participation in group setting and the design of individual therapeutic interventions to promote integration in groups.

### **Results**

From the transcription of the group meetings, it emerged that the skills that present the greatest difficulty are: making compliments, complaining, rejecting irrational requests, sharing feelings, defending one's rights, requesting favors, requesting a change in the behavior of others, resolving conflicts, getting along with the opposite sex, dealing with people in different social hierarchy, among others. Each participant has generated their own tools that facilitate their re-employment.

### **Discussion**

We will present testimonies of some participants and the implementation of a survey administered.

## **Racial Inclusivity in Acceptance and Commitment Therapy (ACT) Randomized Control Trials (RCTs)**

**Destiny Printz, Naomi Faber\*, Jessica Barber, Michael Cruz & Monnica Williams, University of Connecticut, USA**

### **Introduction**

Acceptance and commitment therapy is an internationally utilized third wave cognitive therapy, which has shown to be more effective than wait-list conditions, with effect sizes comparable to traditional cognitive behavioral therapy. The inclusion of marginalized ethnic groups in randomized control trials (RCTs) is essential to determining the generalizability of treatments across racially diverse populations. However, little is known about the inclusion of marginalized ethnic groups within ACT RCTs, generalizability of results to clients within these groups, and successful methods of recruiting marginalized ethnicities into ACT RCTs.

### **Method**

A literature search for ACT RCTs was conducted. Studies were found utilizing the regularly maintained list of ACT RCTs by the Association for Contextual Behavioral Science's, as well as PsychInfo and MEDLINE via PubMed. Studies were excluded if they were

conducted outside of the U.S. and/or were not published in English. Demographic data, recruitment methods, and targeted symptoms were assessed.

### **Results**

The following are preliminary results from 1989 to present. Results found racial sample data reported in 70% of ACT RCTs, while 15% classified participants as White/non-White and 15% did not report race. Of the 46 studies in which race was reported ( $n = 5463$ ), 78% of participants were White, 10% Black, 5% Asian or Pacific Islander, 2% Native American, 3% chose two or more races, and 2% other/unknown. Only 6% of studies reporting race recruited participants of color at equal or higher rates than Whites. Two studies assessed racial differences and found no significant difference in treatment efficacy. The most utilized recruitment strategies were online advertisements and community/campus fliers. One study ( $n = 2637$ ) capped White participation at 75% and recruited racially diverse participants with targeted online advertisements. Targets of intervention with higher ethnic inclusion were generalized anxiety, social phobia, and HIV, among other disorders.

### **Discussion**

ACT RCTs have shown to be adequately inclusive of marginalized ethnic groups in comparison to U.S. Census demographic data from 2010. However, few studies have recruited enough participants from marginalized groups to assess for racial differences in treatment response, leaving generalizability of results questionable. Targeted advertisements online and through community flier may increase the racial diversity of study participants. Future studies can benefit from oversampling participants of color to assess for racial differences.

## **Some Thoughts on Implementing CBT in Latin America. The Case of Argentina**

**Alicia Facio, Adelia Caneo & María Cecilia Sireix, Asociación de Terapia Cognitiva y Conductual del Litoral, Argentina**

### **Introduction**

As Cognitive Behavior Therapy (CBT) becomes a world-wide phenomenon it is necessary to deliver it in a cultural-sensitive way which takes into account the psychological and macro-systemic characteristics of different regions of the planet. This paper aims to contribute some thoughts on how CBT would have to be modified to fit in a Latin American country, Argentina, given some distinctive psychological characteristics of the Argentinean population.

### **Method**

We will compare Argentinean results with those found in first-world samples in:

- a) NEO-PI-R test in a community sample of 369 adults and a clinical sample of 282 outpatients studied by Facio and colleagues.
- b) MMPI-2 test normative data collected by Casullo and colleagues.
- c) Socio-emotional development of Argentinean young people followed up from age 13 through 27 studied by Facio and colleagues.

### **Results**

Argentines scored higher than the American normative samples in negative affectivity (mainly anxiety, anger, and vulnerability feelings) and fantasy, and lower in self-discipline. In the interpersonal domain, they scored lower in trust, straightforwardness and compliance, and higher in tender-mindedness.

Facio and colleagues found that familism -relatedness to family, seeking harmony with family members, supporting and seeking advice from family-, the type of collectivism that characterizes Latin American countries, is high in Argentina. Young people congruent with typical Argentinean values of high individualism and high familism enjoyed better psychosocial development. Besides, less interpersonal distance is preferred; e.g., Argentinean young people tolerated higher parental intromission in their personal matters because they interpreted it as a sign of love.

Most Argentines are embedded in a close network of family members, life-long friends, and trusted neighbors but they, as nearly all Latin Americans, distrust public institutions, and their level of social and political engagement is low.

### **Discussion**

To answer the question of what distinctive features an Argentinean CBT should have, it is imperative to carry out a program of clinical research in which effective interventions be tested to assess which aspects of the protocols need to be changed. Based on facts like those mentioned above and our long experience as CBT therapists and trainers, we will discuss only three of the topics relevant to this research program:

- 1) Considering their high emotionality and their preference for a closer interpersonal distance, would it be advisable to devote more time and energy in Argentina than in Western first-world countries to build a warm and close therapeutic relationship and then, gradually and cautiously, introduce skills building interventions?
- 2) Considering patients lower self-discipline, should the therapist be more tolerating of homework non-compliance? ¿Should she establish "reminders" or other strategies throughout the week to increase adherence?
- 3) Considering the above two points, would it be necessary to deliver the protocols in a longer time than indicated? In our experience, treatments usually last 40 sessions instead of 15-20. Besides, proposing a very short treatment is rather shocking in a country where people attends psychoanalytic/psychodynamic treatments for years.

The abovementioned topics will be analyzed in light of some macro-systemic characteristics of Argentina.

## **Psychometric Properties of the Mood and Feeling Questionnaire (MFQ) in Thai Adolescents**

**Nanthaka Fuseekul, Shirley Reynolds & Faith Orchard, University of Reading, United Kingdom**

### **Introduction**

Depression in young people is a significant and serious public health problem across the world (WHO, 2017a). To provide appropriate intervention, one needs valid, reliable and satisfactory psychometric abilities tools to identify adolescents who are at risk of having depression. Although, a number of screening measures for depression have been translated into Thai. However, the estimate of the prevalence of depression in Thai adolescents have produced varied findings. The wide range of estimates of depression from existing measures may be partly because of potential difficulties in adapting standardized measures of depression for a Thai population. The Mood and Feelings Questionnaire (MFQ; Costello & Angold, 1988) is recommended by NICE (2005) to assess depression in young people. There is no Thai version of the MFQ, therefore the aim of this study was to translate the MFQ into Thai, and assess its psychometric properties in a large sample of young people recruited from schools in Thai

### **Method**

Mood and Feelings Questionnaire (MFQ) was translated to Thai by a native Thai PhD Psychology student, University of Reading and back-translated to English by a bilingual (Thai-English) clinical psychologist from the Psychology department at Chiang Mai University, Thailand.

The original version of the MFQ and the back translated version were compared for discrepancies. The MFQ Thai version was revised and finalized by the translator. This was then completed by 1,280 young people aged 12-18-years. In addition, 102 participants completed the gold standard, clinical assessment of depression in adolescents; The Schedule for Affective Disorders and Schizophrenia for School-Age Children; Present and lifetime version (K-SADS-PL); Depressive disorder.

#### **Results**

The total sample consisted of 1,280 adolescents, 61% girls (N=781) and boys 39% (N=499). This is on-going research. Data analysis is on progress. The internal consistency, convergent and divergent validity, test-retest reliability, and diagnostic accuracy of the MFQ will be analysed. The optimal cutoff for differentiating depressed from nondepressed adolescents will also be determined.

### **Sociocultural Adjustment and Well-Being in Third Culture Kids and Their Families: A Longitudinal Study**

**Marnie Reed, Emma Jones\*, Lena Greschner, Julianne Janning & Yoon Phaik Ooi, University of Basel, Switzerland**

#### **Introduction**

Increasing globalization has led to more families being relocated globally each year, highlighting the importance of issues such as acculturation, adjustment, and psychological well-being in this population. Previous research has focused on the experience of either the expat, the spouse, or the child, however few studies have provided insight into the experience and needs of the family as a whole. Furthermore, few studies have used a multi-informant, longitudinal format in order to understand acculturation and adjustment as processes which occur both within families and also change over time. Our current study aims to examine the roles of cognitive, psychological, sociocultural, and family factors on the longitudinal trajectories of expatriate families' well-being and sociocultural adjustment over time.

#### **Method**

Data will be collected using both quantitative and qualitative methods. For the quantitative study, we aim to recruit 65 participants between 7 and 17 years old and their main caregivers. They will complete an online survey at two time points - within their first 6 months of arrival in Switzerland, and then 12 months later. Variables measured in the quantitative survey include: perceived stress, resilience, emotion regulation, cognitive style, acculturative stress, self-esteem, well-being, sociocultural adaptation, cultural intelligence, family functioning, and couple satisfaction. For the qualitative study, approximately 20 families who participated in the online survey will be randomly selected to take part in a family interview. The focus of the interview questions will be the experience of the relocation for the whole family, how the

#### **Results**

Preliminary results may be available at the time of the congress.

#### **Discussion**

Findings from this study would enable us to understand the adjustment process, risk and protective factors associated with expatriate families' well-being and sociocultural adjustment in Switzerland. In addition, findings from this study would have implications for the development of a CBT-based program for individuals and families to address acculturation and adjustment issues such as dealing with stress, boosting resilience, effectively regulating emotions, challenging negative self-thoughts, increasing self-esteem, and resolving family problems associated with general issues of relocation.

### **Effect of Pet Interaction on Stress Reduction and Positive Mood Enhancement Among Pet-Owners and Non-Owners**

**Aliya Khalid & Saadia Dildar, Government College University, Pakistan**

#### **Introduction**

The physical and psychological health aspects are indispensable for the effective functioning of an individual. With respect to the recent research trends in Human-Animal Interaction, pet interaction has been found to be associated with reduced stress levels (Hoffmann et al., 2009) and more positive emotions (Johnson, Meadows, Haubner, & Sevedge, 2008). Contrary to popular belief, interacting with an unknown pet also led to significant stress reduction (Wilson, 1991). However, cultural differences were found to exist with regard to pet-keeping and its possible beneficial effects. Collectivistic cultures – Muslim societies in particular – exhibited lower attachment to their pets and didn't experience as much benefits. Dogs were especially viewed unfavorably as pets (Al-Fayez, Awadalla, Templer, & Arikawa, 2013; Knobel, Laurenson, Kazwala, Boden, & Cleaveland, 2008). The present study was an effort to explore this effect in Pakistan, where empirical investigation of attitude toward animals and the impact of human-animal interaction has been lacking.

#### **Method**

The study was experimental in nature, with a pretest-posttest between-subject design. Sample of pet-owners (n = 90) and non-owners (n = 90) was taken from University of Veterinary and Animal Sciences, Lahore. Both, male and female participants in the age range of 18 to 26 years were included. A Russian Samoyed mix puppy and a Persian kitten were selected for the interaction, based on their suitability for the study. The instruments used were Short Stress State Questionnaire (Helton, 2004), Brief Mood Introspection Scale (Mayer & Gaschke, 1988) and Pet Interaction Observation Checklist (PIOC). Four experimental groups (Group 1 and 2: pet-owners interaction with either dog or cat; Group 3 and 4: non-owners interaction with either dog or cat) and two control groups (for pet-owners/non-owners reading magazine) were present. A pre-assessment of stress and mood was taken with the respective questionnaires. Then, on the basis of random assignment, the participant carried out the assigned activity. Interaction of participant was observed and recorded with PIOC. At the end, post-assessment was taken and debriefing was done.

#### **Results**

Results showed that both pet-owners and non-owners had reduced stress scores and increased positive mood scores for the pet interaction groups as compared to control groups. However, no significant differences were found between the dog interaction group and cat interaction group for both, pet owners and non-owners. Moreover, pet-owners had lower scores on stress (worry) and higher scores on mood after pet interaction as compared to non-owners. Nonsignificant differences were found between men and women for stress and mood among both pet-owners and non-owners. Lastly, it was shown that individuals who interacted with pets for more than five minutes had lower scores on worry and higher scores on pleasant mood as compared to those who interacted for five minutes or less.

#### **Discussion**

The discussion includes a comparison of the differences with an individualistic culture, in addition to probable explanations for the present outcomes. Moreover, limitations and implications are highlighted. Clearly, there is ample opportunity and need for more investigation in this area, in addition to highlighting the importance of pets as effective therapeutic tools.

## **Automatic and Elaborative Cognitive Processes Involved in Emotion Regulation: Psychometric Analysis of CERQ in Argentinean Population**

**Leonardo Medrano & Luciana Moretti, Universidad Siglo 21, Argentina**

**Roger Muñoz-Navarro, Universidad de Valencia, Spain**

**Pablo Ezequiel Flores Kanter, Universidad Siglo 21, Argentina**

### **Introduction**

Emotion Regulation (ER) involves any explicit or implicit process that may alter the emotional experience, its duration and/or expression. Cognitive factors of ER are also considered a transdiagnostic factor of general vulnerability to psychopathology. Within the different factors involved in ER, cognitive processes have an outstanding role. Garnefski & Kraaij (2007) distinguish nine main factors, which constitute the basis for the construction of the Cognitive Emotion Regulation Questionnaire. This study tests a theoretical model that groups the cognitive processes involved in an emotional episode into two underlying dimensions: a) Automatic Cognitive Processes (includes the strategies of Self-blaming, Rumination, Catastrophizing, and Other-blame) and Elaborative Cognitive Processes (that includes Acceptance, Positive Refocusing, Planning, Positive Reappraisal, and Putting into Perspective).

### **Method**

For this purpose, 4541 adults (67.9% men and 32.1% women) between the ages of 19 and 60 ( $M=27.83$ ,  $DE=9.70$ ) participated. A confirmatory factorial analysis was conducted to compare different theoretical models reported in other studies.

### **Results**

After comparing different models, the bifactor model presents the best fit for Automatic Cognitive Processes ( $\chi^2=1188.37$ ;  $gI=88$ ;  $GFI=.97$ ;  $CFI=.95$ ;  $TLI=.94$ ;  $RMSEA=.05$ ), while the Elaborative Cognitive Processes would be better explained on the basis of an oblique model ( $\chi^2=2249.73$ ;  $gI=147$ ;  $GFI=.95$ ;  $CFI=.94$ ;  $TLI=.93$ ;  $RMSEA=.06$ ).

### **Discussion**

The results obtained are consistent with the dual model proposed by Beck and Clark, since three moments are recognized in the processing of information. The first two moments would occur automatically and are reflected in the bifactor model, where there is a general factor that involves activation and initial orientation to the stimulus, followed by specific factors that make a first interpretation of it (for example, catastrophization or self-incrimination). On the other hand, there would be elaborative cognitive processes that make a more complex interpretation in cognitive terms (e.g., put into perspective or accept).

## **The Contribution of Rumination and Worry in the Development of Emotional Disorders and Work-Related Stress in Argentinean Workers**

**Leonardo Medrano, Luciana Moretti & Edgardo Perez, Universidad Nacional de Córdoba, Spain**

### **Introduction**

In recent years, efforts have increased to clarify the relationship between work-related stress and emotional disorders (ED), suggesting a reciprocal relationship between them. Moreover, it was recently found that 33% of people with burnout develop depression in the following 12 months, and 28% develop an anxiety disorder. A vulnerability factor associated with both chronic stress and ED, which seems to play a key role, are the cognitive processes involved during the emotional experience. In this way, repetitive thoughts such as worry and rumination would contribute to amplify negative thoughts and interfere with the problem solving process, contributing to maintain and enhance negative affect. In this study we analyze the fit of an explanatory model that examines rumination and worry in chronic stress and emotional disorders.

### **Method**

A sample of 1050 Argentine workers from different regions of the country was randomly selected. Subsequently, using structural equations modelling, the direct and indirect contribution of each variable was analyzed.

### **Results**

The results obtained show that rumination and worry initially contribute to the development of symptoms of generalized anxiety, and later to the appearance of symptoms of emotional exhaustion. Likewise, emotional exhaustion and ruminations contribute to the development of cynicism at work. Finally, cynicism and the symptoms of generalized anxiety contribute to the development of depressive symptoms. The model presents an excellent fit ( $\chi^2=3.85$ ;  $gI=3$ ;  $GFI=.99$ ;  $CFI=.99$ ;  $TLI=.98$ ;  $RMSEA=.017$ ) and a high explanatory power (26% of the explained variance of depressive symptoms and 23% for generalized anxiety symptoms).

### **Discussion**

Overall, these results highlight the importance of considering the interrelationship between the symptoms of work-related stress and the development of emotional disorders.

## **Mediating Effects of Self-Compassion and Experiential Avoidance on the Relationship Between Psychological Stress and Hikikomori (Prolonged Social Withdrawal)**

**Shunsuke Nonaka, Tokyo Future University, Japan**

### **Introduction**

Hikikomori (prolonged social withdrawal), as defined by the Japanese Ministry of Health, Labour and Welfare (2010), is a phenomenon characterized by avoidance of social interactions for more than half a year. An epidemiological study of hikikomori in a community-based population aged 20–49 years in Japan revealed that 1.2% had experienced the phenomenon in their lifetime (Koyama et al., 2010). Several studies have reported on the prevalence of individuals with hikikomori in other countries, such as Australia, France, Italy, Spain, and the USA (e.g., Teo et al., 2015). Traditionally, it has been pointed out that psychological stress influences hikikomori. However, as hikikomori is one topography of a behavioral response to psychological stress, it is assumed that mediating factors exist such as self-compassion and experiential avoidance. This study aimed to examine the mediating effects of these factors on the influence of psychological stress against hikikomori.

### **Method**

The self-rated version of the Adaptive Behaviors Scale for Hikikomori (ABS-H; Nonaka et al., 2018), the Japanese version of the Self-Compassion Scale Short Form (SCS-J-SF; Arimitsu et al., 2016), the Japanese version of the Acceptance and Action Questionnaire-II (AAQ-II; Shima et al., 2013), and the Stress Response Scale-18 (SRS-18; Suzuki et al., 1997) were administered to 100 individuals who had experienced hikikomori (63 men and 37 women with mean age  $\pm$  SD of  $38.6 \pm 6.6$  and mean hikikomori month  $\pm$  SD of  $42.6 \pm 55.3$ ) and 100 individuals who had not experienced hikikomori (44 men and 56 women with mean age  $\pm$  SD of  $38.9 \pm 7.1$ ). The ABS-H consisted of 26

items, including assessing social interaction behaviors related to hikikomori. The SCS-J-SF consisted of 12 items, including assessing self-compassion; the AAQ-II consisted of 7 items, including assessing experiential avoidance; and the SRS-18 consisted of 18 items, including assessing psychological stress response.

### **Results**

The correlation coefficient was significant among ABS-H, SCS-J-SF, and AAQ-II scores. Mediation analysis of self-compassion revealed a significant indirect effect. The regression coefficient of SRS-18 on ABS-H decreased from  $\beta = -0.54$  to  $\beta = -0.29$  by mediating SCS-J-SF. Mediation analysis of the AAQ-II showed a significant indirect effect. The regression coefficient of SRS-18 on ABS-H decreased from  $\beta = -0.54$  to  $\beta = -0.34$  by mediating AAQ-II.

### **Discussion**

The results of this study indicate that psychological stress influences hikikomori condition, mediating self-compassion and experiential avoidance. Therefore, to improve hikikomori, it may be effective to not only reduce psychological stress but also improve self-compassion and reduce experiential avoidance.

## **Mental Health Care in Africa: Training Mental Health and Para-Professionals in Evidence-Based Mental Health Treatment** **Shane Pienaar-Du Bruyn, Denmark Psychiatric Hospital, South Africa**

### **Introduction**

Mental illness most often goes untreated in Africa, indicating an urgent need to address the situation. Various factors contribute to the situation, including lack of funding, insufficient trained specialists, and lack of evidence based culturally aligned assessments and treatments. A preliminary investigation has led to certain implementation recommendations, which include incorporating global health best practices in a contextualized approach.

The status of mental health in Africa is considered 'a silent epidemic'. According to the WHO depression, anxiety, substance abuse, PTSD, schizophrenia and BAD are most prevalent. These conditions contribute to a loss of productivity and increase in physical disease. This often resulting from poverty, war, migration, and natural disasters. Focus has been more on treating malaria, HIV/Aids and TB. The UN has called for improved health policies, training and funding.

Mental Care Africa (MCA) is a proposed project that may contribute to training and research opportunities in Africa, based on the success of CBT which takes into account socio, cultural, and spiritual components.

Zimbabwe is illustrated as a case of example. There are 1,3 mentally ill people in a population of 14m. Only 14 psychiatrists, 20 clinical psychologists and nine mental health institutions service their needs. Mental illness is viewed as a curse and is a stigma here, and is caused by angry ancestral spirits. N'angas prescribe herbal remedies. A 'grandma-bench' counselling system is accepted by locals. More than 400 counsellors have been trained at mental health institutions to provide counselling in outdoor, park-like settings.

### **Method**

The MCA treatment approach aims at embracing language and cultural factors. A CBT protocol for depression has been designed in the form of seven art works, which could be adapted to different cultures. Basic therapeutic and coping skills to be taught through a translator. Cognitive interventions are included depending on previous training. Community involvement and traditional healers are accommodated in this model.

Training is not only needed at a clinic level, but at universities in Africa as well, which is being provided to varying degrees.

### **Results**

Outstanding, as the project is in a planning phase and extra funding is needed.

## **Suppression Emotion Regulation and Negative Affects in Thai Undergraduates: The Moderating Role of Interdependent Self-Constraint**

**Kullaya Pisitsungkagarn & Somboon Jarukasemthawee, Chulalongkorn University, Thailand**

### **Introduction**

The use of suppression emotion regulation has been consistently linked to adverse psychological outcomes in Western literature. However, negative outcomes of the emotion regulation has been reported to be absent in Eastern Asian individuals as well as North American individuals who were more oriented toward Eastern values (i.e., Asian American). The current study, hence, sought to replicate and extend these studies by examining whether negative affect resulted from suppression emotion regulation was found in Thailand, a South East Asian country. Additionally, the potential moderating role of interdependent self-construal was investigated.

### **Method**

Three-hundred and fifty-eight Thai undergraduates participated in the current study.

The participants responded to a set of questionnaires measuring suppression emotion regulation, interdependent self-construal, and negative affect. Regression analyses were conducted to investigate if there were any associations between suppression emotion regulation and negative affect, and whether this association was moderated by interdependent self-construal.

### **Results**

Findings suggested a relationship between emotion suppression and interdependent self-construal in predicting negative affect. A significant positive association was found between cognitive suppression and negative affect for participants with high levels of interdependent self-construal. Such association was not significant for those with low levels of the self-construal, however.

### **Discussion**

The current findings helped support mainstream findings in emotion regulation research, which stipulated a link between suppression emotion regulation and negative affect. Cultural values, as measured by self-construal, did not appear to help alleviate the impact of the emotion regulation in the Thai individuals.

## **Psychometric Evaluation of a Serbian Version of Unconditional Self-Acceptance Questionnaire**

**Stanislava Popov & Jelena Sokić, Faculty of Sport and Tourism Novi Sad, Serbia**

### **Introduction**

Unconditional self-acceptance (USA) reflects one's ability to evaluate their skills, actions, thoughts, and feelings while refusing to evaluate themselves by these individual aspects globally. Extensively used measure to assess this construct, Unconditional Self-Acceptance Questionnaire (USAQ), has revealed substantial empirical support for the relationship between USA and mental health. However, due to the

lack of studies on the aspects of validity and reliability, it has often been criticized for being contaminated with self-esteem items and, hence, inconsistent with Rational-Emotive and Cognitive-Behavior theory. We sought to address these issues regarding the evaluation of psychometric characteristics in general and to provide the first validation of the short Serbian adaptation of the USAQ scale.

#### **Method**

Participants (N=205, 19% male, age M = 20.02, SD = 3.01) completed USAQ (Chamberlain and Haaga, 2001), along with the measures of affectivity (VP+2, Smederevac et al. 2010), self-esteem (RSES: Rosenberg 1965), anxiety (DASS-42: Lovibond and Lovibond 1995) and depression (SD: Novovic et al. 2009).

#### **Results**

First, we shortened the USAQ scale by removing 10 items with low factor loadings and those referring to general attitudes about the evaluation of humans, and obtained good internal consistency of  $\alpha = .80$ . We further explored the latent structure and extracted the optimal two-factor solution, namely Unconditional (USA,  $\alpha = .71$ ) and Conditional Self-Acceptance (CSA,  $\alpha = .79$ ), explaining 49.06% of variance. Re-testing the model on a different sample (N= 149, 21% male, age M = 19.12, SD = .519) using confirmatory factor analysis, we obtained satisfactory fit indices for two-factor model (GFI= .934, CFI = .949, RMSEA= .027-.084, SRMR= .054), but not for unidimensional solution. Significant correlations ( $<.001$ ) obtained with the abovementioned mental health measures revealed theoretically expected directions. CSA was significantly negatively related to general positive affect ( $r = -.21$ ), but positively related to general negative affect ( $r = .42$ ), anxiety ( $r = .33$ ) and depression ( $r = .30$ ).

#### **Discussion**

The short USA scale has good internal consistency and relates appropriately with convergent and divergent constructs, suggesting that shortening the full scale did not compromise its construct validity. Therefore, our revised version of the unconditional self-acceptance scale represents a precise measure of USA, corresponding with the theoretical definition of this construct.

### **Mental Health Literacy and Evidence-Based Practice in Mental Health Care Among Indonesian Health Practitioners**

**Nurul Praherso, Hans Pols & Nikolaos Tiliopoulos, The University of Sydney, Australia**

#### **Introduction**

Mental illness (MI) affects up to 11.6% of the Indonesian population, however, stigma, specialist workforce shortages and insufficient government expenditure towards services contribute to a large treatment gap. The recent introduction of a universal health care system presents an opportunity for address this through plans to “task-shift” detection and early intervention to primary health services. However, studies have found that compared to mental health practitioners (MHPs), primary health practitioners with limited prior training in mental health hold more negative attitudes towards patients with MI and outcomes of professional intervention for them (eg. Kua, Parker, Lee & Jorm, 2000), casting doubt on the effectiveness of task-shifting. The present study aims to investigate the current level of mental health literacy and evidence based practice in mental health among Indonesian MHPs and non-mental health practitioners (NMHPs) to assess-current task-shifting capacities.

#### **Method**

The Opening Minds Scale for Health Providers (OMS-HC; Kassam, Papish, Modgill & Patten, 2012) and mental health literacy vignettes (Jorm et al, 1997) were administered to MHPs (N=78) and NMHPs (N=75) across five provinces in Indonesia. All questions were administered in Indonesian.

#### **Results**

Compared to MHPs, NMHPs are significantly more likely to hold stigmatizing views and less likely to correctly recognize and recommend appropriate evidence-based treatments for MIs.

#### **Discussion**

Task-shifting mental health care to non-specialist primary care providers is unlikely to address the mental health gap in Indonesia without providing both additional training and supervision to NMHPs and concurrent efforts to increase the number of MHPs.

### **The Impact of Rejected Asylum Application on the Mental Health of Farsi-Dari Speaking Asylum Seekers in Australia**

**Reza Rostami, Zachary Steel, Ruth Welles & Derice Silove, University of New South Wales, Australia**

**Davide Berle, University of Technology Sydney, Australia**

**Jila Solaimani & Dusan Hadzi-Pavlovic, University of New South Wales, Australia**

#### **Introduction**

Asylum seekers with insecure residency are exposed to threat of repatriation an ongoing exposure to migration stressors. Mental health research have found that rates of depression and PTSD are higher in asylum seekers than resettled refugees with permanent residency. A critical moment in this process is the refugee determination process when asylum seeker receive a positive or negative decision status on their refugee process. Most of the rejected asylum seekers believe face the risk of torture and will take in prison if the return in the home country.

#### **Method**

We draw on the Reassure study undertaken from February 2017 to July 2018 amongst 406 immigrants, refugees and asylum seekers. The HSC depression scale and the HTQ PTSD scale were administered through interview. We used one-way ANOVA to compare PTS, depression symptoms and living difficulties by visa categories along with contrasts to compare for Asylum seekers who had been rejected.

#### **Results**

Results: Twenty participants reported having a rejected asylum application, there were significant differences visa status in PTS ( $F(4,220) = 121.328 P < 0.001$ ), depression symptoms ( $F(4,220) = 115.867 P < 0.001$ ), living difficulties ( $F(4,220) = 102.661 P < 0.001$ ). In addition, people with rejected visas reported significantly higher PTS ( $p = 0.038$ ), depression symptoms ( $p = 0.013$ ) and living difficulties ( $p = 0.048$ ) than people on bridging visas.

#### **Discussion**

Mental health and living difficulties of asylum seekers hugely affected by the refusal of asylum applications.

## **Factors Influencing Social and Occupational Functioning in Individuals with Prolonged Social Withdrawal (Hikikomori) and Their Families**

**Motohiro Sakai & Natsumi Fukuzono, University of Miyazaki, Japan**

**Sohei Ide, Osaka University, Japan**

**Shunsuke Nonaka, Tokyo Future University, Japan**

### **Introduction**

“HIKIKOMORI” (prolonged social withdrawal) refers to avoiding social participation, to the extent of not leaving home. HIKIKOMORI is a serious social problem in Japan now; reports estimate that there are 540,000 people with HIKIKOMORI (Cabinet Office, 2016). In particular, in recent years, the prolongation of HIKIKOMORI has become a problem (KHJ parent group, 2018), and is suggested to be a large burden on the economy, mind, and the body. Not only do we have to care for “anxiety about the current life” (hereinafter called “anxiety”) of the individual with HIKIKOMORI (hereinafter called “HIKIKOMORI”), but also the anxiety of their families (hereinafter called “family”).

The purpose of this study was to examine the factors affecting the Social and Occupational functioning of HIKIKOMORI and their family.

### **Method**

KHJ Parent Group conducted a questionnaire survey in 2018. The sample included 304 families (HIKIKOMORI’s gender: 78.9% male, HIKIKOMORI’s age:  $35.20 \pm 8.80$  years, HIKIKOMORI period:  $148.07 \pm 95.88$  months, 17.1% had experienced HIKIKOMORI in the past, but not at present).

Participants were asked details about the following eight variables: Social and Occupational functioning (sSOFAS(Ide, et al., 2017)) of HIKIKOMORI and family, age of HIKIKOMORI and family, gender of HIKIKOMORI and family, HIKIKOMORI status, period of HIKIKOMORI, and HIKIKOMORI’s sense of difficulty in social participation by family rating.

A multiple linear regression was conducted to predict whether gender of HIKIKOMORI and family, period of HIKIKOMORI, and HIKIKOMORI’s sense of difficulty in social participation by family rating would predict sSOFAS of HIKIKOMORI and family.

### **Results**

Our results showed that the significant coefficient of HIKIKOMORI (adjusted  $R^2 = 0.11$ ;  $p < 0.01$ ) and Family (adjusted  $R^2 = 0.14$ ;  $p < 0.01$ ). In this model, regarding HIKIKOMORI, HIKIKOMORI status ( $\beta = -.24$ ,  $p < 0.01$ ) and HIKIKOMORI’s sense of difficulty in social participation by family rating ( $\beta = -.15$ ,  $p < 0.5$ ) was associated with HIKIKOMORI’s sSOFAS. Regarding the family, age of HIKIKOMORI ( $\beta = -.28$ ,  $p < 0.001$ ) and HIKIKOMORI’s sense of difficulty in social participation by family rating ( $\beta = .20$ ,  $p < 0.01$ ) was associated with family sSOFAS.

### **Discussion**

The results of this study indicated that HIKIKOMORI status and HIKIKOMORI’s sense of difficulty in social participation by family rating affect Social and Occupational functioning in HIKIKOMORI. Additionally, age of HIKIKOMORI and HIKIKOMORI’s sense of difficulty in social participation by family rating affect Social and Occupational functioning in family.

In Japan, the older HIKIKOMORI become serious problem. The result that showed that HIKIKOMORI’s age affects Social and Occupational functioning in family includes major significance.

## **Methodological Issues Conducting Cross Cultural Research on Emotions**

**Mariaelisa Santonastaso, Roger Baker & Peter Thomas, Bournemouth University, United Kingdom**

### **Introduction**

Conducting research in cross-cultural comparison in this field is not easy, because 'emotions' are variables influenced by many others difficult to control. Here Baker's Model of Emotional Processing (EP) (Baker, et al., 2001) was considered to assess differences between three countries: Italy, England and Japan.

Concerns about conducting research in different cultures is the question of language (Silverthorne, 2005). Since most questionnaires and other instruments developed for measuring different components are written in English, they need to be translated. Also Mesquita and Frijda (1992, p. 200) had given awareness to the problems in translation equivalence in words relating to emotions.

### **Method**

The EPS-25 (Baker et al., 2010) was used as main instrument to evaluate EP differences between cultures. It consists of 25 items distributed on 5-inter-correlated subscales: Suppression, Unprocessed, Unregulated, Avoidance and Impoverished. The Scale, originated in English language, needed to be translated in Japanese and Italian. It is explained which methodological issues were encountered and how dealt with or resolved them: 1. Lexical differences of emotions (back-translation procedures); 2. Representative Samples (nQuery Advisor Statistical Software was used to calculate the sample size and power of each sample); 3. Social Desirability (controlled with the Marlowe-Crowne Social Desirability Scale) (Ray, 1984); 4. Confounding Variables (controlled with unadjusted and adjusted Univariate ANOVA analyses) (Santonastaso, M., 2010).

### **Results**

Back-translation procedures were useful to understand and identify differences on the cultural categorization of emotions, making also clearer cultural bias on items meaning comprehension. The size of the samples (respectively  $n=540$  Italians,  $n=1022$  English, and  $n=830$  Japanese) was founded to have an 80% power to detect differences indicating that the sizes were robust enough. Social Desirability where possible to be analysed only on English and Italian samples demonstrating that English has a higher valour (mean= $17.7$ ,  $SD=3.7$ ) than the Italian sample (mean= $15.8$ ,  $SD=3.4$ ). Mean (SD) total EPS-25 was  $3.9$  ( $1.5$ ),  $3.4$  ( $1.5$ ),  $3.1$  ( $1.4$ ) in England, Italy and Japan respectively. In ANOVA Unadjusted analyses, the p-values emerged highly significant ( $p < .0001$ ) for almost all comparisons (English vs. Italian; English vs. Japanese; Italian vs. Japanese) for each subscale. ANOVA adjusted for Gender and Age-range variables was used in the comparisons with Japan. English participants have higher mean scores than Japanese on all subscales (all  $p < .0001$ ). However, comparisons between Italy and Japan had significant differences only on the Unprocessed ( $b=.28$ ;  $p=.04$ ) and the Avoidance ( $b=.23$ ;  $p=.04$ ) subscales. The analyses between Italy and England were adjusted also for the Education-level variable: Unregulated ( $b=.67$ ;  $p=.03$ ) and Avoidance ( $b=.82$ ;  $p=.004$ ) subscales were significant different between these two countries.

### **Discussion**

Conducting research on emotion between cultures presents various issues because people culturally experience and express emotions differently on the base of culture. The EPS-25 was able to assess differences between cultures, but in the same time it presents limitations because is culturally influenced. The results explained that differences in EP are observed between countries. Culture can influence the EP at any level and at any phase of the process.

## **The Effect of Negative Experience Related to Work-Family Multiple Roles on Depression of Employed Mothers with Preschool Children in Korea: The Mediating Effect of Sociotropy**

**Jin Hee Sul & Soo Hyun Park, Yonsei University, South Korea**

### **Introduction**

Negative experience related to work-family multiple roles is found to be correlated with depression for Korean employed mothers, particularly mothers with preschool children. Considering the social emphasis on women's role on raising young children and work, the presence of social standard as a perfect working mother seems to be important in this relationship. Therefore we considered sociotropy, a concept reflecting concern about social judgement and tendency to seek self-worth through this social evaluation, as an important cognitive factor related to depression. The purpose of this study was thus to examine the relationship between negative experience related to work-family multiple roles and depression, and examine the mediating effect of sociotropy.

### **Method**

Negative Experience related to Work-Family Multiple Roles of Korean employed mothers (Yang & Lee, 2016), Korean version of the Personal Inventory-II (Beck et al., 1983; Lee, 2000) and Depression scale of the Korean version of the Adult Self Report (Achenbach, & Rescorla, 2003; Kim et al., 2014) were administered to 208 Korean employed mothers with preschool children via an online survey.

### **Results**

Mediational analyses indicated that the direct effect of negative experience related to work-family multiple roles on depression was statistically significant. It was also observed that the indirect effect of sociotropy in this relationship was also statistically significant.

### **Discussion**

In the present study, negative experience related to multiple roles had a direct effect on depression for employed mother with preschool children. It is suggested that negative experience related to multiple roles, such as psychological and physical burn-out, conflict between roles, relational difficulties with other parents, could be important factors in the experience of depression for this population. Also, in line with previous finding that cognitive tendency associated with sociotropy demonstrates a mediating effect on the relationship between stress and psychological adjustment (Shin et al., 2010), the results indicated that sociotropy has a partial mediating effect in this model. This result illuminates the importance of understanding cognitive sensitivity related to negative social judgement or excessive concern about rejection in social groups.

## **Cross-Cultural Issues in the Cognitive Behavioral Treatment of a Refugee College Student Suffering from PTSD: A Case Study**

**Etty Varouch-Eliezer & Olga Thomadaki\*, Deree – The American College of Greece, Greece**

### **Introduction**

Refugees fleeing to safety from the Middle East sparked a crisis in the recent years especially for the Mediterranean countries. Recently there is a lot of interest of the scientific community on the psychological services needed and offered to refugees and immigrants. The American College of Greece joined the initiative of the U.S. Embassy & Consulate in Greece "Education Unites: From Camp to Campus" and offered the opportunity to refugees to enroll in two courses with a full scholarship. The client presented comes from Afghanistan, he is 32 years old, and currently resides in Athens after receiving legal refugee status. He completed the 15-session cycle of short term counseling offered by the American College of Greece, Student Counseling Center. Regardless of his trauma history his initial concerns were lack of self-esteem and being reserved in his social interactions especially with the opposite gender.

### **Method**

He exhibited symptoms of post-traumatic stress disorder (PTSD) like disrupted sleep, avoidance, irritability, negative alternations in cognitions and mood but remained functional in his daily responsibilities. Client's concerns were mainly viewed as resulting from Criterion D of PTSD criteria of DSM-V as his main burdens were negative thoughts and assumptions about self and the world. After psycho-education on PTSD, the effects of trauma and early learning experiences on his self-esteem and worldview were addressed through cognitive restructuring and behavioral experiments. Issues of gender, religious, and cultural differences between therapist and client were continuously addressed in supervision and in session forging a strong therapeutic alliance.

### **Results**

After the 10th session he exhibited significant change and alleviation of his symptoms. Upon completion of his sessions the client was able to find a job in an NGO as an interpreter, and had achieved great progress on his interpersonal relationships.

### **Discussion**

Through this detailed case presentation an evaluation of various Cognitive Behavioral techniques for PTSD is attempted for this growing client population. The ability of the Cognitive Behavioral counselor to address issues of cross-cultural counseling in the treatment of this client group is critically discussed.

## **The Role of the Cognitive Individual "Social Capital" in the Psychological Dysfunction of University Students**

**Lorena Ishel Tinajero Chávez, Julio César Guillén Sánchez, Angélica Riveros Rosas, Juan José Sánchez Sosa & María Elena Camarena Adame, National University of Mexico, Mexico**

### **Introduction**

México takes up with the challenges of a multi-cultural society. Such socio-cultural factors as the Cognitive Individual Social Capital (CISC) may end up affecting people's mental health. There is evidence documenting an inverse association between cooperation and social integration in the community and the development of anxiety and depression symptoms. Relational Frame Theory (RFT) proposes that the individual's environment defines the relational networks a person develops along his/her life. Thus, the analysis of socio-cultural factors acquires key relevance to understanding psychopathology and assist the development of interventions suited to the socio-cultural characteristics of each community

### **Method**

As part of a wider project on the cultural configuration of university students, the inquiry object of the present paper conducted an exploratory, phenomenological and qualitative study aimed at identifying those personal interaction characteristics capable of obstructing social integration in a highly diverse academic community. After signing an informed consent, a total of 209 students (54.8% men), aged 21 years in average (sd=2.94) answered a questionnaire with open questions on how they perceived their relations developed in the university. Analyses included main content categories using key terms as analysis units.

## **Results**

Results revealed that 17% of participants specified lack of cooperation and integration as main complaints, and indicated the occurrence of isolating behaviors, undue competitiveness and discrimination. The analysis of results in the context of the RFT theory revealed the existence of relational frames which, on the one hand, facilitate social integration in an adaptive form but, on the other, promote judging and comparing (competitiveness) as well as differentiating and opposing the dominant culture (isolation, discrimination and intolerance). These frames were associated with dissatisfaction, hopelessness and obstructed social integration of participants through inflexible-static attitudes. They also inhibited the needed coexistence for academic development, producing suffering to those excluded (low cognitive individual social capital).

## **Discussion**

Thus, the present study identified avoidance and isolationistic behaviors and scarce closeness among fellow students, related to relational frames of distinction and opposition leading to poor integration. The analysis also pointed out a highly competitive atmosphere susceptible to two opposite perspectives: one that promotes personal development and another implying an obstacle to personal and academic development. This last conception was expressed by participants with low CISC.

Given the wide diversity in public universities classrooms the analysis of the effects of socio-cultural factors from the perspective of the RFT should contribute to understanding the process through which verbally-constructed psychological contexts may lead to low integration in an individual's environment.

## **New CBT-Based Online Self-Help Program for People Who Have Sexual Interest in Children**

**Nina Vaaranen-Valkonen, Save the Children, Finland**

**Nina Nurminen, Criminal Sanctions Agency, Finland**

### **Introduction**

Child sexual abuse is widely acknowledged as a global public health problem causing serious human suffering for children. Child sexual abuse is rarely a sudden, spontaneous act, but rather an outcome of a long process consisting of different phases. The research data indicates that the first thoughts of sexual interest in children are often recognized in adolescence. This is why it is important to reach people, who have sexual interest in children but have not acted upon them.

Save the Children, Finland has in cooperation with the Finnish Criminal Sanctions Agency and the Hospital District of Helsinki and Uusimaa (HUS) created a CBT based online self-help program for people who are worried about their sexual interest in children. The program can be used anonymously and free of charge.

### **Method**

The aim of the CBT based online self-help program is to engage people who are worried about their sexual interest, thoughts, feelings or actions towards children and/or use of online child sexual abuse images so called child pornography. The program challenges misbeliefs and thoughts as well as feelings regarding sexual actions towards children. The program offers CBT based exercises and tools for controlling harmful behaviour and it provides information on where to seek more support and help if needed. The self-help program is based on cognitive behavioral theory and evidence based medicine practices used in treatment with sexual offenders. It focuses on misbeliefs and thoughts as well as behavior and emotions. The self-help program consists of three parts: 1. What does it mean to have sexual interest in children? 2. How can I control my behavior if I have sexual interest in children? 3. The way forward: How to maintain adapted behavioral and cognitive changes and where to find more help

### **Results**

Breaking the taboo and preventing child sexual abuse.

The primary intervention of the self-help program is to stop child sexual abuse from happening in the first place. The program enables people who are worried about their sexual interest towards children and/or use of online child sexual images (child pornography) to increase their self-awareness and control of their problematic and harmful behavior. The program has many exercises and information on related issues for example co-morbidity mental health disorders such as anxiety and substance abuse. The self-help program offers information, psycho-education and exercises to control and change behavior, thoughts and emotions as well as how to seek support and help. The program can be used also among professionals and psychotherapist working with sexual offenders to prevent recidivism.

### **Discussion**

The CBT based online self-help program is innovative way to reach out to those who might harbour sexual thoughts about children. The innovation to deliver the program and help precisely where the problem is, on the Dark Web, is ground-breaking: Between December 2018 and February 2019 over 700 people have visited the self-help programme every day.

## **Feasibility Study of Unified Protocol of Transdiagnostic Group Treatment for Emotional Disorders Among Japanese Population with Depressive and Anxiety Disorders**

**Noriko Kato, National Center for Cognitive Behavior Therapy and Research, Japan**

**Masaya Ito, National Center for Cognitive Behavior Therapy and Research, National Center of Neurology and Psychiatry, Japan**

**Atsuo Nakagawa, Keio University, Japan**

**Ayaka Toyota, National Center for Cognitive Behavior Therapy and Research, National Center of Neurology and Psychiatry, Japan**

**Takao Nishimura, Nishimura Clinic, Japan**

**Mitsuhiro Miyamae, National Institute of Neuroscience, Japan**

**Yoshitake Takebayashi, Fukushima Medical University, Japan**

### **Introduction**

The Unified Protocol for Transdiagnostic Treatment of emotional disorders (UP) is a promising psychotherapy for anxiety, depressive, and related disorders (Barlow et al., 2017). Though some clinical trials have demonstrated the efficacy of UP delivered in a group format, there is only one clinical trial conducted in Asian countries. We conducted a single-arm study to examine the feasibility of the group format of the UP for adult patients with anxiety and/or depressive disorders among Japanese population.

### **Method**

Eighteen patients (12 women and 6 men; mean age = 41.1 (SD = 7.5) years) with anxiety and/or depressive disorder participated 12 sessions of UP in the weekly group format. The primary outcomes were improvement of anxiety and depressive symptoms from baseline to 24week from baseline (12 weeks after the completion of treatment) as assessed using the Hamilton Depression Rating Scale (GRID-HAMD) and the

patient's severity of anxiety and depressive symptoms as assessed using the Clinical Global Impression-Severity of Illness (CGI-S). The secondary self-reported outcomes included the functional impairment measured using the Sheehan Disability Scale (SDS), the quality of life status measured using the EQ-5D, the anxiety symptoms measured using the Overall Anxiety Severity and Impairment Scale (OASIS), and the depressive symptoms measured using the Overall Depression Severity and Impairment Scale (ODSIS).

### **Results**

The improvement of anxiety and depressive symptoms over 24 weeks from baseline assessed using GRID-HAMD and CGI-S were significant (Hedge's  $g = 1.04$ , 95% CI 0.33–1.75, and 1.90, 95% CI 1.10–2.70, respectively). SDS and OASIS significantly improved from baseline to follow-up period (Hedge's  $g = 0.90$ , 95% CI 0.20–1.60, and 0.77, 95% CI 0.08–1.45, respectively), while the changes from baseline to middle or post-treatment period were not significant. No significant improvement during the study period was observed in EQ-5D and ODSIS. The dropout rate was 5.6% (1/18). No serious adverse events were reported.

### **Discussion**

This study provides preliminary evidence that the group format of UP is potentially safe and effective for adult patients with anxiety and/or depressive disorders among Japanese population. These results should be further examined by larger and more rigorous randomized controlled trial.

## **Development, Reliability, and Validity of the Japanese Version of Employee Silence Scale**

**Azumi Nakai, Saitama Prefectural Board of Education, Japan**

**Miki Mizuguchi,**

### **Introduction**

Employee silence is the behavior that employee remain silent when they have something meaningful to say. Employee silence had no difference between sexes, organizational tenure, and age (Brinsfield, 2013). Previous researches (Edmondson, 2003; Liang et al., 2012; Van Dyne et al., 1998) showed that it suppressed employee's voice behavior at their workplaces. Furthermore, employee silence had relationships with interpersonal stressor, psychological safety, and extraversion. Brinsfield (2013) developed the Employee Silence Scale, which had six cognitive factors, "Deviant Silence" "Relational Silence" "Defensive Silence" "Diffident Silence" "Ineffectual Silence" and "Disengaged Silence." In Japan, it was said that silence was the one of virtue in any situation. Whereas, diversity of working circumstances has gradually been advanced and working practices have been changing. Cultivation of skill for conveying idea and opinion to another person at workplace, instead of silence, is emphasized

### **Method**

The Employee Silence Scale, Sense of Ibasho Scale (Ishimoto, 2010) as psychological safety, Assertion Scale for Adolescents (Tamase et al., 2001), "Extraversion" and "Neuroticism" in the short form of the Japanese Big-Five Scale (Namikawa et al., 2012), and The Scale of Interpersonal Stressor Scale (Hashimoto, 2005a) were administered to 311 workers (122 men and 189 women with mean age $\pm$ SD of 31.14  $\pm$  8.51).

### **Results**

EFA and CFA showed that Japanese employee silence had three factors, "Relational Silence" "Diffident Silence" and "Deviant Silence." The Cronbach's alpha was .86. Correlation coefficients between the Japanese version of Employee Silence Scale (JESS) and five scales were examined, Sense of Ibasho ( $r = -.31$ ), Assertion ( $r = -.29$ ), "Extraversion" ( $r = -.12$ ), "Neuroticism" ( $r = .40$ ), and Interpersonal Stressor ( $r = .35$ ). JESS had significantly differences between sexes ( $t(1,309) = 2.24$ ), organizational tenure ( $F(5,305) = 2.31$ ), and age ( $F(5,305) = 3.86$ ) ( $p < .05$ ).

### **Discussion**

In the present study, the Japanese version of Employee Silence Scale was developed. The scale had good reliability and adequate criterion-related validity. JESS had "Relational Silence" "Diffident Silence" and "Deviant Silence. It revealed that employee silence also related to employee's voice behavior negatively in Japan. "Relational Silence" suggested to tie back to self-interest (Brinsfield, 2013), which had relationship with interpersonal stressor and "Neuroticism", on the other hand, no relationship with assertion. "Diffident Silence" was related to psychological safety, Assertion, and "Neuroticism". It supported previous researches (Brinsfield, 2013; Van Dyne et al., 2003) which pointed out that risk-avoiding was one of antecedent of employee silence. "Deviant Silence" showed that silence for damaging other person could commonly find (Ahmad & Omar, 2014) at Japanese workplaces.

## **Old Age & Neurobehavioural Disorders**

### **Stress, Cognitive Fusion and the Simultaneous Presence of Anxious and Depressive Symptomatology in Caregivers of People with Dementia**

**Samara Barrera-Caballero, Rosa Romero-Moreno, Andrés Losada & Carlos Vara-García, Universidad Rey Juan Carlos, Spain**

**Isabel Cabrera & María Márquez-González, Universidad Autónoma de Madrid, Spain**

**María del Sequeros Pedroso-Chaparro, Universidad Rey Juan Carlos, Spain**

### **Introduction**

Much of the research in the dementia caregiving field has focused on psychological outcome variables such as depression or anxiety. However, the number of studies that analyze the simultaneous (comorbid) presence of anxious and depressive symptomatology, or the potential predictors of this type of symptomatology, is sparse. Cognitive fusion, as the tendency of behavior to be excessively regulated and influenced by one's thoughts, has been shown in the literature to be a relevant and transdiagnostic variable related with higher levels of anxiety and depression. However, cognitive fusion has been scarcely studied in the caregiver population, even less in relation to comorbid symptoms. Therefore, the objective of this study is to analyze the association between caregivers' profile of emotional symptoms (no symptoms, depressive symptoms, anxious symptoms or comorbid symptoms), and stress (disruptive behaviors of the care recipient and reaction to this behaviors) and cognitive fusion.

### **Method**

Face to face individual interviews were conducted with a total of 515 caregivers of a relative suffering dementia. The mean age of the participants was 61.66 years ( $SD = 13.61$ ) and most of them were women (72.20%). Caregivers reported to have been providing care for a mean of 45.35 months ( $SD = 39.74$ ), devoting approximately half a day caring for their relative. According to their scores on depressive and anxiety symptoms (using clinical cut-off scores for the CES-D and POMS-Anxiety scales), caregivers were grouped into the following

profiles of emotional symptoms: comorbid ( $n = 277$ ), anxious ( $n = 83$ ), depressed ( $n = 37$ ) and no symptoms ( $n = 118$ ). Different ANOVAs and independence tests were performed.

#### **Results**

The profiles of emotional symptoms were significantly associated ( $p < .01$ ) with the variables frequency of disruptive behaviors, reaction to disruptive behaviors and cognitive fusion. The comorbid caregiver group showed significantly higher levels of disruptive behaviors, reaction to disruptive behaviors and cognitive fusion than the other three profiles. The anxious group presented higher levels of disruptive behaviours than the depressive group. The anxious group and the depressed group showed higher levels of cognitive fusion than the no symptoms group. Significant effects of the profiles of emotional symptoms were found in the gender variable. Specifically, women were more likely to be found in the comorbid and depressed groups compared to the other two groups, while men were more likely to be found in the no symptoms group compared to the other three groups ( $p < .01$ ). No significant differences between groups were found in terms of age, hours and time since being a caregiver.

#### **Discussion**

Caregivers reporting higher levels of stress (frequency and reaction to disruptive behaviors) and higher levels of cognitive fusion are those reporting more comorbid symptoms. The inclusion of strategies to target cognitive fusion in psychological interventions aimed at reducing caregiver's distress may be particularly helpful for helping caregivers with a profile of comorbidity between anxious and depressive symptoms.

### **Adaptations of CBT for Severe Depression with Cognitive Impairment – A Case Report**

**Rodrigo de Almeida Ferreira & Tammy Amaral Ferreira, Rede Mater Dei, Brazil**

#### **Introduction**

Despite evidences that CBT is effective for severe depression, many professionals indicate CBT only for mild and moderate episodes. Reasons may include outdated guidelines and the paucity of reported cases of CBT in patients with severe depression. Here we report the successful treatment with CBT of a patient with very severe and refractory depression with cognitive impairment. Eva is a 75-yr old woman with a lifetime history of recurrent depression and generalized anxiety disorder. She presented to a psychiatric unit in a catatonic depressive episode that led to admission and ECT treatment. In magnetic resonance imaging, her brain showed signs of ischemia in several regions, suggesting an acquired brain injury previous to the last depressive episode. During three subsequent years, she underwent several psychopharmacological regimens, two new courses of ECT treatment and ECT maintenance sessions. Still, she failed to maintain remission for more than three months.

#### **Method**

As patient was showing cognitive impairment due to ECT, CBT was proposed as an adjunctive treatment to her psychopharmacological regimen (that then included two antidepressants, one anticonvulsant and one antipsychotic). CBT treatment was oriented to address highly distressing symptoms, reinforce coping abilities and emphasize her core values. Eva underwent 32 sessions during a ten-month period. Several adaptations were made because of her cognitive deficits. Duration of sessions was decreased and she didn't filled symptoms questionnaires to avoid mental fatigue. Psychoeducation employed concrete analogies and drawings, was simplified and repeated frequently during session as the same phrase and written down on a small paper as a reminder that she was instructed to place near her bed, to remember rereading. Family was involved by having one daughter during the session summary as a way of educating her about the cognitive model and for having her help in the action plan.

#### **Results**

The first stage of treatment focused in behavioral activation to reduce maladaptive compensatory strategies as avoidance, rumination and hypervigilance for somatic symptoms. It also included evaluation of automatic thoughts and behavioral experiments to reformulate catastrophizing thoughts about bodily sensations. The goal of the second stage of therapy was to create a new and more adaptive core belief, which was then reinforced during subsequent sessions using visual reminders and behavioral experiments. After a period of three months in remission, treatment approached the final stage, which aimed to consolidate her new acquired abilities and increase her self-efficacy. Eva felt confident to employ the techniques she learned in therapy and is still in remission.

#### **Discussion**

CBT is an effective treatment for all types of depression. The necessity to make adaptations on treatment according to each patient should not be a reason to avoid using CBT in severe depression or in depression with mild cognitive impairment, as CBT is flexible by nature. More reports and research are needed to encourage health professionals and therapists to indicate and use adequately CBT for severe depression.

### **Association of Acceptance of Aging and Self-Reliance with the Mental Health of the Elderly**

**Yuko Fukase & Hiromi Ohki, Kitasato University, Japan**

**Yoshimi Suzukamo, Tohoku University, Japan**

**Kanako Ichikura, Kitasato University, Japan**

**Norio Murayama, Juntendo University, Japan**

**Mari Inoue & Hirokuni Tagaya, Kitasato University, Japan**

#### **Introduction**

It is reported that the elderly maintain their mental health through the use of compensatory strategies during the aging process (Gondo 2008). Self-reliance and the acceptance of aging are considered aspects of such strategies (Fukase et al., 2018). It has been recognized that self-reliance exerts a beneficial effect on the mental health of the elderly (Hyde et al., 2003). However, the acceptance of aging may not always be positive for the maintenance of mental health of the independent elderly (Fukase, Murayama, & Tagaya, 2018). This study aimed to determine the range of the instrumental activities of daily living (IADL) score that is beneficial for the mental health of the community-dwelling elderly.

#### **Method**

A questionnaire was administered to community-dwelling elderly. A total of 463 people aged  $74.17 \pm 5.57$  years (ranging between 65 and 92 years in age) participated in the surveys (female 51.6% and male 48.4%, Chi-square = 0.15, n.s.). The questionnaire comprised the following items: (1) the psychological autonomy scale aimed to evaluating self-reliance and acceptance of aging, (2) the IADL scale composed of eight skills of daily living with a score range of 0–8, a higher score indicating greater independence, and (3) the Life Satisfaction Index–K (LSIK). Multi-group structural equation modeling through IADL scores was conducted with the LSIK as the dependent variable, and self-reliance

and acceptance of aging as the independent variables. Until the beta between acceptance of aging and LSIK became significantly positive in the low IADL group, the cutoff scores of IADL were lowered for the multi-group analysis.

#### **Results**

There was no significant relation between the acceptance of aging and LSIK in both IADL groups when the IADL scores of  $\geq 7$  and of  $< 7$  were separated. A positive relation between the acceptance of aging and LSIK in only the low IADL group ( $\beta = 0.52, p < 0.05$ ) and a positive relation between self-reliance and LSIK in only the high IADL group ( $\beta = 0.23, p < 0.05$ ) was evinced when participants were separated by IADL scores of  $\geq 6$  and of  $< 6$ .

#### **Discussion**

This study demonstrated that the acceptance of aging exerts a beneficial effect on mental health when the IADL score is less than 6. Such elderly people begin to need support in their daily living activities, such as shopping, preparing meals, and doing the laundry. Hence, they have to modify their cognitive styles to adapt to their bodily changes and to maintain their mental health. In contrast, when the IADL score is more than 6, they may not be aware of their own aging process and the acceptance of aging is not yet essential for them. Cognitive therapy for the elderly has been developed, as this study shows that the acceptance of aging is an important cognitive factor for their mental health.

### **Efficacy of an Intervention Program Based on a Brief Cognitive-Behavioral Psychoeducation with Balneotherapy in Informal Caregivers of Older People**

**Javier López Martínez, CEU San Pablo University, Spain**

**María Dolores Ortíz & Teresa Martínez, Unión Democrática de Pensionistas y Jubilados de España, Spain**

#### **Introduction**

Caring for older relatives with chronic illness can be very stressful. The stress and coping model states that intrapsychic strains result from the combination of caregivers' family and work conflict and care recipient's demands. Coping resources can buffer the stressors' impact, so interventions helping caregivers to balance care-recipient's and care-provider's demands are needed. Balneotherapy has proved its efficacy reducing caregivers' stress. These positive results improve when combined with psychoeducation. Research has supported the efficacy of psychoeducational programs decreasing caregivers' burden and depression while increasing their satisfaction and well-being, especially those focused on developing cognitive-behavioural skills. Although family care is mainly provided by women, most dependent elders receive help from secondary caregivers, who are often the spouse and the children of the primary caregiver. Multicomponent interventions including other family members should be developed to share the caregiving challenges and increasing caregivers' social networks.

#### **Method**

This study aimed to analyze the efficacy of a group intervention program that combined balneotherapy with a brief psychoeducation including primary and secondary caregivers. The psychoeducation program included 5 sessions in which cognitive and behavioural resources were taught to help caregivers to balance the care-recipient's and their own demands, as well as promoting co-responsibility by incrementing caregivers' social networks. Balneotherapy consisted of 3 thermal baths circuits.

The statistical significance in reducing participants' burden, depression, anxiety, maladjustment and increasing their care satisfaction before and after the intervention was analyzed (N=124; 59.70% women; average age= 59.25). These results were then compared with a comparison group only exposed to balneotherapy (N = 76; 50% women; average age= 55.38).

#### **Results**

Caregivers' burden and satisfaction showed a better improvement in both primary and secondary caregivers participating in the balneotherapy with psychoeducation program ( $p < .001$ ). Secondary caregivers' anxiety and primary caregivers' maladjustment also showed greater results in the experimental group ( $p < .01$ ). Although depression decreased significantly in both intervention groups, the experimental group did not show greater results than the comparison group ( $p > .05$ ).

#### **Discussion**

The psychoeducational program helped caregivers to develop and use coping strategies that, in turn, reduced their perception of burden and increased the positive aspects associated with caregiving. We can hypothesize that balneotherapy may have helped caregivers to, first, disconnect from the caregiving environment, focus on themselves and, later, psychoeducation may have gone further providing specific strategies to take care of other important areas, giving a significant role to the secondary caregiver by facilitating primary caregivers' conciliation and co-responsibility. Depression decrease was only influenced by the balneotherapy. It is possible that caregivers may have not had enough time to use the techniques learnt in their daily life yet, since the post-treatment assessment was done immediately after the intervention.

Conclusion. These results support the beneficial effects of combining balneotherapy and psychoeducation in a culture of care organization based on balancing the care-recipient's needs, caregivers' self-care and co-responsibility. One of the strengths of this study was extending caregiving beyond primary caregivers, with the inclusion of secondary caregivers.

### **Communication Empowerment Framework: An Integrative Framework to Support Effective Communication and Interaction Between Carers and People Living with Dementia**

**Lydia Morris, University of Salford, United Kingdom**

**Warren Mansell, University of Manchester, United Kingdom**

**Tracey Williamson, University of Worcester, United Kingdom**

**Alison Wray, Cardiff University, United Kingdom**

**Natalie Yates-Bolton, University of Salford, United Kingdom**

**Phil McEvoy, Six Degrees Social Enterprise, United Kingdom**

#### **Introduction**

Communication and interaction are fundamental needs. Carers of people living with dementia, and those they are caring for, can experience significant communication challenges. The key aim of this presentation is to demonstrate the utility of integrating three theoretical perspectives (Mentalization Theory, Perceptual Control Theory and the Communicative Impact model), which jointly illuminate the communication challenges and opportunities faced by family care partners of people with dementia. This integrated framework draws on understandings from cognitive-behavioural, psychodynamic and control theory approaches. It takes an interdisciplinary approach to supporting wellbeing and applies cognitive-behavioural understandings to wider social care support needs.

## **Method**

Conceptual synthesis based on a narrative review of relevant literature, supported by examples of family care partners.

## **Results**

We use the conceptual models to show how the capacity to mentalize ('holding mind in mind') offers a greater sense of control over internal and external conflicts, with the result that they can be deescalated in pursuit of mutual goals. Difficulties with mentalization and goal conflict have both been suggested as transdiagnostic maintenance processes for psychological distress. This poster provides an example of how such maintenance processes can be targeted using a course format.

We point the way to how this framework informs the design and delivery of carer communication and interaction training-intervention.

## **Discussion**

Communication and empathy are based on having an understanding of the goals of others involved. Identifying another person's goals and 'holding their mind in mind' (mentalization) is made more difficult when the other person has difficulties expressing their perspective verbally, or their internal experiences change. We describe a communication training called Empowered Conversations for care partners of people living with dementia that is based on these principles. This encourages care partners to 'pause-reflect-reconnect'. A number of strategies and interactive exercises facilitate carers to consider the goals and emotional experiences of those they are caring for, as well as considering their own goals and experiences.

Conclusion: Cognitive-behavioural, psychodynamic and control theory approaches can be used to improve wellbeing and inform interventions outside of their more traditional domain of talking therapies. Through applying such understandings addressing global health issues, such as the ever-rising prevalence of dementia, can be enhanced.

## **Development and Preliminary Validation of the Scale Guilt Associated with Self Perception as a Burden Scale (G-SPBS)**

**María del Sequeros Pedroso-Chaparro, Andrés Losada & Rosa Romero-Moreno, Universidad Rey Juan Carlos, Spain**

**María Márquez-González, Isabel Cabrera, Carlos Vara-García & Laura Gallego-Alberto, Universidad Autónoma de Madrid, Spain**

### **Introduction**

As shown in research and clinical practice, in older adults it is common to experience the feeling of being a burden to others, which is associated with greater psychological distress (McPherson, Wilson y Murray, 2007). However, the experience of guilt feelings associated with perceiving oneself as a burden to others has been scarcely studied, and there is no assessment instrument available for such feelings. Therefore, the main objective of this work was the development and preliminary validation of Guilt associated with Self Perception as a Burden Scale (G-SPBS).

### **Method**

Participants were 120 older adults with ages between 61 and 95 years old (mean age = 74,87, DT= 7,79; 57,50% women), without cognitive or functional limitations for the realization of activities of daily living (ADLs). For the measurement of guilt associated with perceiving oneself as a burden, some of the items of the Self-Perceived Burden Scale (SPBS; Cousineau, McDoell, Hootz, & Hébert, 2003) were adapted. The final scale, called "Guilt associated with perceiving oneself as a Burden Scale" (G-SPBS), was composed of 16 items such as "I feel guilty for burdening my family for taking care of me", with 5-point Likert-type scale.

### **Results**

Results from parallel and exploratory factor analyses suggest that the G-SPBS has a bifactorial structure. The first factor has been called "Guilt for being a burden for family members" (Cronbach's alpha = .93); and the second "Guilt for causing changes and/or overflowing in the lives of relatives" (Cronbach's alpha = .79). Both factors explain 60.62% of the variance of guilt perceiving oneself as a burden for others. The results show a significant and positive association of guilt with depressive symptomatology and age ( $p < .05$ ,  $p < .01$ , respectively), as well as a significant and negative association with the variables independence and perceived control ( $p < .01$ ).

### **Discussion**

These findings suggest that the G-S-SPBS has acceptable psychometric properties and that guilt associated with perceiving oneself as a burden is a relevant variable that can contribute to improve our understanding of psychological discomfort in older adults.

## **Functional Independence, Subjective Perception of Aging, and Guilt for Perceiving Oneself as a Burden: Effects on Personal Control and Depressive Symptomatology**

**María del Sequeros Pedroso-Chaparro, Andrés Losada, Carlos Vara-García & Rosa Romero-Moreno, Universidad Rey Juan Carlos, Spain**

**María Márquez-González & Isabel Cabrera, Universidad Autónoma de Madrid, Spain**

**Samara Barrera-Caballero, Universidad Rey Juan Carlos, Spain**

### **Introduction**

Depression is one of the most prevalent mental disorders in old age, as it has been shown in the literature to be related with variables such as perceived control. However, its relationship with guilt for perceiving oneself as a burden for family members has been scarcely studied. The main objective of this work is to analyze the role of functional independence, subjective perception of aging, guilt for perceiving oneself as a burden, perceived control and gender in the explanation of depressive symptomatology in older adults.

### **Method**

Participants were 122 people older than 60 years without cognitive or functional limitations for the realization of activities of daily living (ADLs), institutionalized and resident in the community (mean age = 74.94 years; SD = 7.79; 58.20% women). Based on the integrative model (Lewinsohn et al., 1985), which states that depression occurs as a result of the interaction of environmental and dispositional factors, a model in which perceived control acts as a mediating variable in the relationship between the three predictor variables, independence, subjective perception of aging and guilt for perceiving oneself as a burden, and the main emotional outcome depressive symptomatology, was analyzed.

### **Results**

The model presented a good fit to the data ( $X^2 = 7.54$ ;  $p = .38$ ;  $X^2/df = 1.08$ ; RMSEA = .027; CFI = .996 and TLI = .992), explaining 38% of the perceived control and 50% of depressive symptomatology. The results of mediation analyses confirm that perceived control has a full mediating role in the relationship between independence and depressive symptomatology, and between guilt and depressive symptomatology (standardized indirect effect (SIE) = .109;  $p < .01$ ; SE = .037; 95% CI = .057-.179; SIE = -.207;  $p < .01$ ; SE = .039; 95% CI = -.207-.078,

respectively), while a partial mediation effect of perceived control has been found in association between subjective perception of ageing and depressive symptomatology (SIE=-.134;  $p < .01$ ; SE = .041; 95% CI = -.268--.134).

#### **Discussion**

The results suggest that older people who report higher levels of dependence, high feelings of guilt for perceiving themselves as a burden, and a greater subjective perception of aging, report a lower perception of control. This lower perception of control is associated with greater depressive symptomatology. These results explain a significant percentage of older adults' depressive symptomatology and suggest that interventions aimed at reducing depressive symptomatology in the older population should consider including contents and techniques targeting the subjective perception of aging, guilt for perceiving oneself as a burden and promoting autonomy.

### **A New Group Intervention to Promote Mental Health in Older Adults with Cognitive Decline**

**Chiara Ruini, Giulia Cesetti & Francesca Vescovelli, University of Bologna, Italy**

#### **Introduction**

A common vexing problem in psychotherapy research is the implantation of interventions with older adults, particularly when they present cognitive decline. Standard Cognitive Behavioural Therapy (CBT) or other traditional approaches have been found to present controversial results. In order to be more easily assimilated by aging individuals, specific cognitive stimuli should be connected with subjective emotional contents. Storytelling and narrative strategies may well suit this purpose.

The study aimed: to test the feasibility of a group intervention for improving mental health versus a control art-and-craft intervention in a nursing home setting.

#### **Method**

Thirty older adults with mild cognitive impairment participated in the study ( $M = 77.37$ ;  $SD = 5.00$ ), Male = 20 (33.3%). They were administered the Mini Mental State Examinations (MMSE) and subsequently they were allocated to a group narrative intervention ( $N = 20$ ) or to a control group ( $N = 10$ ) and assessed at post-intervention using the following measures: Geriatric Depression Scale, Satisfaction with Life Scale, Psychological Well-being Scale, and sleep quality.

#### **Results**

At post-treatment, individuals assigned to the narrative intervention reported significantly increased well-being and sleep quality.

#### **Discussion**

Although preliminary, results showed that a short group narrative intervention is applicable in nursing homes. This brief group intervention based on a combination of story telling and CBT yielded improvements in well-being and sleep quality in nursing home residents, who enjoyed and appreciated its content. These promising results need to be confirmed by future randomized controlled trials.

### **Are Dementia Caregivers' Dysfunctional Thoughts that Dysfunctional? Different Patterns of Associations Depending on Gender**

**Beatriz Simón-Orta, María Márquez-González, Isabel Cabrera, Ana Pérez-Miguel & Laura Gallego-Alberto, Universidad Autónoma de Madrid, Spain**

**María Pedroso-Chaparro & Andrés Losada-Baltar, Universidad Rey Juan Carlos, Spain**

#### **Introduction**

Some studies have explored the role of dysfunctional thoughts in the caregiving process, but the available findings do not show consistent patterns of association with caregiver's distress. One possible reason for these inconsistencies may be related to the use of general samples that do not consider important dimensions that may moderate the observed associations (e.g., important differences between female and male caregivers). Caregiving is carried out mainly by women, although there is an increasing proportion of men adopting that role. The aim of this study is to analyze the influence of gender on the effect of dysfunctional thoughts on caregivers' variables related with coping (e.g., leisure, social support, and experiential avoidance), and levels of depressive symptomatology.

#### **Method**

Individual interviews were conducted with 220 family caregivers of relatives suffering dementia (146 women and 74 men).

Sociodemographic variables (age and gender), dysfunctional thoughts about caregiving, leisure, social support, experiential avoidance in caregiving, consistency with the value of care, and depressive symptomatology were assessed. In order to analyze gender differences between variables object of study, path analysis were performed using AMOS software on the samples of female and male caregivers, separately.

#### **Results**

For female caregivers, dysfunctional thoughts are significantly and inversely associated with the frequency of leisure activities and social support, and positively with experiential avoidance. The relationship between dysfunctional thoughts and depressive symptomatology seems to be mediated by leisure activities. The tested model shows a good fit to the data. However, the same model does not fit well with the data obtained with male caregivers. In the case of male caregivers, dysfunctional thoughts correlate significantly and negatively with depressive symptomatology and positively with experiential avoidance, but are not significantly associated with leisure or social support.

#### **Discussion**

The results of this study suggest that there is a difference in the impact of dysfunctional thoughts about caregiving on the caregiving process depending on caregivers' gender. For female caregivers, dysfunctional thoughts seem to have a general negative impact on coping strategies (e.g., leisure or social support), a finding not observed in male caregivers. These results highlight the importance of analyzing in greater depth gender effects in the study of the caregiving stress and coping process. Practical implications of the findings will be discussed.

## **Familiar vs. Non-Familiar Personal Values in Dementia Family Caregivers: Associations with Mental and Physical Health**

**Carlos Vara-Garcia, Universidad Rey Juan Carlos, Spain**

**Rosa Romero-Moreno & Andres Losada, Universidad Rey Juan Carlos, Spain**

**Maria Marquez-Gonzalez, Universidad Autonoma de Madrid, Spain**

**Maria del Sequeros Pedroso-Chaparro & Samara Barrera-Caballero, Universidad Rey Juan Carlos, Spain**

**Isabel Cabrera, Universidad Autonoma de Madrid, Spain**

### **Introduction**

Caring for a relative with dementia is a chronic stressful situation associated with negative consequences for mental and physical health. However, these associations may be modulated by other variables such as caregivers' personal values (i.e., global desired directions for life, freely chosen and verbally constructed), that may be family oriented or not (e.g., personal growth). Our objective is to analyze if caregivers personal values are associated with different sociodemographic, coping, and health variables.

### **Method**

254 caregivers caring for a parent or a spouse with dementia were face-to-face interviewed about sociodemographic, stressors (frequency and reaction to behavioral and psychological symptoms of the dementias), resource variables (leisure and cognitive fusion), appraisal (ambivalence), and outcome (depressive and anxious symptoms, and mean arterial pressure; MAP) variables. Caregivers also selected the 2 most important personal values for them, aside from caregiving, of a list of 8 values: family related (being a good spouse, being a good father/mother) or non-family related (professional growth, personal growth, leisure, self-care, life in the community, or spirituality). For each value they were asked to rate their consistency (the extent to which they had behaved consistently with that value) and satisfaction (how satisfied they were with that value). Chi-squared tests, ANOVAs and ANCOVAs analyses were employed, controlling for age, gender, body mass index and use of antihypertensives.

### **Results**

Three different values profiles were created: familiar (two family-related values were selected, N=81), mixed (caregivers who selected a family-related and a nonfamily-related value, N=103) and non-familiar (two nonfamily-related values were selected, N=116). Compared with the familiar group, caregivers in the non-familiar profile reported a higher frequency and reaction to stressors and depression, and a trend to present higher MAP, but they reported lower age, consistency and satisfaction with their values. No significant differences in reaction to stressors, depression and MAP were found with respect to the mixed group. The non-familiar and mixed profiles showed significantly higher daily hours devoted to care, anxiety symptoms, cognitive fusion and ambivalent feelings than the familiar profile. There were no significant differences between groups in months devoted to care and frequency of leisure activities.

### **Discussion**

The findings suggest that different caregivers' values profiles are associated with different psychological and health characteristics. Caregivers who select non-familiar values seem to show a more vulnerable profile, characterized by higher exposure to stressors and depression, a trend to higher blood pressure, and also a lower consistency and satisfaction with their values, probably related with their caregiver role. Several practical implications of the results are discussed.

## **Cognitive Biases to Identify the Underlying Mechanisms of Loneliness in Older Adults**

**Nine Wolters & Anke Klein, University of Amsterdam, the Netherlands**

**Viviana Wuthrich & Ronald Rapee, Macquarie University, Australia**

**Reinout Wiers, University of Amsterdam, the Netherlands**

### **Introduction**

Loneliness is an increasing health concern, especially in adults aged over 65 years. Loneliness, the subjective perception of deficiencies in someone's social network, and social isolation, the objective absence of social relationships, are often studied together in the literature. However, the correlation between these constructs is relatively low. It could be that elderly who feel lonely are not per se socially isolated, but they might have a biased view on their social environment and interpret the availability of their social support network in a more negative way than individuals without feelings of loneliness. Therefore, it might be important to focus on interpretation bias in relation to loneliness to better understand its underlying mechanisms. The current study aims to increase our understanding of the associations between loneliness, social isolation, social anxiety, and depression by examining cognitive styles to understand the mechanisms underlying loneliness.

### **Method**

In total, an unselected sample of 150 adults with an age above 65 years completed a scenarios paradigm to measure interpretation bias. For the scenarios paradigm, three subcategories were created with themes related to either loneliness, social anxiety or depression. In addition, participants filled in self-reported measures of loneliness, social isolation, social anxiety, and depression. It was hypothesized that all three bias themes would be positively related to loneliness, social isolation, social anxiety, and depression. However, we expected the correlations between the specific bias themes and corresponding self-report measures to be stronger compared to the correlations between the non-specific bias themes.

### **Results**

The results will be presented during the poster presentation.

### **Discussion**

The tendency to interpret ambiguous situations in a negative way is referred to as interpretation bias. Up to now, interpretation biases have mostly been studied in individuals with other psychological problems, such as social anxiety and depression. However, it might also be important to focus on interpretation bias in relation to loneliness to better understand its underlying mechanisms. As several studies found a clear overlap between feelings of loneliness, social anxiety and depression (e.g. some studies suggest that feelings of loneliness precede depression and anxiety), we decided to also include social anxiety and depression. To the best of our knowledge, this study is the first to address interpretation bias in relation to loneliness, social isolation, social anxiety, and depression, which will increase our understanding on the identification, prevention, and treatment of loneliness.

## **Active Aging Promotion Program for Dementia Family Caregivers: A Pilot Study**

**Maria Del Sequeros Pedroso, Miriam Alonso-Fernandez, Borja Matias-Pompa, José Luis González-Gutiérrez, Almudena López-López & María Del Sequeros, Rey Juan Carlos University, Spain**

### **Introduction**

Active aging aims to encourage healthy life styles, while promoting people to be active agents of their own positive aging. This situation has gained prominence due to progressive aging of our population and the increasingly high dependency rates, together with the inherent need of caregivers (INE, 2018). There are different theoretical proposals based on active aging in which caregivers can be included, as the Theory of Self-Management or Wellbeing (TSMW; Steverink, Lindenberg and Slaets, 2005).

### **Method**

A program of intervention based on the TSMW is proposed through six face-to-face group sessions and the use of a mobile app. It was carried out with eight people (87.5% women, mean age 61.62 S.D. = 13.8), mostly daughters (50%), wives (37.5%) and daughters-in-law (12.5%). The main objective to be achieved was to develop successfully the aging of caregivers through an improvement of the different dimensions that make up physical (Comfort, Stimulation) and social wellbeing (Affection, Behavioral confirmation and Status) and the six self-management abilities (Self-efficacy, Positive Frame of Mind, Taking initiatives, Investment behavior, Multifunctionality and Variety of resources). In addition, it was proposed to observe the influence that could be exerting the depressive symptomatology and the over load of the caregiver on the effectiveness of the above mentioned intervention. All participants were assessed in depression, caregiver overload, well-being and self-management abilities.

### **Results**

The results obtained at the time after treatment showed a substantial improvement of well-being ( $z = -2.52, p = 0.01$ ), with significant changes in Comfort ( $z = -2.21, p = 0.02$ ), Stimulation ( $z = -2.52, p = 0.01$ ) and Behavioral confirmation ( $z = -2.04, p = 0.04$ ). In the same way, significant changes were found in the self-management ability of Positive Frame of Mind ( $z = -2.53, p = 0.01$ ). With respect to the influence of depressive symptomatology and caregiver overload on the effectiveness of the intervention, a tendency towards significance was observed for depression ( $F = 4.41, p = 0.09$ ).

### **Discussion**

Taking into account these results, important benefits of intervention in our sample were found, especially in the levels of physical and social well-being, being this improvement influenced by the levels of depressive symptomatology. Despite the limitations (reduced sample and no control group), these results are encouraging showing that programs aimed at promoting active aging and general well-being could have a significant benefit for our population. The results of this study would indicate the need for more research that can provide more consistent data.

## Poster Session 9 (15.00-17.00)

### Obsessive States- English Programme

- 1 **Validation of the German Version of the Muscle Dysmorphia Inventory**  
Rike Arkenau, Osnabrück University, Germany
- 2 **Feared Self-Perception Interacts with Dysfunctional Reasoning in the Prediction of Obsessive-Compulsive Symptoms**  
Louis-Philippe Baraby, Centre de Recherche de l'Institut Universitaire en Santé Mentale de Montréal, Canada
- 3 **Counterconditioning and Moral Disgust: A Pilot Study in a Non-Clinical Sample**  
Barbara Basile, Scuola di Psicoterapia Cognitiva and Associazione di Psicologia Cognitiva, Italy
- 4 **Body Perception in BDD: An Eye Tracking Study**  
Francesca Beilharz, Swinburne University of Technology, Australia
- 5 **Predicting Exposure Response in OCD: Role of Emotion Regulation**  
Noah Berman, College of the Holy Cross, USA
- 6 **Therapeutic Alliance and Group Cohesion in Group CBT for OCD**  
Elena Cabedo, Clinical-University Hospital of Valencia, Spain
- 7 **Subtypes of Obsessive – Compulsive Disorder: Implication of Modification in Cognitive Behaviour Therapy**  
Sampurna Chakraborty, Central Institute of Psychiatry, India
- 8 **Parenting Styles and Adolescent Obsessive Compulsive Disorder**  
Poornima Chandrashekar, National Institute of Mental Health and Neurosciences (NIMHANS), India
- 9 **The Relationship Between Body Dysmorphic Disorder and Bullying in a Sample of Greek Adolescents: The Cognitive Profile of BDD in Adolescents**  
Maria Chatzikonsantoglou, Hellenic Center of Mental Health and Researches, Greece
- 10 **Do Cognitive and Behavioural Maintenance Mechanisms Identified in Adult Models of OCD Apply to Childhood OCD?**  
Chloe Chessell, University of Reading, UK
- 11 **Cognitive Dissonance Mediates OCD Symptoms: An Investigation.**  
Matthew Collings, University of New South Wales, Australia
- 12 **Knowledge and Treatments of Gynecologists of BDD and BDD of the Female Genitalia: A Qualitative Study**  
Marie Drüge, University of Zurich, Switzerland
- 13 **Prevalence of Symptoms of the Body Dysmorphic Disorder and Associated Features in Swiss Military Recruits: A Self-Report Survey**  
Marie Drüge, University of Zurich, Switzerland
- 14 **Motivation-Centered Confrontation with Disgusting Stimuli - A Feasibility Study**  
Jakob Fink, University of Leipzig, Germany
- 15 **Attention Bias in Obsessive Compulsive Disorder: The Development of a New Questionnaire**  
Martha Giraldo O'Meara, Concordia University, Canada
- 16 **The Feared Self: A Multidimensional Construct**  
Martha Giraldo-O'Meara, Concordia University, Canada
- 17 **Does Sweat Play a Role in Olfactory Reference Disorder?**  
Anja Grochowski, Braunschweig University, Germany
- 18 **Tackle your Tics: Feasibility of a Brief, Intensive Group-Based Exposure Therapy Programme for Children with Tic Disorders**  
Annet Heijerman, Dutch Knowledge Centre for Child and Adolescent Psychiatry and Dutch Tourette Association, the Netherlands
- 19 **Rumination, but not Worry, Uniquely Predicts Distress Associated with Obsessive-Compulsive Symptoms in Individuals with Obsessive-Compulsive Disorder.**  
Carlotta V. Heinzel, University of Basel, Switzerland
- 20 **Volitional Modification of Brain Activity in Adolescents with Autism Spectrum Disorder**  
Lilian Konicar, Medical University of Vienna, Austria
- 21 **I Might Be Disgusting: An Investigation of Fear of Self, Disgust Sensitivity and Mental Contamination**  
Sandra Krause, Concordia University, Canada
- 22 **Body Dysmorphic Symptoms and Self-Esteem: A Meta-Analysis**  
Nora Kuck, Westfälische Wilhelms-Universität Münster, Germany
- 23 **Experiences of Patients Diagnosed with Chronic OCD with Their Previous Psychotherapy**  
Franziska Kühne, University of Potsdam, Germany
- 24 **Interpersonal Deficits Associated with Acquiring and Discarding Difficulties**  
Cathy Kwok, Macquarie University, Australia
- 25 **Efficacy of Manual-Based CBT for the Drug-Naive Obsessive-Compulsive Disorder Patients in China**  
Jia Luo, Beijing Anding Hospital and Capital Medical University, China
- 26 **Development and Validation of the Deontological and Altruistic Guilt Scale (DAGS)**  
Alessandra Mancini, Praxis für Psychotherapie, Berlin, Germany
- 27 **Preliminary Data About the Validation of the Deontological and Altruistic Guilt Scale (DAGS)**  
Alessandra Mancini, Praxis für Psychotherapie, Berlin, Germany
- 28 **The Impact of Appearance-Based Rejection Sensitivity and of Dysmorphic Concerns on the Relationship Between Teasing and Mental Health: Are There Gender Specific Effects?**  
Alexandra Martin, University of Wuppertal, Germany
- 29 **The Inference Based Approach: Does it Offer an Alternative to Exposure and Response Prevention for the Treatment of Obsessive Compulsive Disorder**  
Kieron O'Connor, Institut Universitaire en Santé Mentale de Montréal Research Center, Canada
- 30 **Effects of Rumination on Unwanted Intrusive Thoughts: A Replication and Extension**  
Martin Mazanec, University of Basel, Switzerland

- 31 **Deficits in Emotional Control in Paediatric Obsessive-Compulsive Disorder: Associations with Symptom Presentation and Response to Treatment**  
Matthew McKenzie, Griffith University, Australia
- 32 **Examining Parents' Perception of Children's Emotion Regulation in Paediatric OCD: Associations with Family Accommodation and Parental Distress**  
Matthew McKenzie, Griffith University, Australia
- 33 **Treatment Format Preference for OCD**  
Josie Millar, University of Bath, UK
- 34 **OCD Symptoms in a Non-Clinical Sample: What About a Non-Good-Enough Father?**  
Anna Nisyraiou, University of Macedonia, Greece
- 35 **Technology-Based Cognitive Behavioral Therapy for Obsessive-Compulsive Disorder: A Meta-Analysis**  
Laura Marie Nosthoff-Horstmann, Westfälische Wilhelms-Universität Münster, Germany
- 36 **Hoarding Disorder and Emotion Regulation in a Non-Clinical Sample**  
Caterina Novara, University of Padua, Italy
- 37 **A Young Woman with Comorbid Insomnia and Trichotillomania**  
Mary Ntafouli, University Hospital Bern, Switzerland
- 38 **Research Goals as Defined by OCD Patients: An Online Survey for More Involvement into Research**  
Mara Jasmin Otterbeck, University of Potsdam, Germany
- 39 **Getting rid of it: Using Implementation Intentions to Help Hoarders to Discard.**  
Arthur Pabst, Université Catholique de Louvain, Belgium
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## Poster Session 9: Obsessive States and Psychosis & Bipolar Disorders

### Obsessive States

#### Validation of the German Version of the Muscle Dysmorphia Inventory

Rike Arkenau, Manuel Waldorf, Martin Cordes & Silja Vocks, Osnabrück University, Germany

##### Introduction

Previous studies indicate that increasingly men and adolescent boys are dissatisfied with their muscularity and more often strive for a trained and muscular body. A clinical relevant syndrome that is described within this context is muscle dysmorphia (MD). As a subtype of body dysmorphic disorder, MD mainly is characterized by the belief of not being sufficiently muscular, and further includes muscle enhancing behaviors, such as dieting and excessive exercising, as well as feelings of distress and impaired functioning. While for the English language areas, the Muscle Dysmorphia Inventory (MDI) with its six subscales Size/Symmetry, Exercise Dependence, Physique Protection, Dietary Behavior, Supplement Use, and Pharmacological Use can be used as a reliable and valid instrument to assess central features of MD, no equivalent instrument is available for the German-language areas. The aim of the present study is to examine the psychometric properties of the German version of the MDI.

##### Method

Questionnaire data of  $N = 72$  men ( $n = 24$  MD men,  $n = 24$  weight-training men,  $n = 24$  non-weight-training men), that were collected within a broader study on body-related attentional allocation in men with MD (Waldorf, Vocks, Düsing, Bauer, & Cordes, 2019), are planned to be expanded with an additional sample of at least  $n = 200$  men. Within the current study, participants are asked to fill out a questionnaire battery that besides the MDI further includes questionnaires on demographic data and exercise behavior, as well as measures on body-related attitudes, eating habits, and related psychopathology. Participants again complete the MDI after a two-weeks-interval.

##### Results

In the previous study (Waldorf et al., 2019) good to excellent internal consistencies for the MDI subscales Size/Symmetry, Exercise Dependence, Physique Protection, Dietary Behavior, and Supplement Use were found. The MDI subscales further significantly differentiated between MD men and weight-training and non-weight-training men, with MD men consistently reporting highest symptomatology on each of the MDI subscales. Additional, current analyses on the same data further provide preliminary evidence of convergent validity of the German version of the MDI, as indicated by moderate to high positive correlations between the MDI subscales Size/Symmetry, Exercise Dependence, Physique Protection, Dietary Behavior, and Supplement Use on the one hand, and drive for thinness, drive for muscularity, drive for leanness, disordered eating, and dysmorphic concern on the other side ( $.345 \leq r_s \leq .939$ , all  $p < .01$ ).

##### Discussion

There is preliminary evidence of good psychometric properties of the German version of the MDI. To conduct additional analyses on the factorial structure and test-retest reliability of the German version of the MDI, too, an extension of the sample and a re-analysis is necessary.

#### Feared Self-Perception Interacts with Dysfunctional Reasoning in the Prediction of Obsessive-Compulsive Symptoms

Louis-Philippe Baraby, Centre de recherche de l'Institut universitaire en santé mentale de Montréal, Canada

Shiu F. Wong & Adam S. Radomsky, Concordia University, Canada

Frederick Aardema, Centre de recherche de l'Institut universitaire en santé mentale de Montréal, Canada

##### Introduction

Aardema and colleagues (2013) have proposed that a 'feared self' may be implicated in Obsessive-Compulsive Disorder (OCD). Purportedly, these feared self-perceptions make intrusions and obsessional self-doubts more likely to arise and be interpreted as threatening. Further, an individual's feared possible self may be confused with their actual self via dysfunctional reasoning processes (i.e. inferential confusion). Both feared self-perceptions and inferential confusion have previously shown unique relationships with OCD (Aardema et al., 2013). However, the presence of both a fear of a self in any given individual, in combination with a tendency to arrive at faulty conclusions about oneself through dysfunctional reasoning, appears to be particularly detrimental in the development of OC symptomatology. However, no studies have yet investigated whether feared self-perceptions and dysfunctional reasoning interact in the prediction of OC symptoms.

##### Method

Participants in the current study were 437 undergraduate students recruited as part of a larger study to validate a new measure of feared self-perceptions (FSQ). They completed computerized self-report questionnaires, including the FSQ, the Inverse Reasoning Task (IRT; Wong, Aardema & Grisham, 2019), and a symptom measure of OCD (VOCI; Thordarson et al., 2004). To determine whether a fear of self and dysfunctional reasoning interacted in the prediction of OC symptoms, we first centered the scores of these measures, followed by running a multiple regression with the FSQ, IRT, and their interaction term, as independent variables, and the total score of the VOCI as the dependent variable.

##### Results

Results showed significant main effects with both the FSQ and the IRT uniquely predicting symptoms of OCD. In addition, there was a significant interaction effect between the FSQ and the IRT, that explained an additional amount of unique variance. Results thus suggest that beyond an additive effect of feared self-perceptions and dysfunctional reasoning in OC symptoms, that if dysfunctional reasoning is elevated, the effect of feared-self perceptions on OC symptoms increases, and vice versa.

##### Discussion

The current study is the first to investigate whether feared self-perceptions are particularly detrimental to the individual if they coincide with elevated levels of dysfunctional reasoning (i.e. inferential confusion). Results validate the increasingly explicit focus on modifying feared self-perceptions in existing cognitive-behavioural treatments for OCD. In particular, they are consistent with inference-based formulations of OCD that emphasize the role of both feared self-perception and distorted reasoning processes in the development of OCD.

## **Counterconditioning and Moral Disgust: A Pilot Study in a Non-Clinical Sample**

**Barbara Basile, Olga Ines Luppino, Brunetto DeSanctis, Carlo Buonanno & Francesco Mancini, Scuola di Psicoterapia Cognitiva, Italy**

### **Introduction**

A large amount of data (Mancini, 2018) confirms the association between disgust propensity and contamination's OCD symptoms. Evidences support the relationship between physical disgust, moral contamination and washing compulsion (Ruven et al., 2013). ERP is the primary choice for OCD treatment. It shows relevant effects on the reduction of anxiety, but it doesn't affect disgust similarly. In line with literature promoting counterconditioning as a promising technique to reduce disgust in Ocd (Ludvik et al., 2015) and according to the link between obsessive symptoms and morality, we explore the effectiveness of moral pride induction in reducing disgust in a non-clinical sample.

### **Method**

Fifty-four subjects were randomly assigned to one of three conditions (i.e., classical, sel-efficacy and moral pride Cc), while exposed to disgusting stimuli. Disgust propensity and sensitivity, morality, guilt, anxiety and depression rates were collected. Levels of disgust after each Cc stimulus were measured by Visuo Analog Scales (VAS).

### **Results**

Results showed that moral pride Cc was more effective than others conditions in reducing levels of disgust and fear of guilt, during disgusting stimuli exposure.

### **Discussion**

These preliminary findings confirm the association between disgust and the domain of morality, suggesting possible developments within OCD treatment, specifically the contamination subtype.

## **Body Perception in BDD: An Eye Tracking Study**

**Francesca Beilharz & Andrea Phillipou, Swinburne University of Technology, Australia**

**David Castle, St Vincent's Hospital Melbourne, Australia**

**Susan Rossell, Swinburne University of Technology, Australia**

### **Introduction**

Body dysmorphic disorder (BDD) is a psychiatric disorder characterised by perceived flaws in appearance, typically involving features of the face and/or body (American Psychiatric Association, 2013). Research demonstrates visual processing is a key feature of the disorder, with abnormalities in processing faces, objects and other stimuli (Beilharz et al, 2017). However, no study to date has examined how those with BDD perceive human body stimuli. The present study compared BDD and healthy control participants using an eye tracking paradigm. Based on data from faces tasks, it was hypothesised that BDD participants would display significantly different eye movements (e.g. fewer and longer fixations, and higher mean saccade amplitudes) compared to controls. It was also expected that aberrant eye movements would be associated with greater symptom severity, as measured by the Dysmorphic Concern Questionnaire (DCQ) and Body Appreciation Scale (BAS).

### **Method**

17 BDD (11 women; age  $M=30.37$ ,  $SD=9.73$ ) and 21 HC (12 women; age  $M=28.62$ ,  $SD=7.59$ ) participants attended the study at Swinburne University of Technology, Melbourne, Australia. All participants completed questionnaires and the eye tracking task which was recorded with the EyeLink1000 Plus system, left eye at 1000Hz. During the task, participants were presented with 25 female and 25 male bodies in black clothing for five seconds each, and asked to rate the subjective attractiveness of each stimulus (1= least attractive to 7=most attractive).

### **Results**

Results were analysed using ANOVAs, with no significant differences noted between the BDD and HC groups regarding eye movements or attractiveness ratings. No significant correlations were found when examining the BDD and HC groups. However, when the BDD group was split into those with body concerns ( $n=11$ ; e.g. stomach, thighs, genitals), and those without body concerns ( $n=6$ ; e.g. face only), significant correlations were noted. For the BDD with body concerns subgroup, DCQ scores were positively associated with average saccadic amplitude across all trials ( $r=.63$ ,  $p=.039$ ). Similarly, in this subgroup, BAS scores were positively correlated with average fixation duration ( $r=.78$ ,  $p=.007$ ), and negatively correlated with average fixation count ( $r=-.81$ ,  $p=.005$ ) and average saccadic amplitude across all trials ( $r=-.66$ ,  $p=.035$ ).

### **Discussion**

While BDD involves perceived flaws relating to facial and body features, it is unclear how people with BDD perceive others' bodies, and whether this reflects abnormalities seen in face perception. The pattern of results in the present study did not show overall group differences between BDD and healthy controls. However, in BDD participants with body concerns, as dysmorphic concern increased, and body appreciation decreased, these participants were more likely to have shorter, more frequent fixations (hyperscanning) with larger distances between fixations when viewing images of bodies. This pattern reflects increased anxiety when viewing pictures of other people's bodies, which was unique to those with body-part concerns. These findings highlight the importance of visual perception as a key feature of BDD, with significant implications for treatment.

## **Predicting Exposure Response in OCD: Role of Emotion Regulation**

**Noah Berman, College of the Holy Cross, USA**

**Sabine Wilhelm, Massachusetts General Hospital and Harvard Medical School, USA**

### **Introduction**

Given that effectively managing negative affect can facilitate exposure continuation and consolidation of learning (Craske et al., 2008), emotion regulation (ER) is a promising predictor of exposure therapy response. Using a translational approach, we examined how ER in patients with OCD predicted exposure performance (subjective and objective habituation) and outcome (learning). We hypothesized that greater ER difficulties would be associated with limited habituation and interfere in learning processes.

### **Method**

Fifty adults with moderately severe OCD participated in our one-session intervention. Participants were first administered a diagnostic (MINI) and OCD assessment (Y-BOCS) with a PhD-level clinician and then completed self-report questionnaires (e.g., Difficulties in Emotion Regulation Scale [DERS]). Next, the clinician provided psychoeducation and audio-recorded a standardized imaginal exposure that

was tailored to the participants' symptoms. We measured physiological arousal (beats per minute [BPM]) throughout the exposure, participants provided SUDS ratings after each iteration, and they rated their learning regarding the dangerousness of obsessions following the last iteration.

### **Results**

Bivariate correlations revealed a moderately strong and negative relationship between DERS total scores and physiological habituation (i.e., peak– minimum BPM;  $r = -.50, p < .001$ ). We then conducted a hierarchical linear regression, controlling for OCD and depression symptom severity, which demonstrated that the relationship between ER and physiological habituation was not better explained by psychiatric symptom severity. Lastly, no relationship emerged between DERS and SUDS reduction (peak– minimum SUDS) or learning.

### **Discussion**

Our hypotheses were partially supported. Greater ER difficulties were associated with limited physiological habituation; however, no significant relationship emerged between ER and subjective habituation or learning. Results will be discussed within the context of both emotional processing and inhibitory learning theory. Additional detail will be given regarding the relationships among unique ER difficulties (e.g., emotional clarity) and exposure response, as well as study limitations.

## **Therapeutic Alliance and Group Cohesion in Group CBT for OCD**

**Elena Cabedo, Clinical-Universitary Hospital of Valencia, Spain**

**Maria Roncero, University of Valencia, Spain**

**Carlos González & Belen Terrés, Clinical-Universitary Hospital of Valencia, Spain**

**Gemma García-Soriano, University of Valencia, Spain**

**Mario Rodríguez & Laura Quiles, Clinical-Universitary Hospital of Valencia, Spain**

### **Introduction**

Cognitive-behaviour therapy (CBT) is the evidence-based treatment option for obsessive-compulsive disorder (OCD). Its application in group format, produces statistically comparable decreases in symptomatology. Nevertheless, a significant percentage of patients do not recover or even respond (30-40%), so continue progressing is needed. Besides, common factors in psychotherapy are known to be relevant for treatment outcome. But there is very scarce evidence about their role in group CBT for OCD. At this point, we aimed to conduct a pilot study paying special attention to therapeutic alliance. AIM: To examine if the therapeutic alliance and group cohesion is related with treatment results in OCD patients who received a group CBT.

### **Method**

Participants: Six patients started the group therapy, although only four completed the treatment. Completers were 3 males and 1 female, aged between 22 and 50 years, their disorder was severe in all cases, duration ranged between 2 and 13 years, and two of them presented secondary comorbidities in axis I. Instruments: Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) to measure OCD severity; Credibility/Expectancy Questionnaire to evaluate satisfaction with the therapy; Maladaptive scale: It evaluates maladaptation degree in daily life; Group Questionnaire: It assesses therapeutic alliance (with therapist and group), and it has 3 subscales: therapeutic alliance, positive working, and negative relationship. Procedure: Patients referred for treatment to the outpatient clinics of the Clinical Hospital in Valencia, Spain. They were assessed by two psychologists, and if meeting inclusion criteria, and giving consent, they were included in the group. They conducted it following a manual

### **Results**

The severity of patients' symptoms as a group decreased from severe (YBOCS  $M = 27.75$ ) to moderate (YBOCS  $M = 17.75$ ) in post-treatment. Specifically, for three patients, symptoms were reduced by approximately 40% ( $P1 = 42\%$ ,  $P2 = 48\%$ ,  $P3 = 38\%$ ), whereas  $P4$  decreased only 12%. Consistently, maladjustment level decreased in those three whereas remained stable in  $P4$ . Those patients  $P1$ ,  $P2$ , and  $P3$  who showed a higher response to treatment, also showed better therapeutic relationship: higher positive bond and positive working, and lower negative relationship. At the end of therapy, also  $P1$ ,  $P2$ , and  $P3$  reported greater satisfaction with treatment

### **Discussion**

Although this is a pilot study with a small sample, the observed trend is that there is a positive relationship between the results of the therapy and the therapeutic alliance and group cohesion. In addition, data on maladjustment level and therapy satisfaction were also congruent with therapeutic outcome and with therapeutic alliance and group cohesion. This trend encourages us to continue in this line of research. Future studies should be carried out with larger samples in order to perform more complex statistical analyses, including mediational analyses, to study the role of this factor in therapeutic outcome in the group version of CBT for OCD. Acknowledgements: This study was supported by a grant from Asociación Española de Psicopatología y Psicología Clínica 2018.

## **Subtypes of Obsessive–Compulsive Disorder: Implication of Modification in Cognitive Behaviour Therapy**

**Sampurna Chakraborty, Central Institute of Psychiatry, India**

**Diya Chatterjee, Indian Institute of Science Education and Research, India**

### **Introduction**

Obsessive compulsive disorder (OCD) is a heterogeneous disorder with its subtypes and clinical manifestation. Sometimes it presents as a formal clinical diagnosis and sometimes it may present as an intrusive thought pattern that causes distress and impact functioning, without warranting a diagnosis of OCD. Cognitive behaviour therapy (CBT) has so far been widely accepted with a number of research evidences as the first line of psychological intervention for the condition. However, the OCD subtypes have received very limited attention in trials of CBT (Sookman et al., 2005). It has been noted that many patients with OCD respond effectively to CBT while many do not respond optimally to CBT. There are several factors that might account for the varied response to CBT for OCD and therefore it may be important to consider whether variation in treatment method is related to symptom manifestation, course and severity and the subtypes. Some studies suggest that specialised CBT approaches designed for specific subtypes based on the differences in the cognitive underpinnings may improve treatment response (Williams et al., 2002). But a number of important considerations related to sub - typing and treatment of OCD using CBT remain unanswered for future investigation.

### **Method**

The current paper focuses on, four sub-types of OCD – dirt and contamination obsession, checking compulsion, sexual obsession and hoarding and two presentation of obsessive thoughts and compulsive behaviours without significant impairment to attain disorder diagnosis. The CBT treatment module was modified to address the cognitive underpinning for the typical symptom manifestation and assess its efficacy

in six patients. In contamination obsession the focus was on identification and reappraisal of exaggerated beliefs of the threatening thought and decatastrophization (Jones & Krochmalik, 2003) through Socratic questioning, downward arrow technique and behavioural experiments; while in checking compulsion the patient was helped with use of distraction, overcorrection and procrastination technique. In sexual obsession habituation training was used with written exposure along with probability estimation calculation and behavioural experiments (Hyman & Pedrick, 1999). Finally for hoarding compulsion uncluttering technique (Frost & Steketee, 1998) with focus on beliefs related to excessive emotional attachment to possessions, responsibility, doubts about memory and negative consequences of clutter was discussed with Socratic questioning and identification of cognitive errors (Frost & Hartl, 1996; Steketee et al., 2000). In the other two cases of obsessive thoughts that were at a sub-clinical level were targeted with Socratic questioning, downward arrow technique and metacognitive thought record (Wells, 2009) and managed through cognitive restructuring, detached mindfulness, behavioural experiments and bio-behavioural method along with Progressive Muscular relaxation to address the body's psychological response to anxiety-provoking thoughts.

#### **Results**

Therapeutic outcome over sessions showed improvement in the reduction of symptoms assessed by Y-BOCS and subjective units of distress as compared before and after completion of therapy.

#### **Discussion**

The improvement in the outcome measure by modification and adaptability in CBT programme used for the patients with different symptom presentation of obsessive thoughts may help in identifying the need for further research to develop specialised cognitive behaviour therapy models for varied presentation and assess its efficacy.

### **Parenting Styles and Adolescent Obsessive Compulsive Disorder**

**Poornima Chandrashekar, Paulomi M. Sudhir & Preeti Jacob, National Institute of Mental Health and Neurosciences (NIMHANS), India**

#### **Introduction**

Obsessive-compulsive disorder (OCD) is one of the more common mental illnesses affecting children and adolescents, with prevalence of 1% to 3%. Its manifestations often lead to severe impairment and to conflict in the family. It impairs the quality of life of the affected young people but is often diagnosed only after a delay (Walitza, Melfsen, Jans, Zellmann, Wewetzer, & Warnke, 2011). Genetic factors responsible for the development of OCD have been clearly established in previous studies, however psychological and family factors are also implicated in the development and maintenance of OCD.

#### **Method**

The aim of the present study is to examine the relationship between parenting styles and OCD symptomatology. The sample consists of (N=50) adolescents with a diagnosis of OCD Mixed disorder (YBOCS score >16), in the age ranges of 13 years to 19 years. Both the child and parent version of The Parenting Styles and Dimensions Questionnaire (PSDQ, Robinson et al. (2001) is being used in the present study, while the adolescent alone will be assessed on OC symptoms severity. Screen for Childhood Anxiety Related Emotional Disorders (SCARED)-Child Version (Birmaher, Brent, Chiappetta, Bridge, Monga, & Baugher, 1995) is used to assess the presence of anxiety disorders. Those with Intellectual deficits, current episode psychosis, Mania and Severe Depression will not be included in the study. The sample is being recruited from in-patient and out-patient services at the Child & Adolescent Psychiatry unit and OCD Clinic at NIMHANS, Bangalore and the data collection is ongoing.

#### **Results**

Preliminary data shows authoritarian and permissive parenting styles are linked with OC symptom severity and presence of anxiety disorders in clinical and subclinical OCD. Correlations will be calculated between parenting styles and OC and anxiety symptoms. And a comparison between the adolescents perception of parenting styles and the parents self report of their parenting style will be made. Further analysis and results will be elaborated during the poster presentation.

#### **Discussion**

The study is in progress.

### **The Relationship Between Body Dysmorphic Disorder and Bullying in a Sample of Greek Adolescents: The Cognitive Profile of BDD in Adolescents**

**Maria Chatzikonstantoglou, Katerina Nikolettou, Giorgos Tsouvelas, Adamantia Giamarelou, Marilina Anastopoulou & Stefanos Koulis, Hellenic Center of Mental Health and Researches, Greece**

#### **Introduction**

Body dysmorphic disorder (BDD) is a common and severe disorder characterized by distressing or impairing preoccupation with nonexistent or slight defects in physical appearance (American Psychiatric Association [DSM-IV-TR], 2000). BDD affects an estimated 1.7 to 2.4% of the population (Buhlmann et al., 2010). The disorder typically begins during early adolescence (Phillips & Diaz, 1997; Phillips, Didie, et al., 2006) and can have serious negative consequences. Previous research has demonstrated an association between perceived teasing and body dissatisfaction (Buhlmann et al., 2007). Teasing or bullying related to physical stigmata, such as acne, may have a long-term impact on an individual, negatively affecting one's thoughts and emotions. In Greece, there is no evidence-base for BDD in adolescents, its relationship with teasing and cognitive behavior therapy (CBT) in this population.

#### **Method**

In the present study, we tried to examine the relationship between teasing and BDD in a sample of Greek adolescents and the cognitive profile of BDD in this population. The questionnaire, which was compiled for the needs of this research by the team of H.C.MH.RS, were administered to 141 high school students (44 boys and 97 girls with mean age  $\pm$  SD of 16). The questionnaire assess measures of presence of teasing, beliefs about appearance, concern about appearance and beliefs about themselves.

#### **Results**

According to the analysis, 12 (8.3%) participants in the sample tend to develop Body Dysmorphic Disorder (3 boys and 9 girls). As a result of the Mann Whitney test, adolescents with BDD elements showed higher indices in the patterns of Social Exclusion ( $U = -2.62, p = 0.009$ ), Distrust and Abuse ( $U = -3.56, p = 0.001$ ), Vulnerability ( $U = -2.75, p = 0.006$ ), Disability ( $U = -2.83, p = 0.005$ ), Self-sacrifice ( $U = -3.02, p = 0.003$ ) and Failure ( $U = -2.80, p = 0.005$ ) compared to the rest of the sample.

#### **Discussion**

Our study identified that adolescents with some elements of BDD reported more body image concerns and a higher rate of faith in all of the above patterns. It is a tool for evaluating findings possibly related to the occurrence of BDD. With these findings, there does not seem to be a

correlation of school bullying and the appearance of the Body Dysmorphic Disorder. Finally, there is a need for a larger sample for more secure conclusions.

### **Do Cognitive and Behavioural Maintenance Mechanisms Identified in Adult Models of OCD Apply to Childhood OCD?**

**Chloe Chessell, Brynjar Halldorsson & Cathy Creswell, University of Reading, United Kingdom**

#### **Introduction**

Obsessive Compulsive Disorder (OCD) has an estimated prevalence of 0.25% to 4% among the paediatric population, and is associated with impaired educational, interpersonal and family functioning. Childhood OCD typically has a chronic course, and frequently persists into adulthood if appropriate treatment is not provided. To date, the psychological mechanisms which maintain childhood OCD remain unclear. Salkovskis (1985) proposed a cognitive-behavioural maintenance model of OCD in adults, which posits individuals with OCD have an inflated sense of responsibility, leading them to interpret normal intrusive cognitions as an indication they are responsible for harm and/or its prevention. In contrast to the adult literature, there are no maintenance models of childhood OCD. Family factors are also proposed to influence the course of childhood OCD, including parental characteristics (e.g. high parental anxiety) and family involvement (e.g. family accommodating or antagonising responses).

#### **Method**

This systematic review aims to critically examine whether the cognitive and behavioural maintenance mechanisms identified in adult models of OCD, are applicable to childhood OCD. This review will also examine how family factors may maintain childhood OCD. Hypotheses were derived from adult cognitive and cognitive-behavioural models of OCD, and descriptions of how family factors may maintain childhood OCD.

#### **Results**

I will describe the results of a systematic search of PsycINFO, Web of Science Core Collection and MEDLINE. Inclusion criteria required peer-reviewed journal articles to examine at least one potential maintenance factor, using a pre-adolescent sample (i.e. children aged 5 to 12 years old). The results will be presented according to methodological approach, to indicate the extent to which the findings aid understanding of the specific association between the proposed maintenance factors and obsessive compulsive symptoms/disorder.

#### **Discussion**

I will discuss the implications of this systematic review in relation to our understanding of the psychological mechanisms which may maintain childhood OCD, and the potential implications for enhancing CBT treatments for pre-adolescent children with OCD.

### **Cognitive Dissonance Mediates OCD Symptoms: An Investigation**

**Matthew Collings, University of New South Wales, Australia**

**Ross Menzies, University of Technology Sydney, Australia**

**Jill Newby & Jessica Grisham, University of New South Wales, Australia**

#### **Introduction**

Mortality salience has recently been demonstrated to mediate Obsessive Compulsive Disorder (OCD) symptoms (Menzies & Dar-Nimrod, 2017). While it may be the dread of death, specifically, mediates OCD symptoms, researchers have previously argued that mortality salience effects are a manifestation of an insecurity induction examined with numerous procedures which, in essence, constitute a single process. Such examples include “uncertainty”, “cognitive dissonance”, and “uncanniness” inductions (Proulx, Inzlicht, & Harmon-Jones, 2012). It has been shown that an individual, when aroused in this way, is motivated to identify proximal causalities, or affirm tangential meaning frameworks in an effort to return to a state of equilibrium. This occurs despite an absence of negative affect as captured by the PANAS. It is suggested that the arousal which characterizes cognitive dissonance informs the escalation of intrusions into the symptoms which characterize OCD.

#### **Method**

To investigate the effect of this arousal state on participants responding to obsessional content with Obsessive-Compulsive (OC) tendencies, and avoid priming OCD specific concerns with the induction procedure, the dissonance induction used in this experiment is thematically unrelated to the obsessional concerns presented. Cognitive dissonance is engendered in the viewing of surreal art (Proulx, Heine, & Vohs, 2010; Randles, Heine, & Santos, 2013), and is expected to uniquely (i.e. unlike the negative affect, and innocuous art conditions) influence OC tendencies.

#### **Results**

It is expected that the high OCD group will experience a significantly greater increase in OC tendencies between surreal and non-surreal conditions, than the low OCD group. A manipulation check of mortality salience has been included to ensure the surreal art conditions are not having an indirect effect via a manipulation of mortality salience. A Neuroticism measure, as well as state, and symptom measures of negative affect have also been included.

#### **Discussion**

Identifying a mediating role of antecedent states of cognitive dissonance on the reaction to intrusive thoughts, even when the cause of this cognitive dissonance does not directly relate to the thematic content of the intrusions, will further understandings of the aetiology, and maintaining factors of OCD. In addition, a mediating role of cognitive dissonance, if identified, raises questions as to the mechanisms through which a dread of death mediates OCD symptoms. The identification that cognitive dissonance mediates OCD symptoms will inform new treatment targets for CBT.

### **Knowledge and Treatments of Gynecologists of BDD and BDD of the Female Genitalia: A Qualitative Study**

**Marie Drüge & Birgit Watzke, University of Zurich, Switzerland**

#### **Introduction**

Body dysmorphic disorder (BDD), as the obsessive idea that some aspect of one's own body part or appearance is severely flawed or deformed which leads to exceptional measures to hide or fix this part/appearance, has higher prevalence rates for women than for men. Some body parts (e.g. skin) are more common than others, also in consideration of the gender (e.g. men worry more often about muscles while women worry more often about their skin). Up to now research gaps in the BDD of the female genitalia, although labiaplasty (plastic surgery to reshape women's labia) has rapidly grown in the past decades. Also, research on BDD has focused on the perspectives of plastic surgeons and general physicians, however, gynecologists might also be consulted in that manner, as the specific life themes and the long-

term treatment may lead to a trustworthy relationship. Therefore, this study aims on the knowledge and treatments of BDD and BDD of the female genitalia of gynecologists.

#### **Method**

In the current study, the perspective of gynecologists on BDD and specifically BDD of the female genitalia should be examined. A interview guideline was conducted focusing on the knowledge and treatments on BDD and specifically on BDD of the female genitalia taking the „Genital Appearance Satisfaction Scale“<sup>2</sup> and the „Cosmetic Procedure Screening Scale for women seeking labiaplasty“<sup>2</sup> into account. The qualitative interviews were held with ten gynecologists with an interview guideline including the following main categories: 1. knowledge of BDD, 2. knowledge of BDD of the female genitalia, 3. case vignette (BDD) 4. treatments and paths of treatment of BDD, 5. case vignette (BDD of female genitalia), 6. treatments and paths of treatment of BDD of the female genitalia 7. treatments and paths of treatments for women seeking labiaplasty. The data was analysed using the qualitative content analyses by Mayring.

#### **Results**

First results will be presented.

#### **Discussion**

The results will be discussed taking the limitations (e. g. generalisation) into account. Further research questions will be specified and practical implications (need for action? Specific screeningtools and trainings? ) will be given.

### **Prevalence of Symptoms of the Body Dysmorphic Disorder and Associated Features in Swiss Military Recruits: A Self-Report Survey**

**Marie Drüge, Gabriela Raffique & Birgit Watzke, University of Zurich, Switzerland**

#### **Introduction**

Body dysmorphic disorder (BDD), as the obsessive idea that some aspect of one's own body part or appearance is severely flawed or deformed which leads to exceptional measures to hide or fix this part/appearance and causes severe educational and occupational dysfunction and social isolation, has prevalence rates between 1.7-2.9 % in the general population of Germany. Also, BDD is highly associated with depressive symptoms and suicidality. Research up to now on questions of prevalence of BDD and associated features (e. g. depression) gaps in specific samples.

#### **Method**

In the current study, the prevalence of symptoms of the BDD (Fragebogen körperdysmorpher Störungen, FKS), and associated features as Depression (Allgemeine Depressionsskala, ADS), Alcohol Abuse (Alcohol Use Disorders Identification Unit AUDIT), and Drug Abuse (Single Question Screening Test for Drug Abuse) were examined using self-report in a non-clinical sample of Swiss military recruits (n = 126, all male, age: M = 20.12, SD = 1.09). All recruits had to pass a test on fitness before they began their military service. The collected data was analyzed using descriptive statistics, correlations to analyze links between BDD and associated features, crosstabulation and chi-square to analyze relations between those, who reached the cut-off values (BDD x associated features).

#### **Results**

In the FKS 12 recruits (9.5 %) reached the cut-off-value, which indicates a body dysmorphic disorder, five of these specified their muscles as the preoccupying body part. Six recruits had reportedly undergone plastic surgery. Nine recruits reached the cut-off-value of the ADS, which indicates a depressive episode. The prevalence of symptoms of the BDD correlates positively with depressive symptoms ( $r = .38, p < .001$ ). The AUDIT indicates an hazardous or harmful alcohol abuse for 44 recruits (35.5 %). 106 (83.5 %) show first indications for an hazardous use. 57 recruits (44.8 %) had taken at least once an illegal drug, 38 recruits (29.9 %) more often. No significant relationships between those, who reached the cut-off values (BDD x associated features) were found.

#### **Discussion**

Our study shows that self-reported symptoms of BDD is relatively common and associated with high rates in depression in the specific sample. However, there are some limitations to this study: The results of this clustered sample can by no means be generalized. Also the data collection was independently organized by their military unit, which might have led to some bias (e. g. voluntary intent). Despite the limitations, these first results lead to further questions, discussions and maybe to practical implications (specific screening instruments) on the test on fitness before beginning the military service.

### **Motivation-Centered Confrontation with Disgusting Stimuli - A Feasibility Study**

**Jakob Fink, Juliane Lüders & Cornelia Exner, University of Leipzig, Germany**

#### **Introduction**

Strong feelings of anxiety and disgust are related to various mental illnesses, including the contamination-related subtype of obsessive-compulsive disorder (washing and cleaning rituals). According to the latest research and corresponding treatment guidelines (e.g. S3-Guidelines), the most effective therapy for OCD patients is exposure with response prevention. However, several studies show that a notable proportion of people suffering from OCD does not benefit from therapy. One possible reason for non-responding might be the high functionality of compulsive thoughts and actions as rituals reduce the aversive feelings of anxiety and disgust in the short run. This might cause high ambivalence towards confrontation as well as the low intrinsic motivation to change present thoughts and behavior.

#### **Method**

The aim of the present study is to use a non-clinical sample to investigate the extent to which a motivational extension of the standard exposure therapy improves the confrontation with disgusting stimuli. Therefore, in this ongoing study, 44 healthy participants with different levels of contamination-based OCD symptoms go through a semi-standardized psychoeducational interview. Thereby, subjects will be asked to estimate how much they agree or disagree to different statements concerning the effects of confrontation. In the experimental condition, the statements are individualized to strengthen self-reference and reducing ambivalence towards exposure. Subsequently, the competence of the subjects in the experimental group is reinforced by self-verbalization. Finally, both groups are exposed to three individually selected disgusting images.

#### **Results**

We expect motivational strategies to enhance the impact of confrontation on disgust, to increase the readiness to confront, to reduce the ambivalence regarding exposure, and to increase the subjective experience of control during confrontation.

#### **Discussion**

Results will be presented and discussed at the conference.

## **Attention Bias in Obsessive Compulsive Disorder: The Development of a New Questionnaire**

**Martha Giraldo O'Meara, Concordia University, Canada**

**Christine Purdon, University of Waterloo, Canada**

### **Introduction**

Biased processing of threatening stimuli is considered to play a major role in the development and maintenance of anxiety disorders, including Obsessive Compulsive Disorder (OCD). This biased attention is commonly assessed with a modified dot-probe task, and to the best of our knowledge, there are no instruments assessing these indices. The objectives of this study were two-fold: 1) to develop and validate a new questionnaire to measure vigilance and avoidance related to obsessive-compulsive symptoms, and 2) to study the differences in vigilance and avoidance in three different samples: individuals with OCD, Generalized Anxiety Disorder (GAD) and non-clinical participants.

### **Method**

The two clinical samples included a total of 102 patients who met DSM-4 criteria for OCD ( $n = 68$ ; 61.8% women; mean age = 38.00, SD = 13.73 years), and GAD ( $n = 34$ ; 80% women; mean age = 31.06, SD = 12.48 years; range = 18 - 74 years). The non-clinical sample included 45 subjects (57.8% women; mean age = 31.00, SD = 12.40 years; range = 18-75 years). Participants fulfilled the Vigilance Avoidance Questionnaire (VAQ), the Obsessive-Compulsive Inventory-Revised (OCI-R), and the Depressive, Anxiety and Stress Scales (DASS).

### **Results**

Principal components analysis performed in the OCD group revealed two factors accounting for 55% of the variance: External Vigilance/Avoidance (EVA; 11 items;  $\alpha = .90$ ), and Internal Vigilance/Avoidance (IVA; 6 items;  $\alpha = .85$ ). EVA and IVA correlated with OCI-R symptoms, except between obsessing and EVA, and cleaning and checking and IVA; and with depression and anxiety scales ( $r = .37-.52$ ). Group differences were analyzed using multivariate analyses of variance, revealing a significant multivariate effect (Pillai's trace = .575,  $F(2,116) = 22.17$ ,  $p = .000$ ,  $\eta^2 = .28$ ). Differences between groups were found in the VAQ. OCD patients scored higher than GAD patients and non-clinical participants, and the latter scored lower than GAD patients.

### **Discussion**

Results suggest that the VAQ is a reliable and promising instrument that assesses vigilance and avoidance attention biases in OCD. Results suggest an external vigilance avoidance pattern of selective attention especially associated with cleaning symptoms, whereas an internal vigilance avoidance pattern related to obsessing symptoms.

## **The Feared Self: A Multidimensional Construct**

**Martha Giraldo-O'Meara, Shiu F. Wong & Adam S. Radomsky, Concordia University, Canada**

**Frederick Aardema, University of Montréal, Canada**

### **Introduction**

Self-themes have been considered as potential underlying mechanisms in the development and maintenance of Obsessive Compulsive Disorder (OCD) (e.g., Aardema & O'Connor, 2007). Fear of self specifically, a fear of who one be or might become, has been related to the origin of repugnant obsessions in OCD (Aardema et al., 2017), but it might be also relevant to other OCD symptom dimensions and to other disorders. The aim of this study was to expand the current 41 item-version of the fear of self questionnaire, including other feared self-perceptions related to other OCD and non-OCD content domains.

### **Method**

The sample consisted in 437 non-clinical participants, of which 87.2% were women, 91.1% single, and 83.5% undergraduate students, with a mean age of 22.54 years (SD = 4.67). Participants completed the following questionnaires: The Fear of Self Questionnaire (FSQ), The Vancouver Obsessional Compulsive Inventory (VOCI), The Body Dysmorphic Disorder Symptom Scale (BDD-SS), and the Depression, Anxiety and Stress Scales (DASS-21).

### **Results**

Principal components analysis with an Oblimin rotation (Kaiser-Meyer-Olkin = .955; Bartlett's test = 9096.333,  $df = 378$ ,  $p = .000$ ), and parallel analyses were performed in an initial pool of 65 items. Analyses revealed 3 factors explaining 63.66% of the total variance. Cronbach's alpha values for the total score ( $\alpha = .958$ ), and three factors (corrupted feared self, 12 items,  $\alpha = .935$ ; culpable feared self, 10 items,  $\alpha = .927$ ; and malformed feared self, 6 items,  $\alpha = .908$ ), were excellent. Pearson correlations showed moderate to strong associations between the three FSQ subscales and VOCI total score ( $r = .52-.57$ ), BDD-SS symptoms severity ( $r = .38-.55$ ), and DASS depression ( $r = .54-.55$ ).

### **Discussion**

Results suggest that the new version of the FSQ is a reliable and valid instrument for assessing the feared self in different domains. This version is more comprehensive, assessing not only other contents relevant to the OCD psychopathology, but contents present in other disorders that are also related with a negative representation of the self, such as BDD and eating disorders.

## **Does Sweat Play a Role in Olfactory Reference Disorder?**

**Anja Grocholewski, René Schmidt, Marian Luckhof, Till Beuerle, Ute Wittstock, Nina Heinrichs & Frank Eggert, Braunschweig University, Germany**

### **Introduction**

People suffering from Olfactory Reference Disorder (ORD) are preoccupied with the idea of spreading an unpleasant or strong body odour, which is not or only slightly perceived by others. It has never been systematically examined whether the sweat of those concerned with ORD does actually contain components that can lead to a stronger or more unpleasant body odour. Our question was, whether the sweat of individuals with ORD shows any specificity in its volatile components.

### **Method**

We investigated 34 individuals with ORD and 37 mentally healthy controls. Participants wore compresses under their armpits for 24 hours. Parts of the compresses were subjected to volatile analysis using headspace-solid phase microextraction and gas chromatography-mass spectrometry (GC-MS). A principal component analysis based on the results of the GC-MS peak areas was used to structure the information contained in a few thousand components. A discriminant analysis between individuals with ORD and healthy controls on the basis of the principle components was used to analyse group differences.

## **Results**

We found no systematic differences between the groups regarding sweat volatile composition, i.e. the values produced by the discriminant function showed very similar conditional distributions in both groups

## **Discussion**

The results showed no evidence for systematic differences in the components of sweat from individuals with ORD or those without ORD. This may be a first indication that ORD has no basis in the actual body odour and that psychological processes may play the dominant role in the development and maintenance of the disorder.

## **Tackle your Tics: Feasibility of a Brief, Intensive Group-Based Exposure Therapy Programme for Children with Tic Disorders**

**Annet Heijerman, Dutch Knowledge Centre for Child and Adolescent Psychiatry and Dutch Tourette Association, the Netherlands**

**Cara Verdellen, PsyQ Nijmegen / Parnassia Group and TicXperts, the Netherlands**

**Jolande van de Griendt, TicXperts, the Netherlands**

**Daniëlle Cath, GGZ Drenthe and University of Groningen, the Netherlands**

**Pieter Hoekstra, University of Groningen, the Netherlands**

**Chaim Huyser, De Bascule, Academic Centre for Child and Adolescent Psychiatry, the Netherlands**

**Lisbeth Utens, De Bascule, Academic Centre for Child and Adolescent Psychiatry and University of Amsterdam, the Netherlands**

## **Introduction**

Behavioural treatment for tics is a first-line intervention for tic disorders. Despite its demonstrated efficacy, there is room for improvement on tic reduction and a need to optimise and personalise treatment. In addition, the lack of specialised therapists is a barrier for local treatment. Patient associations emphasise the need for easy-to-undergo personalised treatments, which also support children to cope with their symptoms. This pilot study aimed to enhance treatment outcome and to overcome treatment barriers, by studying the feasibility of a brief, intensive group-based programme.

## **Method**

Tackle your Tics is a four-day intensive group-based programme for children and adolescents (9-17 years) with tic disorders, based on the evidence-based exposure and response prevention (ERP) protocol for tics developed by Verdellen et al. (2011). Therapy sessions are performed individually as well as in small groups of 2 - 3 children, in which children assist each other. Additional psycho-education, coping strategies, relaxing activities, group support, parent meetings and the mobile app 'BT-Coach' (Van de Griendt, Verdellen & Van Liempt, 2016) aim to enhance motivation, support and reduce drop out. Tackle your Tics consists of three consecutive treatment days and is followed by a fourth day after one week. Assessments were performed pre- and posttreatment and at 2 months follow-up, to explore the effectiveness on tics, quality of life, emotional and behavioral functioning and treatment satisfaction.

## **Results**

Two therapy weeks were held in September 2018 and February 2019 (N=14). Preliminary experiences with the Tackle your Tics programme seem promising. After the first week, parents and children were unanimously positive about this form of treatment. Preliminary data of the first pilot week show most improvement on burden of the tics and on quality of life, especially in girls. Results of both weeks and follow-up data will be presented in our poster presentation.

## **Discussion**

Utilisation rates for evidence-based behavioural therapies for tics remain low (e.g. Woods, Conelea & Walther, 2007). The lack of locally available trained therapists is a common treatment barrier. Families have to travel far and children experience the therapy and daily exercises as tough. If this brief, intensive group format for behavioural therapy shows feasible and yields positive treatment outcomes, it could tackle these barriers in the treatment of tics. This pilot study was funded by Tourettes Action UK (April 2018). Participation of parents, patients and experts by experience plays a substantial role in this project.

## **Rumination, but Not Worry, Uniquely Predicts Distress Associated with Obsessive-Compulsive Symptoms in Individuals with Obsessive-Compulsive Disorder**

**Carlotta V. Heinzl, Martin Mazanec & Marcel Miché, University of Basel, Switzerland**

**Annika Clamor, Universität Hamburg, Germany**

**Andrea Ertle, Humboldt-Universität zu Berlin, Germany**

**Roselind Lieb & Karina Wahl, University of Basel, Switzerland**

## **Introduction**

Previous research indicates that rumination and worry may be involved in the development and maintenance of obsessive-compulsive disorder (OCD). However, it is still largely unclear whether these forms of repetitive negative thinking uniquely explain obsessive-compulsive symptoms.

## **Method**

The present study investigated the associations between rumination and worry with obsessive-compulsive symptom severity in N = 149 individuals with OCD using a correlational design. We assessed habitual rumination and worry, depressive and anxiety symptom severity, and the distress associated with obsessive-compulsive symptoms (OCI-R) with questionnaires. Additionally, we employed an interview measure of general obsessive-compulsive symptom severity (Y-BOCS).

## **Results**

We found rumination to uniquely predict the distress associated with obsessive-compulsive symptoms (OCI-R) beyond the variance explained by depressive and anxiety symptom severity. However, rumination did not uniquely predict general obsessive-compulsive symptom severity (Y-BOCS) after these variables were controlled for. Worry did not explain additional variance in either measure of obsessive-compulsive symptoms beyond that explained by depressive and anxiety symptom severity.

## **Discussion**

Rumination, but not worry, was uniquely related to the distress associated with obsessive-compulsive symptoms. Our study offers further insight into the processes underlying the associations of repetitive negative thoughts with obsessive-compulsive symptoms in individuals with OCD. We discuss implications for treatments targeting rumination or worry in OCD.

## **Volitional Modification of Brain Activity in Adolescents with Autism Spectrum Disorder**

**Lilian Konicar, Medical University of Vienna, Austria**

**Luise Poustka, Medical University of Göttingen, Germany**

**Paul Plener, Medical University of Vienna, Austria**

### **Introduction**

Autism Spectrum Disorders (ASD) are characterized by a persisting triad of impairments of social interaction, language, as well as inflexible, stereotypic or ritual behaviors. In recent years, scientific evidence increasingly suggests a neurobiological basis of these emotional, social and cognitive deficits in patients with ASD, similar to the reported brain abnormalities in Attention-Deficit/Hyperactivity-Disorder or related externalizing disorders. Nevertheless, neurobiological based treatment approaches based on learning theory are still in its infancy.

### **Method**

The aim of this behavioral intervention study is to investigate if patients with ASD are able to learn to regulate their brain behavior e.g. brain activity volitionally via EEG-based neurofeedback training. In this randomized-controlled proof-of-principle study (simple-blinded), forty adolescents with autism spectrum disorder were recruited and allocated to a) an experimental group, receiving 24 sessions of EEG-based brain regulation (n1=20), while b) the control group of adolescents with autism spectrum disorder received the conventional treatment (n2=20).

### **Results**

Successful brain regulation of Slow Cortical Potentials, indicated by the volitional movement of the feedback object upwards (e.g. increase brain activity by producing electrical negative shifts) and downwards (e.g. decrease brain activity by producing electrical positive shifts) was observed at the end of the training.

### **Discussion**

This finding indicates functioning neuroplasticity in ASD and paves the road for a novel learning theory based, bio-behavioral, non-invasive technique in addition to conventional treatment approaches in autism spectrum disorder.

## **I Might Be Disgusting: An Investigation of Fear of Self, Disgust Sensitivity and Mental Contamination**

**Sandra Krause, Kelvin Wong & Adam Radomsky, Concordia University, Canada**

**Frederick Aardema, University of Montreal, Canada**

### **Introduction**

Contamination concerns arising from physical contact with a contaminant are among the most common themes in obsessive-compulsive disorder (OCD). Less is known, however, about mental contamination – feelings of contamination arising without physical contact with a contaminant, such as from inappropriate or immoral thoughts. Recently, researchers have proposed that some of these immoral thoughts may develop from feared self-perceptions (“I could be a sexual predator”). It is possible, then, that feared-self perceptions are associated with symptoms of mental contamination. Disgust sensitivity is also relevant to both constructs, however, the precise relationships between these has not been explored.

### **Method**

Undergraduate participants (n = 437) from Concordia University were recruited as part of a larger study to validate a new measure of feared-self-perceptions (FSQ). They completed computerized self-report questionnaires, including the FSQ, as well as validated measures of disgust sensitivity, and of mental and contact contamination symptoms.

### **Results**

We used disgust sensitivity as a moderator in two moderated regression models, predicting mental contamination symptoms from feared self-perceptions in the first model, and predicting contact contamination symptoms from feared self-perceptions in the second model. Feared self-perceptions significantly predicted mental ( $\beta = 0.55, p < 0.001$ ) and physical ( $\beta = 0.37, p < 0.001$ ) contamination. The interaction with disgust sensitivity was only significant for the first model [ $F(1, 420) = 4.22, R^2 \text{ change} = 0.01, \beta = 2.10, p = 0.04$ ], suggesting that higher disgust sensitivity strengthened the relationship between feared self-perceptions and mental contamination.

### **Discussion**

These results highlight the conceptual distinction between mental and contact contamination. Although both involve feelings of dirtiness, mental contamination may have an association with cognitive constructs such as feared self-conceptions (and immoral thoughts) that is more sensitive to one’s propensity towards feeling disgust. This relationship thus warrants further examination using experimental paradigms manipulating feared self-conceptions and observing their effects on mental contamination.

## **Body Dysmorphic Symptoms and Self-Esteem: A Meta-Analysis**

**Nora Kuck, Lara Calfitz & Paul-Christian Bürkner, Westfälische Wilhelms-Universität Münster, Germany**

**Sabine Wilhelm, Massachusetts General Hospital and Harvard Medical School, USA**

**Ulrike Buhlmann, Westfälische Wilhelms-Universität Münster, Germany**

### **Introduction**

Body dysmorphic disorder (BDD) is associated with low self-esteem (e.g., Phillips, Pinto, & Jain, 2004), which might be explained by maladaptive beliefs and behaviors such as upward appearance comparisons. Likewise, BDD is frequently comorbid with depression (Gunstad & Phillips, 2003), which itself is negatively related to self-esteem (Sowislo & Orth, 2013). The current meta-analysis aims to shed light on the following aspects: First, it examines the strength of the relationship between body dysmorphic symptoms and self-esteem. Second, it investigates whether the relationship between body dysmorphic symptoms and self-esteem persists beyond the influence of depression. Finally, our meta-analysis examined potential differences among subgroups.

### **Method**

A keyword-based literature search was performed. For inclusion, studies had to examine both body dysmorphic symptoms and self-esteem in clinical or non-clinical samples. By February 2019 a total of 20 studies satisfying search criteria were analyzed, 11 of these studies also examined depressive symptoms. Fisher’s z transformed correlations and partial correlations were used for the analysis. Random effects models were applied.

## Results

Our preliminary analysis yielded a negative correlation between body dysmorphic symptoms and self-esteem ( $r = -.45$ , 95% CI =  $[-.51, -.38]$ ). When controlling for depressive symptoms, the correlations decreased in magnitude ( $r = -.21$ , 95% CI =  $[-.29, -.14]$ ). Final analyses will be presented at the congress.

## Discussion

Our preliminary results provide support for a moderate negative correlation between body dysmorphic symptoms and self-esteem, which can only partly be explained by comorbid depressive symptoms. Thus, low self-esteem appears to be an important feature in BDD. Limitations include the varying validity of diagnostic instruments and the restricted range of BDD symptom severity in some of the studies. Future studies should examine directionality of the effect to determine whether low self-esteem represents a vulnerability or develops in the course of the disorder.

## Experiences of Patients Diagnosed with Chronic OCD with Their Previous Psychotherapy

Franziska Kühne, Lena Walter, Linda Marschner & Florian Weck, University of Potsdam, Germany

### Introduction

Effective psychotherapy for obsessive-compulsive disorder (OCD) is currently available, and the evidence clearly supports cognitive-behavioral therapy (CBT) as first-line treatment. Still, CBT is not delivered consistently which is especially true for its most crucial component, exposure. Insufficient treatment delivery is a problem particularly for those patients with chronic courses. Thus, the aim of the current study was to exploratively investigate the subjective experiences of OCD patients with their previous psychotherapy to inform current interventions.

### Method

In our online survey, we included adult patients whose OCD was diagnosed by a physician or psychologist. To include those with chronic disease, participants should a) have had at least one previous psychotherapy and b) be currently in psychotherapeutic treatment. After informed consent, participants were asked to fill out a questionnaire on their OCD treatment history (Stobie et al., 2007). They were first presented with the 19 items referring to more or less evidence-based interventions, and were then asked to indicate whether the interventions were used during their last psychotherapy. If used, patients assessed each intervention's helpfulness on a 6-point Likert scale from very unhelpful (1) to very helpful (6). Quantitative results are presented descriptively and via clear graphs. Second, patients had the opportunity to give additional qualitative comments which were then categorized.

### Results

Of the  $N=21$  patients,  $n=19$  were female and  $n=20$  had at least 10 years of school education. The mean age was 33.3 (SD=10.39) years. Most received CBT ( $n=19$ ) and/or medication ( $n=7$ ). The following interventions were used most often: "My therapist seemed to imply that the origins of my problem lie in my childhood, and the past should be explored in order to understand the present better" ( $n=16$ ), "Go into situations outside the therapy room where you had to face whatever you were afraid of on your own" ( $n=16$ ) and "Be given or do set reading on the obsessional problem" ( $n=16$ ). As most helpful, the subjects perceived the following: "Draw a diagram explaining the problem, which included links between thoughts, feelings and behaviours" ( $M=5.38$ ,  $SD=0.87$ ), "Looking at links between beliefs, thoughts and feelings" ( $M=5.13$ ,  $SD=0.99$ ) and "Go into situations outside the therapy room..." ( $M=4.94$ ,  $SD=1.65$ ). As to the qualitative data, participants were critical of relaxation and mindfulness techniques.

### Discussion

Although patients mainly described their previous therapy as CBT, the interventions they recalled were not always evidence-based (e.g., Hohagen et al., 2014; Böhm et al., 2008). Still, patients described psychoeducation, exposure and situational analyses as helpful. If aspects were experienced as less helpful, the data indicated that this was also due to implementation difficulties. Limitations are the small size of the convenience sample and recollection bias. On the other hand, subjectivity was intended, and the results may improve the dissemination of evidence-based OCD treatments.

## Interpersonal Deficits Associated with Acquiring and Discarding Difficulties

Cathy Kwok, Cassandra Crone, Vani Kakar, Adam McMahon & Melissa Norberg, Macquarie University, Australia

### Introduction

Many individuals compulsively acquire items (Maraz, Griffiths, & Demetrovics, 2015); however, limited research has explored what factors lead these individuals to also have trouble discarding their possessions. While previous consumer psychology studies have shown that interpersonal deficits motivate people to consume possessions, these studies do not show whether people with discarding difficulties also have interpersonal problems. Given that many individuals with hoarding disorder have acquiring difficulties (Frost, Rosenfield, Steketee, & Tolin, 2013), report feeling socially isolated (Medard & Kellett, 2014) and continue to experience hoarding symptoms after completing cognitive-behavioural treatment, exploring interpersonal factors may help us better understand how individuals with acquiring and discarding difficulties differ to individuals who only excessively acquire possessions, and how to improve treatment for compulsive hoarding.

### Method

Two hundred and four participants who self-reported subclinical to clinical excessive acquisition tendencies completed self-report measures of hoarding severity, compulsive acquisition, insecure attachment, interpersonal skills, interpersonal problems and loneliness. Participants were divided into two groups (acquiring and discarding difficulties,  $n = 59$  vs. acquiring difficulties only,  $n = 121$ ) based on their Saving Inventory-Revised subscale scores.

### Results

Analyses revealed that in comparison to participants with acquiring difficulties only, those with acquiring and discarding difficulties had greater interpersonal problems ( $d = 0.43$ ) and poorer perspective taking ( $d = 0.33$ ), but did not differ on degree of loneliness, anxious or avoidant attachment. Correlation coefficients between interpersonal problems and the other variables were also examined within our overall acquiring sample.

### Discussion

Our finding that individuals with acquiring and discarding difficulties have greater interpersonal problems, but do not report feeling more lonely, in comparison to individuals who only excessively acquire possessions suggests that saving possessions may prevent individuals from experiencing greater loneliness.

## **Efficacy of Manual-Based CBT for the Drug-Naive Obsessive-Compulsive Disorder Patients in China**

**Jia Luo, Jing Liu, Xiangyun Yang, Fanqiang Meng, Xiaojie Yang & Zhangjiang Li, Beijing Anding Hospital and Capital Medical University, China**

### **Introduction**

To evaluate the efficacy of manual-based cognitive behavioral therapy (CBT) for obsessive-compulsive disorder (OCD), and also explore acceptability and feasibility of manual-based CBT for drug-naive OCD.

### **Method**

46 patients who met the DSM-IV OCD criteria were recruited to receive CBT without medication. The CBT treatments were based on a manual, including 14 individualized outpatient sessions for 12 weeks. All subjects were evaluated with the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Hamilton Depression Scale (HAMD) and Hamilton Anxiety Scale (HAMA) by psychiatrists independent on the treatment, and perceived helpfulness and satisfaction with CBT were also assessed by visual analogue scale.

### **Results**

39 subjects completed 14 sessions CBT. The dropout rate was 15.22%. At the end of the therapy, significant improvements were found for Y-BOCS, HAMD and HAMA by paired t test. Based on the intention to treat principle, the response and remission rate were 69.57% (32/46) and 21.74% (10/46). Satisfaction and helpfulness ratings were high, respectively (6.89±0.42) and (6.62±0.68).

### **Discussion**

A manual-based CBT for drug naive OCD patients appears to be a effective, feasible, and promising intervention.

## **Development and Validation of the Deontological and Altruistic Guilt Scale (DAGS)**

**Alessandra Mancini, Praxis für Psychotherapie Berlin, Germany**

**Andrea Gragnani, Teresa Cosentino & Angelo Saliari, Scuole di Specializzazione in Psicoterapia Cognitiva APC-SPC, Italy**

**Francesco Mancini, Scuole di Specializzazione in Psicoterapia Cognitiva APC-SPC and Guglielmo Marconi University, Italy**

### **Introduction**

In the last decade, research found evidences of the distinction between two types of guilt. Altruistic guilt (AG), resulting from the awareness of not having behaved altruistically, and deontological guilt (DG), emerging from the appraisal of having violated a moral rule (Mancini, 2008). It has been shown that the two types of guilt can be separately induced (Basile and Mancini, 2011). Additionally, studies on moral decision making revealed that participants induced with DG preferred inaction when faced with the “switch” version of the trolley dilemma, while those induced with AG preferred action. Crucially, this omission bias was justified with the goal of not breaking the “Do not play God” principle, according to which “nobody has the right to decide who lives and who die” (Sunstein, 2005; Gangemi and Mancini, 2015). Consistently, the presence of an authority resulted in more omissions (Gangemi and Mancini, 2013). Finally, the induction of DG resulted in the acceptance of more unfair offers in a third-party version of the Ultimatum Game, as compared to the induction of pride. This was not true in the case of the induction of AG, supporting the notion that the two types of guilt prompt different action dispositions (Mancini and Mancini, 2015). Furthermore, neuroscientific results revealed that different neuronal networks are involved in AG and DG (Basile et al., 2011). Specifically, the induction of deontological guilt increased activation of the disgust-related areas, such as the insula (Pujol et al., 2018), whereas altruistic guilt elicited activation in the theory of mind network, particularly in medial prefrontal cortex (Shallice 2001). Moreover, the stimulation of the insular cortex by tDCS enhanced the levels of disgust and resulted in more severe moral judgment only in the deontological domain (Ottaviani et al., 2018). Importantly, obsessive compulsive patients (OC) seem to be particularly sensitive to deontological guilt. Compared to healthy controls, when processing deontological guilt stimuli, OC patients showed decreased activation in the anterior cingulate cortex, the insula and the precuneus, whereas groups similarly processed altruistic guilt stimuli (Basile et al., 2013). OC patients also showed a preference for omission rather than action in the trolley task, like non-clinical people when deontological guilt is induced (Mancini & Gangemi, 2015). Furthermore, DG induced obsessive-like behavior (i.e. checking and washing) to a greater extent than AG (D’Olimpio & Mancini, 2014). This effect was replicated and extended by Ottaviani et al. (2013; 2018), who also found that compared to AG, inducing DG enhanced vagally-mediated heart rate variability (HRV). This research suggests that deontological guilt is involved in the genesis and maintenance of obsessive symptoms, however to date there is no appropriate instrument to disentangle the predisposition to the two distinct types of guilt. We will present the Deontological and Altruistic Guilt Scale (DAGS), built capitalizing on previous research.

### **Method**

The Scale is being tested on a large sample size.

### **Results**

Preliminary data on the psychometric properties of this tool will be presented, including the test of its factorial structure, its reliability and validity.

### **Discussion**

Possible applications in clinical settings will be discussed.

## **Preliminary Data About the Validation of the Deontological and Altruistic Guilt Scale (DAGS)**

**Alessandra Mancini, Praxis für Psychotherapie Berlin, Germany**

**Andrea Gragnani, Teresa Cosentino, Angelo Saliari, Katia Tenore & Claudia Perdighe, Scuole di Specializzazione in Psicoterapia Cognitiva APC-SPC, Italy**

**Francesco Mancini, Scuole di Specializzazione in Psicoterapia Cognitiva APC-SPC and Guglielmo Marconi University, Italy**

### **Introduction**

A large amount of empirical evidence demonstrates the role of the fear of guilt and, specifically, of deontological guilt in the genesis and maintenance of Obsessive Compulsive Disorder (OCD) (Mancini and Gangemi, 2017). Obsessive patients’ (OC) concern over a harmful event (e.g., a gas explosion) is substantially reduced if responsibility for the event is not their own, but someone else’s, regardless of the actual probability of harm (Lopatchka & Rachman, 1995). This suggests that OC patients’ concern is not about the consequences of the event, so much as being responsible for it. Thus, it seems that a key factor in OCD is a sense of guilt, for which neither the worry for, nor the presence of, a victim, are necessary and the appraisal of having violated a moral rule is necessary and sufficient (Mancini, 2016). This type of guilt is known as deontological guilt (DG) and it can be conceptually distinguished from a more interpersonal type of guilt (i.e. altruistic guilt, AG), which results from the awareness of not having behaved altruistically (Mancini, 2008; Basile and Mancini 2011; Cami et al., 2013). Obsessive compulsive patients (OC) seem to be particularly sensitive to deontological guilt. Compared to healthy controls, when

processing DG stimuli, OC patients showed decreased activation in the anterior cingulate cortex, the insula and the precuneus, whereas groups similarly processed altruistic guilt stimuli (Basile et al., 2013). OC patients also showed a preference for omission rather than action in the trolley task, like non-clinical people when deontological guilt is induced (Mancini & Gangemi, 2015). Furthermore, the induction of DG in non-clinical participants elicited obsessive-like behavior (i.e. checking and washing) to a greater extent than the induction of AG (D'Olimpio & Mancini, 2014). This effect was replicated and extended by Ottaviani et al. (2013; 2018), who also found that compared to altruistic guilt, inducing deontological guilt enhanced vagally-mediated heart rate variability (HRV). Despite these results pointing at deontological guilt as a key-factor in the development of OCD, a reliable and valid tool to measure its predisposition in the general population and in OCD patients is lacking.

#### **Method**

Here we present preliminary data about the validation of the Deontological and Altruistic Guilt Scale (DAGS). The scale items were generated by a pool of experts in the treatment of OCD. In line with appraisal theories of emotions, which assumes that individual's goals and beliefs are proximal determinants of emotions (Scherer, 1999; Castelfranchi & Paglieri, 2007), items describe: appraisal, action disposition and emotional experience for each type of guilt. The scale is currently being tested on a sample larger than 200 participants.

#### **Results**

Here we will present preliminary data about the psychometric properties of this tool, including the test of its factorial structure, reliability and validity.

#### **Discussion**

We will discuss the possible application of the scale in both clinical practice and research on the role of guilt in OCD.

### **The Impact of Appearance-Based Rejection Sensitivity and of Dysmorphic Concerns on the Relationship Between Teasing and Mental Health: Are There Gender Specific Effects?**

**Alexandra Martin, University of Wuppertal, Germany**

**Jennifer Schmidt, Hochschule Döpfer University of Applied Sciences, Germany**

#### **Introduction**

Appearance teasing is a common phenomenon in social interactions, especially in adolescence and has negative impact on body image and mental health. Further, teasing experiences seem to contribute to appearance-based rejection sensitivity (ARS), defined as a personality disposition to readily expect and be concerned about interpersonal rejection because of one's physical attractiveness (Park, 2007). More specifically, ARS may constitute a risk factor of body dysmorphic disorder. Based on recent findings (Densham et al., 2017; Lavell et al., 2014; Webb et al., 2015), we hypothesized a serial mediation model ("teasing -> ARS -> dysmorphic concerns -> mental health"), and the aim of the study was the evaluation of the postulated mediation effect, that is, whether ARS and BDD symptoms mediate the relationship of early appearance teasing and current mental health problems. In particular, the role of ARS and of dysmorphic concerns on mental health has not been assessed in gender-specific mechanistic models. Therefore, we analyzed these models separately for each gender, to identify whether the effects differ between male and female subjects.

#### **Method**

In a cross-sectional survey-study (N = 501; 407 f, 94 m), we assessed retrospectively appearance teasing experiences (adapted POTS), as well as ARS, present dysmorphic concerns (DCQ), depression (PHQ-9), anxiety (GAD-7), and self-esteem (RSES). We analyzed the interrelations of these variables, and respective gender differences. We examined the mediating role of ARS and dysmorphic concerns in gender-specific serial-mediation models.

#### **Results**

The results show high ratios of past teasing experiences, and only a small gender difference regarding the frequency of early appearance teasing ( $f > m$ ,  $g = 0.25$ ,  $p = .066$ ). Teasing experiences were significantly related to ARS and to dysmorphic concerns in both genders ( $r_s > .32$ ;  $p_s < .010$ ). Serial mediation models show that ARS and dysmorphic concerns mediate the effects of appearance teasing on each of the mental health outcomes in women ( $\Delta R^2 > .17$ ), but not in men ( $\Delta R^2 < .03$ ).

#### **Discussion**

The findings show similar frequencies of appearance teasing and associated negative effects on body image in men and women. Specifically, in women, the effects of teasing on mental health were stronger and mediated by ARS and dysmorphic concerns. Overall, the results point to the relevance of appearance-based rejection sensitivity for models of body image disorders and female mental health. However, men did not show the same relationships of teasing and mental health. Differential resilience factors regarding the effects of early appearance teasing could be an important target for future research.

### **The Inference Based Approach: Does it Offer an Alternative to Exposure and Response Prevention for the Treatment of Obsessive Compulsive Disorder**

**Kieron O'Connor, Institut universitaire en santé mentale de Montréal Research Center, Canada**

**David Christmas, Advanced Intervention Service, United Kingdom**

**Kieron O'Connor, Institut universitaire en santé mentale de Montréal Research Center, Canada**

#### **Introduction**

Behavioural treatment for Obsessive Compulsive Disorder (OCD) is traditionally based on an exposure and response prevention (ERP) model; an approach which is evidence-based but often under-used. Since high levels of distress can be experienced during treatment it can be difficult for the patient to fully engage and, in some cases, for the therapist to deliver therapy. The recommended frequency (15-20 sessions), duration (90 minutes), and setting (community rather than office-based) make it challenging for services to deliver optimised treatment. The Inference Based Approach (IBA) offers an alternative treatment option. In contrast to the cognitive appraisal model which informs ERP, IBA theorises that obsessions arise through a faulty reasoning system which leads to recurrent doubts and faulty inferences. Cognitive interventions in IBA focus on helping patients to identify the reasoning errors that lead to obsessions. IBA is traditionally delivered in a clinic setting, in time limited format.

#### **Method**

A number of online databases were searched, looking for articles published between 2005 and 2015. Inclusion criteria included: English language publications only; age range 18-65; outpatient therapy only; randomised controlled trials comparing CBT/EPR or IBA against an

active therapy control that used a different modality of treatment. Exclusion criteria included: medication control group; group-based therapy; non-face-to-face therapy.

#### **Results**

A total of 7 studies were included (ERP=5 studies, 273 participants; IBA=2 studies with three comparisons, 139 participants). Baseline characteristics such as age of onset, duration of illness, or previous treatment were reported poorly in most studies. Mean age of participants across all studies was: ERP (32.9); IBA (37.1). Male-to-female ratio differed between the two treatments: ERP (1.4:1); IBA (0.5:1). Baseline severity was higher in the ERP studies, with mean  $\pm$  SD Y-BOCS scores of  $28.7 \pm 3.9$  vs  $22.7 \pm 4.2$ . The active controls for ERP included CBT (N=2); DIRT (N=1); anxiety management (N=1); and Satiation Therapy (N=1). For IBA, controls included CBT (N=2); ERP (N=1). On each of the comparisons, the intervention did not differ from the active control, with the exception of ERP which was more efficacious than anxiety management. IBA did not differ from ERP or CBT.

#### **Discussion**

For the treatment of OCD, it appears that ERP, IBA, and CBT are equally efficacious. Anxiety management does not appear to be as effective. IBA may offer an equally efficacious treatment option to standard treatment and may be advantageous for patients who are less amenable to treatment with ERP or where full delivery of ERP is not possible.

### **Effects of Rumination on Unwanted Intrusive Thoughts: A Replication and Extension**

**Martin Mazanec, Carlotta V. Heinzl, Patrizia D. Hofer, Roselind Lieb & Karina Wahl, University of Basel, Switzerland**

#### **Introduction**

Recent studies indicate that rumination might play a role in obsessive-compulsive disorder. In a previous experimental study, rumination about unwanted intrusive thought (UIT) maintained the urge to neutralize this thought. The aim of the present study was to replicate the results of the previous study and to extend them by including measures of behavioral and mental neutralizing.

#### **Method**

We activated the UIT by asking students (N = 105) to write down a sentence stating that they wished a loved person would die in a horrible car accident. Participants were then randomly allocated either to rumination about UIT, rumination about negative mood, or distraction.

#### **Results**

Manipulation checks indicated that we successfully induced either rumination or distraction. However, our experimental manipulation did not result in two different types of rumination. We therefore combined the rumination about UIT and rumination about negative mood for the analyses. As predicted, rumination attenuated the decrease of urge to neutralize the UIT when compared to distraction. In addition, rumination also maintained the distress and depressed mood in contrast to distraction. We did not provide evidence for rumination affecting the UIT frequency. Regarding behavioral neutralizing, we detected a trend that participants who ruminated had higher odds to perform a neutralizing behavior than those who were distracted. We did not find a rumination effect on mental neutralizing.

#### **Discussion**

The present findings support the view that rumination might indirectly contribute to the maintenance of UITs by affecting the distress associated with them, urge to neutralize them, and depressed mood.

### **Deficits in Emotional Control in Paediatric Obsessive-Compulsive Disorder: Associations with Symptom Presentation and Response to Treatment**

**Matthew McKenzie, Caroline Donovan, Sharna Mathieu, Wade Hyland & Lara Farrell, Griffith University, Australia**

#### **Introduction**

The cognitive-behavioural conceptualisation of Obsessive-Compulsive Disorder (OCD) emphasises intrusive thoughts as the main catalyst for the emotional distress which the individual experiences. While much of the research to date has well established the role of obsessions and dysfunctional beliefs, the theory and research have paid significantly less attention to the role of emotions and emotion regulation as a mechanism that may partially account for the relationship between obsessions and compulsions. Within OCD, compulsions represent a maladaptive method of regulating distress and may be indicative of deficits in the individual's ability to regulate emotions. Furthermore, there is a small but growing body of literature examining explosive and disruptive behaviours in children with OCD (Storch et al., 2011; 2012; Krebs et al., 2013) suggesting that emotion regulation deficits may have implications for other components of the disorder's presentation.

#### **Method**

The current study sought to explore children's capacity for emotional control (EC) and the extent to which this was related to OCD severity, internalising and externalising symptoms, specific comorbid diagnoses, family accommodation and immediate as well as longer term treatment outcome. The study was carried out on a clinical sample of youth (7 to 17 years) with a primary or co-primary diagnosis of OCD (n=137). The study also involved the parents of these children and adolescents. Following diagnostic and symptom severity interviews, children and parents completed study questionnaires. A median split of responses to the emotional control index of the Behaviour Rating Inventory of Executive Function (BRIEF) resulted in two groups of children – those with greater EC (n = 68, M EC index = 53.21, SD = 5.95) and those lower on EC (n = 69, M = 73.57, SD = 7.02). Children received Cognitive-Behavioural Therapy (with Exposure and Response Prevention delivered in an intensive format).

#### **Results**

The results indicated that children who had poorer emotional control had significantly more severe internalising and externalising symptoms, had significantly greater OCD severity and more family accommodation. They were also more likely to have a comorbid diagnosis of oppositional defiant disorder or social phobia. Additionally, children with greater EC were more likely to have attained response or remission of their symptoms immediately following treatment, relative to those with poorer EC. However, at three months following treatment there were fewer responders to treatment among the low EC group relative to the higher EC group; and, there was no significant difference for treatment remission.

#### **Discussion**

The findings of the current study highlight how differences in capacity for emotional control may influence the presentation of the disorder as well as treatment outcome. This preliminary association between baseline differences in emotional control and treatment outcome may provide a basis for considering whether augmenting standard treatment for OCD with a specific emotion regulation training component could improve remission rates. However, further research examining emotion regulation in OCD treatment is required.

## **Examining Parents' Perception of Children's Emotion Regulation in Paediatric OCD: Associations with Family Accommodation and Parental Distress**

**Matthew McKenzie, Caroline Donovan, Melanie Zimmer-Gembeck, Allison Waters, Sharna Mathieu & Lara Farrell, Griffith University, Australia**

### **Introduction**

OCD in childhood is associated with impairments not only for the child, but the entire family. Parents of children with OCD frequently report parental distress, often because of the pervasive family accommodation associated with OCD. Examining mechanisms that drive the process of family accommodation is an important focus for the field. The current study explored parents' perceptions of their child's emotion regulation (ER) and associations with child-reported use of specific ER strategies, family accommodation, OCD severity, as well as parental report of their own depression, anxiety and stress.

### **Method**

Participants in this study were 72 youth (and their parents) aged 7 to 17 years with a primary or co-primary diagnosis of OCD of at least moderate severity. Following diagnostic and symptom severity interviews (ADIS-IV-P, CY-BOCS), children and parents completed study questionnaires (Cognitive Emotion Regulation Questionnaire, Suppression scale of the Emotion Regulation Questionnaire for children and adolescents, Emotion Regulation Checklist, Family Accommodation Scale, Depression Anxiety Stress Scale).

### **Results**

The results indicated a significant correlation between parents' positive perception of their child's ER ability and the child's self-reported use of Acceptance as an ER strategy. Furthermore, parents' negative perception of their child's ER ability was a significant and unique predictor of family accommodation, parental depression and parental stress over and above known clinical correlates associated with these variables. However, it was not a significant moderator of the relationship between OCD severity and family accommodation.

### **Discussion**

The findings have important implications for clinical practice in paediatric OCD. The study emphasises that efforts to address family accommodation ought to consider parents' perceptions and perhaps monitor the extent to which this changes during and following treatment. Moreover, greater involvement of parents in the administration of exposure and response prevention may provide parents with the opportunity to directly observe their child's ability to tolerate distress. Such firsthand observations may provide a corrective experience in terms of how they appraise their child's ability to cope outside of therapy. Furthermore, findings also suggest that changes in the way parents appraise their child's ability to cope may have positive implications for parents' psychological well-being.

## **Treatment Format Preference for OCD**

**Josie Millar & Paul Salkovskis, University of Bath, United Kingdom**

### **Introduction**

CBT is an efficacious treatment for OCD (Ost et al., 2015) however a large proportion of clients remain symptomatic following the completion of treatment, with the average symptom reduction across studies being 48% (Abramowitz et al., 2002). The UK National Institute for Health and Clinical Excellence (NICE) guidelines recommend an intensive version of CBT be offered to individuals who have not responded to one or more trials of CBT or one or more adequate trials of a SSRI or Clomipramine (NICE, 2005). Little research however has examined the acceptability of time-intensive CBT, how accessible it is and the views of those who may be offered treatment in this format, particularly in comparison to weekly CBT.

### **Method**

232 participants with OCD took part in an online questionnaire examining participant's preferences for treatment format. A series of questionnaires were used to investigate participant's attitudes towards and beliefs about receiving CBT for OCD delivered in either a weekly or time-intensive format. Participant's beliefs about the perceived advantages and disadvantages of intensive CBT were examined. A questionnaire developed specifically for this study sought to understand how participants perceived various elements of a time-intensive approach would work in practice. Participant's readiness to change, self-efficacy and previous treatment history were examined in relation to their preference for treatment.

### **Results**

The results of this study will be discussed with regards to predictors of treatment preference along with improving access to good quality CBT for OCD, for those who are often left feeling that nothing can be done to help them after treatment has been unsuccessful. Important directions for future research will be discussed.

## **OCD Symptoms in a Non-Clinical Sample: What About a Non-Good-Enough Father?**

**Anna Nisyraiou, Olga Zikopoulou & Gregoris Simos, University of Macedonia, Greece**

### **Introduction**

Research on the factors that contribute to the development and maintenance of Obsessive-Compulsive Disorder (OCD) has identified both specific dysfunctional beliefs or belief domains, and specific also child-rearing patterns. Parents of OCD patients and individuals with OC symptoms are perceived as rejecting, overprotective, and show less emotional warmth than parents of normal controls (Lennertz et al, 2010; Alonso et al., 2004; Turgeon, O'connor, Marchand, & Freeston, 2002). However, there is also evidence that does not fully support those findings. Aims of the present study were a) to assess whether parental rearing may contribute to the prediction of OCD-genic beliefs and OCD symptomatology, and b) whether parental rearing patterns may still contribute as a predictor when controlling for dysfunctional beliefs.

### **Method**

The sample consisted of 309 undergraduate students of the University of Macedonia (59% female) of a mean age of 21.12 (SD= 3.06) years. The measures that were used were: i) the Obsessive-Compulsive Inventory- Revised (OCI-R; Foa et al., 2002) for the assessment of the distress associated with OCD symptoms, ii) the Revised version of the Obsessive Beliefs Questionnaire (OBQ-44; OCCWG, 2005) for the assessment of relevant belief domains, and iii) the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) for the assessment of fundamental parental styles (namely care and control) as perceived by the child. Cronbach's Alphas for the scales were 0.88, 0.90 0.80 respectively.

### **Results**

In male participants OCD symptoms correlated significantly with obsessive beliefs and father overprotection, while in female participants OCD symptoms correlated significantly with obsessive beliefs, mother overprotection, and father overprotection. A series of consequent

regression analyses showed that obsessive beliefs significantly predicted OCD symptomatology. In the model 2 maternal overprotection was a significant predictor for OCD symptomatology along with obsessive beliefs. However, when we controlled for obsessive beliefs in the model, only paternal overprotection remained as a significant predictor. Furthermore, when controlling for obsessive beliefs and gender, paternal overprotection was the only significant predictor.

### **Discussion**

These findings suggest that maternal overprotection may predict the development of obsessive beliefs, which in their turn act as a vulnerability factor for the development and maintenance of OCD symptomatology. However, after controlling for the influence of dysfunctional belief domains, paternal overprotection emerged as the only predictor of intrusive thoughts and compulsive behaviours. Such results seem to also have an impact not only on our understanding the sequence of factors involved in OCD-like symptoms, but also on the way contemporary CBT might handle the recollection of such parental influences, and especially those of a not good-enough father, in treatment.

## **Technology-Based Cognitive Behavioral Therapy for Obsessive-Compulsive Disorder: A Meta-Analysis**

**Laura Marie Nosthoff-Horstmann, Nora Kuck, Paul Bürkner & Ulrike Buhlmann, Westfälische Wilhelms-Universität Münster, Germany**

### **Introduction**

Obsessive-compulsive disorder (OCD) is a widespread mental disorder with a lifetime prevalence of about 2% (Ruscio et al., 2010). A well-established treatment for people suffering from compulsive obsessions is cognitive behavioral therapy (CBT) (Olatunji et al., 2013). Several technology-based CBT treatments with the potential to overcome structural and personal barriers to face-to-face therapy have been developed and evaluated (Greist et al., 2002). In the last years, some published meta-analyses (Pearcy et al., 2016) and systematic reviews (Aboujaoude, 2017) report the efficacy of technology-based interventions for OCD. However, further investigation through use of solely randomized controlled trials according to the latest scientific status is necessitated, particularly with regard to low personal contact intensity. Therefore, the aim of the present study was to focus on the efficacy of technology-based CBT with low personal contact intensity for OCD using meta-analytic techniques.

### **Method**

Randomized controlled trials (RCT) studies were identified through databases (PsycINFO, Medline and Scopus) and through reference lists of previous published meta-analyses and reviews. With regard to inclusion, studies necessitated to apply remote CBT with low personal contact intensity and use the YBOCS scale (Goodman et al., 1989) as an outcome measure. Participants needed to be adults with OCD as the primary diagnosis. By January 2019 the search amounted to 11 studies which were included in the present meta-analysis. Control conditions comprised passive and active conditions, namely waitlist controls, relaxation training and other treatments which were analyzed pooled and separately. By using Hedges'  $g$  and a random effects model the meta-analyses were performed. Statistical heterogeneity was applied by using  $I^2$  method (Higgins and Thompson, 2002).

### **Results**

Thus far, the following preliminary results can be reported. The pooled average post-treatment effect size, specifically Hedge's  $g$ , of technology-based CBT on outcome measures is  $-0,46$  (95% CI:  $-0,83$  to  $-0,09$ ). This indicates that technology-based CBT produces a higher decrease in symptoms of 0,5 than the control group conditions, namely waitlist control group and other treatment conditions. The heterogeneity was high ( $I^2 = 84,88\%$ ), thus, interpretation should be viewed with caution. When comparing treatment and control condition for 7 studies which provide only passive control group conditions (waitlist) with regard to pre-post-reduction in OCD symptoms, treatment conditions show a higher decrease of 0,4 ( $-0,39$  (95% CI:  $-0,73$  to  $-0,05$ );  $P = 53,06\%$ ).

### **Discussion**

In summary, we found preliminary evidence of the efficacy of technology-based CBT for OCD. To that effect, the access to technology-based CBT is important. In order to elaborate the efficacy, a lower variability in treatment types and further studies through use of RCT's are required. Necessary for an overview with regard to the influence of varying personal contact intensity, sub analyses should shed light on the difference in contact intensity across treatments.

## **Hoarding Disorder and Emotion Regulation in a Non-Clinical Sample**

**Caterina Novara & Susanna Pardini, University of Padua, Italy**

### **Introduction**

Hoarding disorder (HD) is a mental disorder essentially characterized by the difficulty and failure to discard objects, regardless of their actual value, the excessive acquisition of new items and clutter that usually preclude the use of the living spaces (American Psychiatric Association, 2013). Associated with HD symptoms are dysfunctional beliefs and peculiar cognitive/emotional processes that, based on the cognitive behavioral model of HD, are conceptualized as etiological and maintenance factors of the disorder (Frost & Hartl, 1996). Indeed, hoarders show a difficulty in controlling/tolerating intense negative emotions experienced, for example, when they have to reject stuff or make decisions about discarding an object; moreover, it seems that hoarders' dysfunctional beliefs modulate the difficulty to discarding objects (Shaw et al., 2015; Frost, et al., 2015). A recent study (Taylor et al., 2018) put in evidence that difficulty in emotion regulation (ER) is significantly related to HD symptoms and beliefs and is able to predict specifically the difficulty to discarding and the excessive acquisition in HD. They also put in evidence that the relation between ER and HD is partially mediated by some dysfunctional beliefs regarding emotional attachment to possessions. Thus far, the research between HD and emotional/cognitive processes is still ongoing but other studies are required to better understand this topic.

### **Method**

Therefore, our main aims were to investigate the emotional/beliefs processes related to "discarding" possessions and their different manifestations between two groups of individuals extracted by a non-clinical sample ( $N=511$ ), respectively composed of 41 individuals that met HD symptoms (HighHDi) and 37 individuals without HD features (LowHDi). All the participants completed a series of self-report questionnaires in order to assess hoarding symptoms, emotional regulation strategies, distress tolerance, appraisals of negative emotions, emotional intensity/tolerance, hoarding dysfunctional beliefs, depression, anxiety and obsessive-compulsive symptoms. All the subjects were assessed at two different times, before (T1) and after (T2) the experimental condition that implied to leave an important possession at the laboratory for a week; moreover, they were asked to fill out a self-monitoring notepaper for seven days between T1 and T2 with the aim to investigate the frequency of thoughts and emotions, based on the subjective units of distress, related to the object left in the lab.

## **Results**

At T1, preliminary results of a Student's t-test analysis ( $t(1,76)=-3.3$ ;  $p<0.05$ ) showed a greater difficulty to regulate emotions (evaluated with the DTS Regulation subscale) of HighHDi rather than LowHDi. In line with literature, subjects with hoarding features have a general difficulty in controlling/regulating emotions. Moreover, results of a Student's t-test analysis put in evidence that HighHDi had a greater number of thoughts ( $t(1,36)= 3.52$ ;  $p<.05$ ) and negative emotions ( $t(1,36)= 3.06$ ;  $p<.05$ ) related to their objects during the week than LowHDi.

## **Discussion**

These results are promising and future investigations considering also a hoarders sample are desirable. We expect that emotional regulation strategies could be included in HD treatment protocols with the aim of incrementing the efficacy of CBT treatment.

## **A Young Woman with Comorbid Insomnia and Trichotillomania**

**Mary Ntafouli, Simone Duss, Panagiotis Bargiotas & Claudio Bassetti, University Hospital Bern, Switzerland**

### **Introduction**

A 21 years old woman with comorbid insomnia and trichotillomania (urge to pull out the hairs of the eyebrows, associated with a tension before doing it and a relief hereafter) presented herself for Cognitive Behavioral Therapy. The diagnostic interview revealed an insomnia, specifically she had trouble to fall asleep. Also, she diagnosed by trichotillomania and she manifested as well some traits of obsessive compulsive personality disorder (especially perfectionism).

### **Method**

Research indicates that patients with Obsessive Compulsive Disorder Spectrum (OCD) frequently suffer from comorbid sleep disturbances, and that these difficulties are often not clinically recognized and diagnosed. The term sleep disturbance reflects an individual's dissatisfaction with sleep quality and quantity to such an extent that it causes subjective significant distress or impairment of the person's conduct of life. The therapeutic plan is divided into behavioral techniques for relieving trichotillomania and cognitive and behavioral techniques for relieving comorbid insomnia. Specifically, she tried to replace the urge of pulling out hairs with other behavioral activities. Regarding distressing thoughts before sleep time, she learnt how to replace them with more helpful and realistic ones and how to relax herself before going to bed.

### **Results**

After completion of 22 sessions, she stopped to pull out her hair from eyebrows and the sense of pulling her hair was progressively decreased. Regarding insomnia, she could control her sleep time and the sleeping stress was decreased. She did not feel tired anymore, since she succeeded to go away distressing thoughts before sleep.

### **Discussion**

This case report was selected, because of its highly increased clinical interest and also for its demanding therapeutic plan and intervention. For this case report, it combined different therapeutic approaches in order to succeed a positive therapeutic result.

## **Research Goals as Defined by OCD Patients: An Online Survey for More Involvement into Research**

**Mara Jasmin Otterbeck, Florian Weck & Franziska Kühne, University of Potsdam, Germany**

### **Introduction**

With a 12-months prevalence of 3.6%, obsessive-compulsive disorder (OCD) is one the most prevalent mental disorders in Germany (Jacobi et al., 2014). Research involving patients into the whole research cycle is still rare, but findings show that patient wishes and expert viewpoints are not always identical. Since the involvement of patients into psychotherapy research has the potential to improve the quality of care (Haarig, 2016; Haarig et al., 2016; The James Lind Alliance, 2016), we aimed at identifying unacknowledged research questions and their importance from OCD patients, and compared them to the views of OCD professionals.

### **Method**

Part I. First, we conducted a meta-review of systematic reviews on OCD and related disorders to find unacknowledged research questions in the field. The literature search was performed in three databases (Prospero, Cochrane Library, Campbell Collaboration), and ten research questions were extracted. Part II. In an online-survey, professionals in OCD therapy and research were asked to indicate five unacknowledged research questions in a free answer format and to prioritize them. Then, the participants were asked to rate the importance of the ten research questions from the meta-review on a six-point Likert Scale. Part III: The same procedure as in part II was subsequently realized with OCD patients. Quantitative data were analyzed exploratively by descriptive and non-parametric statistics (Mann-Whitney-U-test). The qualitative data was categorized independently by two raters; inter-rater reliability indicated strong agreement (Cohens'  $\kappa=.92$  and  $\kappa=.81$ ).

### **Results**

From nineteen publications, ten research questions on the psychotherapy of OCD were defined and summarized into survey items. Both, professionals (N=8) and patients (N=64) rated the research question "Which factors affect the long-term effectiveness of psychotherapy?" as the most important one. Most of the predefined goals were perceived as important or very important, but research on the effects of group vs. individual psychotherapy was rated least important. No statistical significant differences were found between the two groups ( $p>.05$ ). By categorizing and comparing the open-answer items, "Development and Maintenance of the Disease" and "Psychotherapy and its Efficacy" were the most important topics for patients, whereas for professionals, the efficacy and optimization of psychotherapy were central.

### **Discussion**

The results underscore that OCD patients and professionals wish similar research questions to be subject for future research. Further studies should especially consider the development and maintenance of OCD, enhance effectiveness of psychotherapy and investigate factors influencing its long-term effectiveness. The adequate involvement of patients into research can enhance patients' trust into research, while researchers may assure themselves that research topics are of mutual interest.

## **Getting Rid of It: Using Implementation Intentions to Help Hoarders to Discard**

**Arthur Pabst, Université Catholique de Louvain, Belgium**

**Kieron O'Connor, University Institute of Mental Health Montreal, Canada**

### **Introduction**

People with hoarding disorder (HD) display difficulties discarding possessions. Resulting clutter exposes both individual and community to serious social and sanitary risks. Current treatments are longer than for other mental disorders and clutter measures often remain clinically

significant post-therapy, which emphasizes the need to refine discarding-centered interventions. Research relates discarding difficulties to impaired decision-making processes. Implementation Intentions (II) are “if...then...” plans bypassing decision-making issues by linking a stimulus to a precise action, thus recruiting bottom-up rather than top-down processes. This multiple-baseline single-case experiment investigated the feasibility and utility of II in helping a patient with HD to discard more effectively.

#### **Method**

A woman around forty with HD and specific difficulties discarding magazines, administrative documents and cosmetics formulated a plan for each category specifying when to discard, for how long, how and based on what criterion (e.g., due date) to help her discard as many objects as possible by placing them in category-specific boxes. Objects in each box were counted weekly for three weeks to establish a baseline. She then formulated one II per category and week and used it for the targeted category while using the original plans for the others. Objects in each box were counted after each II week.

#### **Results**

During the week they were targeted by II, 200% more magazines, 33% more administrative documents and 146% more cosmetics were discarded by the participant compared to baseline mean. She reported that the technique had motivated her, that she felt more “equipped” to deal with her clutter and that she felt “pushed” and “obliged” by the II, which was helpful. The intervention was deemed “easy to understand”. An example of II formulated by the participant was: “If I see the expiration date is exceeded, then I immediately put the cosmetic in its box”.

#### **Discussion**

Both quantitative and qualitative results suggest II was well accepted and useful in facilitating the discarding process. Given the brevity, ease of implementation and simplicity of the intervention, II might constitute a powerful adjunct to established treatments and could lead to faster improvements in clutter difficulties. This study prompts the need to assess the utility of II in large samples.

### **Effectiveness of Group Cognitive Behavioral Treatment (G-CBT) in the Treatment of Anger in Patients with Compulsive Obsessive Personality Disorder (OCPD)**

**Laija Pijuan González, Júlia Grau, Àngela Cabestany, Marta Sánchez & Ana Soler, Consorci Sanitari de Terrassa, Spain**

#### **Introduction**

As several studies point out, OCPD is related to high anger scores. The objective of this study was to look at the efficacy of G-CBT for anger state-trait and expression.

#### **Method**

The sample consists of 115 patients between 20 and 65 years old (mean 42 years old) of which 50.43% are men and 49.56% are women, one diagnosed with OCPD. Each G-CBT consisted of approximately 10 patients who completed 10 one – hour sessions. All participants were assessed using the Structured Clinical Interview for DSM IV Axis I Personality Disorders (SCID II). For pre- and post-anger assessment, the State-Trait Anger Expression Inventory (STAXI) questionnaire was used. Statistical analysis was performed using Statistical Packache of Social Sciences (SPSS 18.0).

#### **Results**

The results show that there is a statistically significant reduction of anger-trait ( $p < 0.01$ ) as well as expression of anger ( $p < 0.01$ ). No significant differences were found in anger-state ( $p > 0.05$ ).

#### **Discussion**

The results suggest that the efficacy of G-CBT is related to the management and control of anger expression. These results agree with the fact that the G-CBT is an intervention focused on aspects of a more behavioral type as well as training in management strategies.

### **Do Men and Women of Various Ages Differ in Their Body Image? An Online Survey on Gender Differences Concerning Body Dissatisfaction, Body Appreciation and Importance of One's Appearance**

**Hannah L. Quittkat & Andrea S. Hartmann, Osnabrück University, Germany**

**Ulrike Buhlmann, Westfälische Wilhelms-Universität Münster, Germany**

**Silja Vocks, Osnabrück University, Germany**

#### **Introduction**

Body image disturbance is a risk factor for eating disorders and body dysmorphic disorder. Although research has demonstrated that body image varies over the lifespan, few studies have examined body image along with age-related differences and changes in body image during the life course. Empirical studies on body image have mostly focused on changes in either men or women or on particular age groups (e.g. adolescents), thus failing to evaluate gender-related variation and differences over the lifespan. Particularly comparisons of body image across genders have barely considered participants aged 50 years and older. Previous research has often defined body image in terms of body dissatisfaction or the desire to be thin, neglecting further aspects of body image such as body appreciation or the importance of one's appearance. Studying the differences in body image between men and women therefore requires a multidimensional investigation employing gender-neutral measures of body image.

#### **Method**

This study aims to analyse various aspects of body image among the general German-speaking population in relation to gender and age. Inclusion criteria are sufficient German-language skills and an age of 16 years or older. The Multidimensional Body-Self Relations Questionnaire - Appearance Scales assesses body dissatisfaction in general, body dissatisfaction relating to certain body areas, importance of one's appearance, overweight preoccupation, and self-classified weight. The Body Appreciation Scale 2 examines body appreciation in a gender-neutral manner. Moreover, participants are asked how many hours per day they would invest in their appearance and the number of years they would relinquish from their life in order to attain their ideal appearance. Further, participants rate their depressive mood over the last week on the Depression subscale of the Depression Anxiety Stress Scales and their self-esteem on the Single-Item Self-Esteem Scale.

#### **Results**

This study is currently in progress; results will be presented at the congress.

#### **Discussion**

Results will be discussed regarding age- and gender-related differences in body image and implications for future research and clinical practice.

## **Psychiatric Comorbidities of Obsessive-Compulsive Disorder: A Series of Meta-Analyses**

**Charlotte Rowe, Aurore Deledalle & Abdel Halim Boudoukha, Université de Nantes, France**

### **Introduction**

Obsessive-compulsive disorder (OCD) is a particularly disabling illness. Crino, Slade and Andrews (2005) showed that the rate of comorbidity was notably high at 79.7%. Screening for comorbidities is extremely important in the holistic care of service-users. The objective of this study is to produce a series of meta-analyses for four psychiatric comorbidities that appear often in the literature – major depressive disorder, bipolar disorder, psychosis and substance abuse disorder.

### **Method**

Three databases were searched – PsycINFO, MEDLINE and Web of Science. Eligibility criteria were the following: articles in French, English or German, studies concerning only adults, published in peer-reviewed journals, with a measure of OCD and the prevalence of the comorbid disorder. Random effects meta-analyses were performed using R 3.4.0 with the package meta.

### **Results**

The meta-analyses found that there were strong associations between all comorbidities and OCD. For depression, the result of the meta-analysis shows a relative risk  $RR=4.77$  [3.58 ; 6.35], for bipolar disorder  $RR=13.88$  [6.90 ; 27.90], psychosis  $RR=7.86$  [3.23 ; 19.14] and substance abuse disorder  $RR=10.07$  [5.44 ; 18.33].

### **Discussion**

As the rates of comorbidity are so high, it is probable that they have common etiologies, be they psychological, neurobiological or genetic. Seeing the significance of comorbidities, a holistic care package needs to be offered, screening for other disorders before starting a psychotherapeutic or pharmacological treatment. It is also worth investigating the role of transdiagnostic processes such as perfectionism. In conclusion, the early intervention in OCD and its comorbidities would prevent unnecessary suffering.

## **Acceptance of Internet-Based Versus Face-to-Face Treatment of Body Dysmorphic Disorder.**

**Katrin Schoenenberg & Katharina Bosbach, University of Wuppertal, Germany**

**Mathias Harrer, University of Nuernberg-Erlangen, Germany**

**Alexandra Martin, University of Wuppertal, Germany**

### **Introduction**

People with body dysmorphic disorder (BDD) report different barriers to enter standard face-to-face therapy such as shame to talk about appearance-related concerns or structural problems. Internet-based interventions may constitute a relevant alternative facilitating the access to treatment. Research comparing the acceptability of online versus face-to-face interventions is lacking. For this reason, the present study examined the acceptability and compared predictors for the two treatment formats.

### **Method**

The participants ( $N = 127$ ) received psychoeducational material in written form and as a video presentation and information about the online program on a website. Afterwards they rated screening questions regarding appearance related concerns and emotional state. Furthermore the intention to participate in an online program or a face-to-face treatment was assessed and the website was rated regarding its content, aesthetic design and usability.

### **Results**

Acceptance of internet-based treatment was moderate but three times higher than for face-to-face treatment. Symptom severity significantly predicted the intention to receive face-to-face treatment as an outpatient or inpatient ( $R_{out}^2 = .15$ ,  $R_{in}^2 = .23$ ,  $p's < .01$ ) but did not predict intentions for the internet-based treatment. Emotional state after exploration of the website had a similar predictive value ( $R_{out}^2 = .18$ ,  $R_{in}^2 = .21$ ,  $p's < .01$ ;  $R_{online}^2$  n.s.). The website likability constituted the best predictor for the intention to participate in the online treatment ( $R_{online}^2 = .15$   $p < .01$ ).

### **Discussion**

Internet-based interventions for people with BDD symptoms are found to be more acceptable than face-to-face therapy. Predictors for entering face-to-face treatment differed from the intentions for internet-based interventions. These results indicate that online therapy may indeed be a relevant alternative to standard treatment.

## **Cognitive and Metacognitive Biases in Pediatric Obsessive-Compulsive Disorder: Associations with Symptom Dimensions and Predictors of Cognitive-Behavioral Therapy Outcome**

**Cecilie Schultz Isaksen & Katja Hybel, Aarhus University Hospital Psychiatry, Denmark**

**Lidewij Wolters, University of Amsterdam, The Netherlands**

**Lara Farrell, Griffith University, Australia**

**Davið Højgaard & Per Hove Thomsen, Aarhus University Hospital Psychiatry, Denmark**

### **Introduction**

According to cognitive theories, the development and maintenance of obsessive-compulsive disorder (OCD) is caused by cognitive biases (e.g. responsibility/threat estimation, perfectionism/uncertainty, and importance/control of thoughts), whereas metacognitive theories highlight the importance of metacognitive biases (e.g. positive and negative beliefs about worry, superstition, punishment and responsibility, and cognitive self-consciousness). Today 25-30 percent of children and adolescents with OCD do not profit adequately from first-line treatment with cognitive-behavioral therapy (CBT). This underscores the need to better understand the role of cognitive and metacognitive biases in pediatric OCD. Therefore, the aims of this study are to examine: 1) how cognitive and metacognitive biases are associated with different symptom dimensions of pediatric OCD; 2) how these biases change as a result of CBT; 3) if pretreatment measures of these biases can predict CBT outcome.

### **Method**

The study sample comprises 97 children and adolescents (age 7-17 years). They all had a diagnosis of OCD according to the Schedule for Affective Disorders and Schizophrenia for School-Age Children – Present and Lifetime version for DSM-IV (K-SADS-PL). The patients were assessed at baseline and after completion of a manualised CBT program. Assessments included the Children's Yale-Brown Obsessive-Compulsive Scale (CY-BOCS), the Obsessive Beliefs Questionnaire – Child Version (OBQ-CV), and the Metacognitions Questionnaire – Child or Adolescent Version (MCQ-CV/MCQ-A). The analytical plan is to conduct: 1) correlational analyses to examine associations

between biases and OCD symptom dimensions; 2) linear regression analyses to examine change in biases from pre to post treatment; 3) linear regression analyses to examine predictors of treatment outcome (symptom change) and logistic regression analyses to identify variables that predict response status.

#### **Results**

Preliminary results are expected Summer/Autumn 2019.

#### **Discussion**

Results will be discussed in relation to existing literature and clinical implications.

### **When to Augment SSRI with CBT in OCD? A Comparative Study**

**Zubaida Sultana Shujaath Ali, Tees, Esk and Wear Valleys NHS Foundation Trust Middlesbrough, United Kingdom**

**Aravindan Sivakumar, Institute of Mental Health Kilpauk, India**

**Vivian Kapil Venugopal, Sri Ramachandra Medical College and Research Institute, India**

**Maikandaan C Janagan Bose, Tagore Medical College & Hospital, India**

#### **Introduction**

OCD is a chronic illness where combined treatment with SSRI and CBT is more effective than either of them alone. Most common strategy is combined sequential treatment. Augmentation of SSRI with CBT earlier in the treatment (ab-initio) which has a bearing on the outcome has not been well studied.

#### **Method**

This is a prospective study comparing outcomes of combined sequential treatment and combined ab-initio treatment in OCD at the end of 6 months. Patients giving informed consent meeting ICD-10 diagnosis of OCD without co-morbidity and on SSRI alone (N=47) were study subjects. Out of this total 1) Sequential treatment group consisted of patients who were on adequate dose of SSRI for >4 weeks for whom CBT was initiated (n=24). 2) Those on SSRI <4 weeks and augmented with CBT formed the combined ab-initio treatment group (n=23). 18 individual CBT sessions over 45 minutes each was administered to all the subjects. The intensity of therapy was 0.75.

YBOCS severity rating scale to measure primary outcome was administered by a trained rater at baseline, 6 weeks, 12 weeks and 6 months. Secondary outcome measure such as CGI-S and GAF scale were administered at baseline and 6 months; CGI-I at end of 6 months. Data was analyzed using SPSS.

#### **Results**

The mean age and duration of illness in sequential group and ab-initio group were 28 years and 68 months & 26 years and 29 months respectively. At the end of 6 weeks, 2(8%) lost for follow up in ab-initio and none in sequential group. At the end of 6 months 8 (33%) lost follow up in sequential and 6(26%) in ab-initio group.

Within group reduction in Y-BOCS severity score was significant for both groups at the end of 6 months ( $P < 0.0001$ ). Within group effect size was large for both the Ab initio ( $d = 3.86$ ) and Sequential treatment groups ( $d = 3.38$ ).

The mean Y-BOCS score in Ab initio treatment group was significantly lower than the Sequential treatment group at 6 weeks ( $P < 0.032$ ), at 12 weeks ( $p < 0.004$ ) and at 6 months ( $p < 0.0001$ ). There was in between group mean difference of Y-BOCS scores ( $t = 3.89$ ,  $d = 31$ ,  $P < 0.0001$ ) with a large between group effect size ( $d = 1.35$ ) in favor of the Ab initio treatment group.

#### **Discussion**

The mean CGI-S scores at baseline of sequential treatment group and Ab initio treatment group were 5.50 ( $\pm 0.59$ ) and 5.13 ( $\pm 0.86$ ) respectively. Mean CGI-S scores at end of 6 months was 2.82 ( $\pm 0.80$ ) for ab-initio group which was significantly lower than sequential group 3.75( $\pm 0.57$ ), ( $P < 0.001$  with 95% CI: 0.42-1.42 and Cohen's  $d = 1.32$ ). The mean CGI-I score in Ab initio group was significantly lower than sequential group at end of 6 months ( $P < 0.019$ ). The Ab initio group showed a significant improvement in GAF scores than Sequential group at end of 6 months ( $P < 0.026$ ).

### **Verbal Overshadowing Disrupts Memory for Faces Within Low OC but Not Within High OC Participants**

**Bella Dubinchik, Assaf Soref\* & Reuven Dar, Tel Aviv University, Israel**

#### **Introduction**

Putting complex visual stimuli into words was found to have an adverse, overshadowing effect, on memory accuracy for these stimuli (Schooler & Engstler-Schooler, 1990). This effect is considered to be the result of a processing shift between the way information was encoded to the way it was retrieved. As recognition typically involves automatic processing, encoding information using explicit processing such as verbalization interferes with memory performance. The present study was motivated by recent evidence that people with OCD tend to prefer controlled and focused processing in acquiring and retrieving information (e.g., Soref et al., 2018). This evidence leads to the prediction that for obsessive-compulsive (OC) individuals, both coding and retrieval of stimulus information would involve controlled processing, so that verbalizing would not constitute a processing shift for these individuals. Moreover, according to the Seeking Proxies for Internal States (SPIS; Lazarov, Dar, Oded, & Liberman, 2010) model, OC individuals use various proxies to compensate for difficulties in accessing their own internal states, including their memory. In this view, verbalization could be seen as a proxy that OC individuals use as an aid to memorization. The goal of the study was to examine the hypothesis that verbalization will be less disruptive in individuals with high OC tendencies in comparison to individuals with low OC tendencies, as it matches their spontaneous style of information processing and specifically their approach to memorizing.

#### **Method**

226 participants participated in the study which was presented via an Israeli internet panel. Following the procedure described by Schooler and Engstler-Schooler (1990), participants viewed a short video of a bank robbery and were instructed to pay close attention to it, and then participated in a 20-min unrelated Sudoku task. They were then randomly assigned to one of two experimental conditions – a verbalization condition, in which participants were asked to write a detailed description of the robber; and a control condition, in which they listed states and state capitals. Subsequently, all participants viewed a lineup image depicting eight people and asked to select the one who was in the bank robbery video. Finally, participants completed a measure of obsessive-compulsive symptoms.

#### **Results**

As predicted, verbalization impaired recognition accuracy in participants with low OC tendencies, indicating an overshadowing effect, but did not affect the performance of high OC participants.

## **Discussion**

Our results corroborate previous findings that high OC individuals tend to rely on controlled strategies, and specifically on verbalization, in processing stimuli that are typically processed using automatic, non-verbal strategies. Taken as a whole, these findings may have important implications for understanding and treating of OC symptoms.

## **Anxiety-Linked Attentional Bias to Threat in the Broader Autism Phenotype**

**Emily South, Colin MacLeod, Murray T Maybery, Ben Grafton & Sarah Heppell, The University of Western Australia, Australia**

### **Introduction**

Autistic tendencies are associated with elevated anxiety vulnerability, yet to date studies investigating the cognitive mechanisms underlying anxiety in populations high in autistic tendencies have been limited. Current cognitive models of anxiety emphasise the role of attentional biases towards threatening stimuli in the aetiology and maintenance of anxiety vulnerability. However, a few studies investigating anxiety in individuals with Autism Spectrum Disorder (ASD) have failed to demonstrate a significant anxiety-linked attentional bias to threat in this population, compared to low-anxious non-ASD controls. This study aimed to investigate if autistic tendencies attenuate anxiety-linked attentional bias to threat.

### **Method**

Participants for the current study were drawn from an undergraduate student population and were selected to form four groups representing the factorial combination of extreme levels of trait anxiety and autistic-like traits. The Autism Quotient (AQ; Baron-Cohen et al., 2001) and the Spielberger State-Trait Anxiety Inventory (STAI-T; Spielberger et al., 1983) were used to screen for autistic-like traits and trait anxiety, with 89 students (64 female) participating in the study. Attentional bias to threat was assessed using a modified version of the dot-probe task (MacLeod et al., 1986), in which emotional faces with happy (non-threatening) and angry (threatening) expressions were displayed.

### **Results**

Results of the current study demonstrated a significant anxiety-linked attentional bias in participants high in autistic-like traits. Specifically, participants high in autistic-like traits and high in trait anxiety showed a significantly greater attentional bias to threat than participants high in autistic-like traits but low in trait anxiety. Interestingly, a significant anxiety-linked attentional bias to threat was not seen in participants low in autistic-like traits.

### **Discussion**

The results of this study suggested that anxiety-linked attentional bias to threat was not attenuated in individuals high in autistic-like traits. Importantly, the results tentatively suggest a model of anxiety that includes attentional bias to threat for individuals high in autistic-like traits cannot be ruled out. Given the unexpected lack of a significant anxiety-linked attentional bias to threat in low autistic-trait participants, more research is needed to fully explore the interplay of anxiety vulnerability and autistic tendencies on attentional bias to threat.

## **Psychometric Properties of a Parent-Report Instrument for Assessing Tic Severity in Children with Persistent Tic Disorders**

**Jordan Stiede, Jennifer Alexander & Christopher Bauer, Marquette University, USA**

**Michael Himle, University of Utah, USA**

**Suzanne Mouton-Odum, Psychology Houston, PC, USA**

**Douglas Woods, Marquette University, USA**

### **Introduction**

Persistent (chronic) tic disorders (PTDs) are childhood-onset neurological conditions characterized by the performance of involuntary motor and/or vocal tics that persist for at least one year. A clinician-rated interview called the Yale Global Tic Severity Scale (YGTSS) is the most common measure used to assess tic severity; however, it is difficult to use in clinical practice because it requires a trained rater and is time consuming. The Parent Tic Questionnaire (PTQ) is a more time-efficient parent-report measure of tic severity that can easily be used in a clinical setting. Parents report the presence, frequency, and intensity of motor and vocal tics in the past week, and a total tic severity score is computed by adding the motor and vocal tic subscales. The PTQ has demonstrated acceptable internal consistency and convergent validity based on two psychometric evaluations with small sample sizes (Chang et al., 2009; Ricketts et al., 2018). The current study examined the psychometric properties of the PTQ with a larger sample size.

### **Method**

This study combined data from three studies in which individuals with PTDs were examined. Participants were included in this study if they had PTQ and YGTSS tic severity scores and met criteria for PTD in each of the original papers. There were 224 participants who had PTQ and YGTSS tic severity scores on file including: 40 individuals from the initial psychometric evaluation of the PTQ (Chang et al., 2009), 126 individuals from a randomized controlled trial (RCT) of Comprehensive Behavioral Interventions for Tics (CBIT; Piacentini et al., 2010), and 58 individuals from an RCT that tested the efficacy of an innovative computer-based treatment-delivery product for children with PTD. In addition, 184 participants had Clinical Global Impression – Severity Scale (CGI-S) scores from the original papers. The CGI-S is a clinician-rated instrument designed to assess the severity of the client's illness at the time of assessment. It is another instrument that can be used to assess the convergent validity of the PTQ.

### **Results**

Regarding internal consistency, Cronbach's alpha coefficients demonstrated excellent internal consistency for PTQ motor tic severity ( $\alpha = .91$ ) and good internal consistency for PTQ total tic severity ( $\alpha = .88$ ) and vocal tic severity ( $\alpha = .81$ ). Regarding convergent validity, correlations between YGTSS and PTQ scores were statistically significant for total ( $\rho = .52$ ), motor ( $\rho = .59$ ), and vocal tic severity ( $\rho = .54$ ). Correlations between CGI-S and PTQ scores were also statistically significant for total ( $\rho = .38$ ), motor ( $\rho = .39$ ), and vocal tic severity ( $\rho = .26$ ).

### **Discussion**

Consistent with other studies containing smaller sample sizes, results demonstrate strong internal consistency and convergent validity for the PTQ. This suggests that the PTQ can be an effective tool in assessing multiple domains of tic severity. Further, the measure can complement clinical interviews and direct observational methods by providing clinicians and researchers with a more time efficient instrument to analyze multiple dimensions of tic severity. Future research is needed to determine the reliability and validity of the PTQ for separate age, gender, and ethnic groups.

## **Formal vs. Intuitive Categorization and Obsessive-Compulsive Characteristics**

**Asher Y. Strauss & Jonathan D. Huppert, The Hebrew University of Jerusalem, Israel**

### **Introduction**

Obsessive-compulsive disorder (OCD) has been associated with rigidity regarding rules and perfectionism - which may reflect formal rule-based reasoning. However, others have suggested that OCD is associated with an idiosyncratic subjective reasoning, emphasizing the role of imagination absorption - which may suggest a more intuitive reasoning. These opposing aspects of reasoning suggest different predictions regarding categorization preferences. Traditionally, categorization styles have been classified to rule-based (RB) and family resemblance (FB). RB is accomplished by determining whether an object shares a unidimensional rule that unambiguously defines a category. In contrast, FB is accomplished by following the object's overall similarity to a category with the absence of a clear unidimensional rule. Whereas rigidity and perfectionism features of OCD predict preference for RB, subjective reasoning style and imagination absorption may predict the opposite.

### **Method**

Twenty-two individuals high on OCD characteristics (high OC) and twenty individuals low on OCD characteristics (low OC) participated in this study. Participants were required to categorize objects into one of two categories: one that is defined by a unidimensional rule or the other that is characterized by overall similarity. This categorization was repeated in three within-participant conditions: quick categorization - under time limits - enhancing the preference for family-based categorization; free categorization - with no time limits assessing categorization preferences, and explicit categorization - assessing categorization preferences after both categorization styles have been explicitly suggested.

### **Results**

In the quick categorization condition, as expected, both groups showed a significant preference for family-based categorization with no difference between groups. In the free categorization condition significant differences between groups were found. Low OC preferred rule-based categorization to a greater degree than high OC. After suggesting explicitly rule-based categorization, high OC participants increased their rule-based categorization preference but remained lower than low OC, though group differences were no longer significant.

### **Discussion**

Challenging what would have been expected given the association of OCD with rigidity and perfectionism, OCD characteristics were not associated with preference of formal rule-based categorization. Rather OCD characteristics were associated with a greater preference toward an intuitive non-formal family-based categorization, which is in-line with suggestions that OCD reasoning style follows an idiosyncratic subjective narrative rather than general formal style. These results do not suggest that OCD reasoning completely disregards rules, but rather that these rules may not align with formal analytic thinking. Indeed, this comports with our clinical experience that rules that are adopted by our patients often take an idiosyncratic nature which make intuitive sense to them, but do not align with formal logic.

## **Can Smells Make the "Dirty Kiss" Less Dirty or More Disgusting? - An Experimental Study to Investigate the Modulating Effect of Olfactory Stimuli on Disgust and Mental Contamination**

**Oliver Sündermann & Zhi Hui Fong, National University of Singapore, Singapore**

### **Introduction**

Disgust is implicated in various psychopathologies and has recently been associated with mental contamination. However, existing research have mainly used nonexperimental approaches to examine this association. Further, disgust has been found to be less amenable to exposure therapy than fear and it has been suggested that counterconditioning, the pairing of the disgust-evoking stimulus with a stimulus of positive valence, may reduce the disgust response more effectively than exposure alone. Therefore, this study aims to investigate whether olfactory-induced disgust and pleasant stimuli can effectively modulate the experience of mental contamination.

### **Method**

90 female university students were recruited. Mental contamination was evoked in all participants using the "dirty kiss" paradigm (time 1), in which participants were guided via audiotope to visualize receiving a non-consensual kiss from a man described as physically dirty (Elliott & Radomsky, 2012). After a five-minute break, participants were randomly assigned to listen to the audiotope again (time 2; analogous to re-exposure) in a room that was scented to either smell disgusting (using novelty fart spray), pleasant or neutral (control). Participants reported indices of mental contamination (e.g. negative emotions, internal dirtiness, urge to wash) and state disgust at each stage.

### **Results**

There was a significant Time (time 1, time 2)  $\times$  Condition interaction for one mental contamination index, feelings of dirtiness. Specifically, while participants in the control condition reported decreased feelings of dirtiness at time 2, the opposite occurred for those in the disgust condition wherein participants reported increased feelings of dirtiness. Examining only the pleasant and control conditions found that there was also no significant effect of time on indices of mental contamination, with the exception of state disgust.

### **Discussion**

By experimentally inducing disgust within the "dirty kiss" paradigm, our findings provide some empirical support that disgust exacerbates mental contamination through influencing feelings of dirtiness. There is an indication that disgust-based emotional reasoning is at work, wherein the disgust response is misconstrued as a sign of dirtiness. Contrary to hypothesis, we did not find an effect of pairing pleasant olfactory stimuli (based on the principle of counterconditioning) in reducing feelings of mental contamination or disgust.

## **An Integrated Model for Religious OCD**

**Taha Toprak, Istanbul University, Turkey**

### **Introduction**

OCD is one of the most resistive disorders with regards to both pharmacotherapy and psychotherapy. Regardless of the therapy type, the main problem here is: the clash between the high emphasis that contemporary schools of therapy put on the importance and monolithic structure of thought, and the state of "intrusive thought attacks" a patient finds himself/herself in. Within this framework, patients learn the power of thought and they assume that change in their thought is precondition for a change in their state. (Beck, 2001) Nevertheless, when the "intrusive thoughts" enter in his/her mind, the patient is informed that he/she can't control the thought so they should ignore the content and focus on the interpretation of thought. (Fairfa2008), (Şenormancı and Ark,2012), (Türkçapar and Şafak,2012). For patients possessing higher mental capacity, this widely accepted aetiological explanation attempt do not make sense, which creates resistance to behavioral intervention. In his "Treatise on Scruple", Muslim scholar Said Nursi explains the aetiology of "intrusive thought" in a broader sense than the current explanation of contemporary therapy schools, giving an account based on both religious and rational sciences (Nursi, 1935). He offers

alternative cognitive and behavioral patterns for managing these instances. This approach may lead to cognitive restructuring and functional behaviour change. The problem of “thought-action fusion” is still unresolved within contemporary therapy applications. To address this issue, we can rethink the need for interpreting the thoughts without denying them in the light of Nursi’s perspective.

Nursi explains the relationship between mind-heart on seven levels based on the framework of “Meratib-i İlim of Dimag” (The Levels of Knowledge In The Brain) : Tahayyül, tasavvur, taakkul, tasdik, (4 layers of mind) iz’ân, iltizam ve itikat (3 layers for hearth) (Nursi, 1935). Based on this framework, we can categorize thought in four layers: Tahayyül, tasavvur, taakkul and tasdik. Nursi classifies each layer as voluntary/involuntary and defines a hierarchy of responsibility.

Based on this framework, the patient is informed about the four layers of tahayyül (imagination: involuntary, not responsible), tasavvur (conception: involuntary, not responsible), taakkul (reasoning: voluntary at times - involuntary in others, not responsible) and tasdik (confirmation: voluntary, responsible). Now he/she can receive psycho-education about the fact that there is no responsibility due to the thoughts in his/her mind up to the “tasdik” layer. We may call this approach “4T Model of Nursi.” integrated for restructuring model of OCD by Toprak BT.

#### **Method**

During the therapy of the patients who were diagnosed OCD by the faculty members of Department of Psychiatry (Istanbul University – Cerrahpasa Medical Faculty), those complaining about “intrusive thought” were given psycho-education based on 4T Model of Nursi. The intrusive thoughts and interpretations on these thoughts were re-structured using 4T framework. The measurement tools used before therapy are: Yale-Brown Obsessive Compulsive Scale, Padua Inventory and Beck Depression and Anxiety Inventory. The tests were re-executed after 10 sessions, and the results were compared with the previous ones. Also the patients were asked to express their thoughts orally and verbally on what was beneficial for them and why.

#### **Results**

At the end of therapies, reduction is observed both in obsession and compulsion levels of the patients. The references in the patient testimonies to the examples in 4T Model of Nursi is indicative of the high acceptance rate for the framework. Testimonials also indicate that 4T Model psycho-education helped them change their interpretive approach to their thoughts, especially the problem of “thought-action fusion” was resolved in a convincing manner.

#### **Discussion**

In contrast to the current approaches that assume the thought to be a monolithic structure, the 4T Model conceives the thought processes in a more sophisticated manner. It also attempts to understand the origins of these layers and tries to build a responsibility hierarchy among them. It can be a serious candidate as an innovative approach for addressing the “thought-action fusion” problem. Further research involving direct measurement of “thought-action fusion” would be useful for speed up testing and incorporating this model within this domain

### **BT-Coach: A Training App to Support Behavioural Therapy in Tic Disorders**

**Jolande van de Griendt, TicXperts, the Netherlands**

**Annet Heijerman, Kenniscentrum Kinder- en Jeugdpsychiatrie, the Netherlands**

**Tim van Limpt, Qurentis B.V., the Netherlands**

**Cara Verdellen, PsyQ, the Netherlands**

#### **Introduction**

Exposure and response prevention (ERP) has shown to be an effective strategy and is considered a first-line intervention in the treatment of tic disorders and Tourette syndrome (1). In this behavioural treatment, patients learn to systematically suppress tics for increasing periods of time, while focusing on premonitory sensations and urges that precede tics. In this way, the patient may get used to the urge to tic, leading to tic reduction. The therapist acts like a coach in helping the patient to accomplish this task. He encourages the patient to improve his/her achievements, and optimizes exposure by asking the patient to concentrate on the sensory experiences. Homework assignments are given on a daily basis. To support patients doing the ERP exercises at home, a mobile app named BT-Coach has been developed.

#### **Method**

The BT-Coach app is developed to facilitate and optimize the effect of ERP homework. The tool provides positive reinforcement for successful tic suppression. During exposure, the patient records urge severity ratings. The app takes into account tic suppression times, urges to tic and the number of tics that are not suppressed. It has the option of both visual and auditory feedback. BT-Coach simulates the coaching role of the therapist; whenever a tic occurs, it encourages the patient to extend his/her capacity to suppress the tics and to set new time records. When the urge to tic increases, it encourages the patient to keep suppressing every tic and when the urge to tic declines or is absent, it encourages exposure to the sensory experiences. A reward system with minigames is integrated in the app, as well as graphical results of practicing. A reminder can be set for practicing. The BT-Coach can be used by both children and adults. It has features to facilitate research.

#### **Results**

The BT-Coach is currently used in an intensive treatment study (Tackle Your Tics, intensified group ERP in children in the Netherlands). The app is prepared to be easily translated in different languages and is already available for download in the App store/ Google Play Store.

#### **Discussion**

Congress participants can try out the BT-Coach by practicing with suppressing eye blinking. Audio- and visual feedback will coach them to suppress eye blinking as long as possible. This interactive element will give a good impression of both tic disorders and the effectivity of the app.

Verdellen, C., van de Griendt et al., European clinical guidelines for Tourette syndrome and other tic disorders. Part III: behavioural and psychosocial interventions. ECAP 20: 197-207, 2011.

### **Self as an Aesthetic Object**

**David Veale, King's College London, United Kingdom**

**Lara-Christine Jegelka, University of Muenster, Germany**

**Andriani Papageorgiou, King's College London, United Kingdom**

**Mariella Hutton, Bath University, United Kingdom**

#### **Introduction**

We aim to explore processing of the self as an aesthetic object, which is concept for people with body dysmorphic disorder. This concept refers to the experience of being intensely self-focused on a distorted and negative “felt sense” of how one appears to others, the degree to

which one identifies the self through one's appearance and of anticipating or experiencing negative evaluation and rejection because of how one looks.

#### **Method**

We developed a brief 12 item questionnaire, "self as an aesthetic object". We also used standard BDD questionnaires (a) the Appearance Anxiety Inventory, which measures the responses to the self as an aesthetic objects and (b) the Cosmetic Procedures Screening Questionnaire (a measure of severity of BDD symptoms). They were completed by people with BDD (n= 86) and controls (n=90)

#### **Results**

We will conduct convergent validation of the questionnaire, internal reliability, differences between BDD and controls and a factor analysis of the new questionnaire. Results will be available at the time of the conference.

#### **Discussion**

It is hoped that the items in the new questionnaire will be useful to explore the theoretical concept of self as an aesthetic object and identify which items are redundant.

### **Relationship Between Cognitive and Behavioural Processes and Symptoms of BDD**

**David Veale & Nichola Livermore, King's College London, United Kingdom**

#### **Introduction**

Cognitive and behavioural processes (eg ruminating, self-focussed attention, comparing, checking, avoidance) are thought to maintain symptoms of Body Dysmorphic Disorder (eg degree of preoccupation; distress and interference in life). CBT for BDD involves targeting these processes to reduce symptoms.

#### **Method**

We used two self-report questionnaires during treatment with CBT. These were (a) Appearance Anxiety Inventory to measure the frequency of processes in BDD and (b) BDD-Dimensional questionnaire to measure symptoms of BDD in 30 people with BDD being treated with CBT over 12-16 weeks at an anxiety disorders residential unit.

#### **Results**

Simple linear regressions indicated a significant positive relationship with greater change in AAI scores predicting greater change in BDD-D, (B=1.48 (CIs= 1.12,1.85), SE= 0.18, t(27)=8.32, p<.001). Furthermore the change in AAI scores occurred significantly in the week before the change in BDD-D score but by only 0.05 points.

#### **Discussion**

There is some evidence for cognitive behavioural processes occurring before changes in symptoms. A larger sample and more refined measure of the processes may be required to demonstrate this conclusively.

### **Perceived Stress Predicts Outcome in Obsessive-Compulsive Disorder Patients Undergoing Treatment with Exposure and Response Prevention**

**Yuan Wang, Shanghai Mental Health Center, Shanghai Jiao Tong University, and Zhongshan Hospital, Fudan University, China**

**Qing Zhao & Zhen Wang, Shanghai Mental Health Center, Shanghai Jiao Tong University, China**

#### **Introduction**

Obsessive-compulsive disorder (OCD) is known to be stress responsive. The dysregulation of stress-response system and stress perception has been found in OCD. However, whether the perceived stress affects the outcome of exposure and response prevention (ERP) remains unclear. We compared the effects of 8-week treatment with ERP versus selective serotonin reuptake inhibitors (SSRIs) in unmedicated OCD outpatients and tested whether pretreatment level of perceived stress predicted ERP outcome.

#### **Method**

Sixty-two outpatients (aged 16-60 years) meeting the DSM-IV criteria for OCD without any axis I disorder were randomly assigned to ERP (N=27) or SSRIs (N=35) group for 8 weeks of treatment. Patients in the ERP group received the therapist-administered ERP (8 sessions once a week). Patients in the SSRIs group received an SSRI at an optimal dose defined as the following: sertraline hydrochloride, at least 200mg/d and paroxetine hydrochloride, at least 60mg/d. However, patients unable to tolerate this high dose also eligible if at their maximal tolerated dose. The severity of obsessive-compulsive symptom was measured with the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) at baseline, 2 weeks, 4weeks and 8 weeks later. Treatment response was defined as a decrease 30% on Y-BOCS score compared to baseline. Response rates were compared using chi-square test between ERP and SSRIs group in the intention-to-treat sample. Baseline perceived stress was rated with the Perceived Stress Scale (PSS-10). Logistic regression analysis was performed considering perceived stress as the independent variable and treatment response of ERP as the dependent variable. To test specificity, we also explored whether perceived stress could predict outcomes among patients receiving SSRIs treatment.

#### **Results**

There was no significant difference between ERP and SSRIs group in response rate [48.6% for SSRIs and 40.7% for ERP,  $\chi^2(1) = 0.377$ ,  $p = 0.539$ ]. Individuals with higher pre-treatment level of perceived stress were less likely to be responsive to ERP (odds ratio = 0.83, 95% confidence interval [CI] range 0.693-0.997,  $p = 0.047$ ). Pre-treatment level of perceived stress did not predict outcomes among patients receiving SSRIs.

#### **Discussion**

While ERP and SSRIs treatments were equally effective as a first-step treatment in unmedicated OCD patients, the results also suggested that perceived stress was a predictor particularly in ERP outcome. To maximize the effect of ERP in OCD, it might be necessary for clinicians to apply additional interventions to interfere with the high level of perceived stress before ERP.

## **Dialectical Behavior Therapy in a High-Functioning Adult with Autism Spectrum Disorder**

**Luisa Weiner, University Hospital of Strasbourg and INSERM 1114, France**

**Doha Bemmoura & Enzo Lachaux, University Hospital of Strasbourg, France**

**Sébastien Weibel, University Hospital of Strasbourg and INSERM 1114, France**

### **Introduction**

Interventions targeting emotion dysregulation and non-suicidal self-injury in high-functioning adults with autism spectrum disorders (ASD) are lacking. Dialectical Behavior Therapy (DBT) is an evidence-based intervention targeting emotion dysregulation (ED) in patients presenting with suicidal and self-harm behaviors, such as borderline personality disorder. Emerging evidence suggests that DBT skills training is effective in a variety of mental disorders, including neurodevelopmental disorders other than ASD (i.e., ADHD). Here we aimed at assessing the impact of an individual short-format of DBT skills training on ED, self-injurious as well as overall psychopathology in a 22-year-old female individual with high-functioning ASD.

### **Method**

AZ is a female 22-year-old college student with ASD. She presented with severe self-injurious behaviors (i.e., biting, cutting, and hitting herself), which had increased in frequency over the last two months. Self-injurious behaviors appeared in stressful interpersonal and academic situations. Emotion regulation skills were poor, and were seemingly involved in the emergence of such behaviors. 16 individual DBT skills training sessions were proposed weekly over 4 months. Outcome measures consisted of several self-report questionnaires as well as a weekly log of self-injurious behaviors.

### **Results**

Mindfulness skills increased following DBT, whereas depression and anxiety symptoms as well as self-injurious behaviors decreased. However, self-reported emotion regulation skills did not improve following DBT.

### **Discussion**

Consistent with recent studies, we found that mindfulness-based interventions might benefit patients with ASD, and might be involved in the behavioral improvements found here. Self-reported emotion regulation skills did not improve, however. This suggests that patients with ASD might require more intensive forms of DBT in order to effectively apply adaptive emotion regulation skills in their lives, given the characteristic rigidity of their functioning.

## **Body Focused Repetitive Behaviors: Emotion Regulation Deficits and Different Strategies to Cope with Stress**

**Dorina Winter, Nele Wollanka & Annette Schröder, University of Koblenz-Landau, Germany**

### **Introduction**

Body-focused repetitive behaviors (BFRB) such as hair pulling, skin picking, and nail biting can cause severe physical damage, mental distress or functional impairment (Bohne et al, 2005). Emotion regulation models of BFRB suggest heightened stress levels and emotion regulation deficits to amplify BFRB (Roberts et al., 2016; Snorrason et al., 2010). For psychotherapeutic interventions, it is necessary to understand which type of emotion regulation or coping strategies persons with BFRB use in a functional or dysfunctional way. Following this goal, this study aimed to specify emotion regulation deficits and altered use of stress coping strategies comparing a group with BFRB to a group without BFRB. We expected higher stress levels, more emotion regulation deficits, as well as more dysfunctional and less functional coping strategies in those with compared to those without BFRB.

### **Method**

As sample vulnerable for stress and BFRB, a student sample was recruited. A total of 450 students completed self-report questionnaires about BFRB (hair pulling, skin picking, nail biting), stress level (Perceived Stress Scale; Cohen, Kamarck, & Mermelstein, 1983; Cohen & Williamson, 1988), emotion regulation deficits (Difficulties in Emotion Regulation Questionnaire; Gratz & Roemer, 2004), and strategies to cope with stress (Stress and Coping Inventory; Satow, 2012).

### **Results**

329 (73.1%) of these participants reported at least one type of BFRB. 11.6 % reported recurrent hair pulling, 54.7 % recurrent skin picking, 45.8 % recurrent nail biting. Questionnaire data confirmed that persons with BFRB report significantly higher stress levels and more emotion regulation difficulties (both  $d = .44$ ), including all assessed emotion regulation strategies but emotional awareness. In dealing with stress, people with BFRB reported seeking less social support and consume more alcohol and cigarettes than people without BFRB ( $d = .31 / d = .37$ ). Groups did not differ in positive thinking and active stress management as stress coping strategies.

### **Discussion**

Follow up longitudinal or ambulatory assessment studies are needed to draw causal conclusions on the association between coping, stress, and heightened BFRB frequency or intensity. In conclusion, these results suggest that seeking social support and the training of functional emotion regulation skills may be relevant for persons with BFRB.

## **The Effectiveness of Mindfulness-Based Cognitive Therapy for Obsessive Compulsive Disorder in Chinese Population**

**Tianran Zhang, Shanghai Mental Health Center, Shanghai Jiao Tong University, China**

**Lu Lu, Xinhua Hospital Affiliated to Shanghai Jiao Tong University, China**

**Haiyin Zhang & Qing Fan, Shanghai Mental Health Center, Shanghai Jiao Tong University, China**

### **Introduction**

Obsessive-Compulsive Disorder (OCD) is a kind of mental health disorder which can cause pain and affect social function seriously. Mindfulness-based cognitive therapy (MBCT) has been applied to the treatment and rehabilitation of various mental diseases as 'the third wave of cognitive behavior therapy'. However, there were a few studies about MBCT in the area of OCD now. This study aims to explore the efficacy of MBCT for OCD, and the OCD-MBCT program for clinical promotion in Chinese population.

### **Method**

A randomized controlled trial (RCT) was conducted to randomize 123 OCD patients (80 men and 43 women with mean age  $\pm$  SD of 28.7  $\pm$  7.4) collected from Shanghai Mental Health Center into SSRIs medicine group, MBCT group, and psycho-education group. All of the subjects received 10 weeks of intervention and were evaluated at baseline (0 weeks), mid-intervention (4 weeks) and post-intervention (10 weeks) with a series of psychometric scales to measure clinical symptoms and quality of life. The primary efficacy measure was the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), the Hamilton Depression Scale-24 (HAMD-24) and the Hamilton Anxiety Scale (HAMA)

were secondary statistical indicators. Five Facet Mindfulness Questionnaire (FFMQ) and Sheehan Disability Scale (SDS) were used to measure the level of mindfulness and social functions.

### **Results**

Analysis of variance of repeated measures indicated that: according to the clinical efficacy index divided by the rate of reduction, the three groups of subjects had significant differences in the improvement of obsessive-compulsive symptoms ( $p < 0.05$ ), anxiety ( $p < 0.05$ ) and depression symptoms ( $p < 0.05$ ) before and after the intervention. Logistic regression analysis indicated that subjects who received medicine intervention were most likely to become significant effective results ( $p < 0.05$ ), and both medicine and MBCT are more likely to be effective than psycho-education interventions in all clinical symptoms within 10 weeks. According to the score of scales, the level of mindfulness ( $p < 0.05$ ) and social functions ( $p < .001$ ) of subjects in the three groups were significantly improved before and after the intervention, but there was no significant difference between these groups. By one-way analysis of variance and chi-square test, no demographic factors were found that had a significant effect on efficacy, and that different groups in MBCT with different group leaders and members had no significant effect on clinical outcomes.

### **Discussion**

Medicine group, MBCT group, and psycho-education group have improved obsessive-compulsive symptoms, anxiety and depression symptoms, mindfulness level and social functions in OCD patients after the intervention, and medicine treatment is optimal in a short-term level, medicine and MBCT was superior to psychological education. Also, the MBCT manual used in this study is consistent and effective, and is suitable to be applied widely in clinical research and practice. This research results present new challenges and opportunities for the study of third generation cognitive behavioral therapy and the psychotherapy for OCD.

## **Application of Group Mindfulness-Based Cognitive Therapy for Obsessive-Compulsive Disorder in China: A Pilot Study**

**Lu Lu, Xinhua Hospital Affiliated to Shanghai Jiao Tong University, China**

**Tianran Zhang, Gao Rui & Haiyin Zhang, Shanghai Mental Health Center, Shanghai Jiao Tong University, China**

**Fabrizio Didonna, Casa di Cura Villa Margherita, Italy**

**Qing Fan\*, Shanghai Mental Health Center, Shanghai Jiao Tong University, China**

### **Introduction**

Obsessive-Compulsive Disorder is a kind of mental disease which can cause pain and affect social function seriously. Mindfulness-based cognitive therapy (MBCT) has been applied to the therapy and rehabilitation of various mental diseases as ‘the third wave of cognitive behavior therapy’. As a pilot study, the study aims at exploring the curative effect and the mechanism of action of MBCT for OCD combining quantitative and qualitative study.

### **Method**

13 mild to moderate Chinese OCD patients (a total of 11 patients completed treatment and 2 patients dropped off; 9 people completed 6 months follow-up assessment, 3 people fell off) meeting DSM-5 diagnosis who were recruited through Shanghai Mental Health Center were divided into 2 groups, accepting clinic treatment with MBCT. Each group conducted by 2 psychological therapists who have been trained of MBCT. There are 11 sessions in 10 weeks of MBCT for OCD with a length of 150 minutes in the nine sessions, 90 minutes in the third session with family members and 7.5 hours in the eleventh session, which were held at weekly in an outpatient setting. The primary outcome measure is Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) and the Five Facet Mindfulness Questionnaire (FFMQ), the secondary outcome measures are Hamilton Anxiety Scale (HAMA) and Hamilton Depression Scale-24 (HAMD24). All assessments were performed at baseline, mid-treatment (week 4), mid-treatment (week 4), after treatment (week 10) and after 6 months of follow-up. At the same time, the researcher conducted a participatory observation of 10-week MBCT and a half-one hour semi-structured interviews with patients at after treatment and after 6 months of follow-up. The transcripts were transcribed into verbatim and coded using interpretative phenomenological analysis.

### **Results**

1. The result of quantitative research: compared with the baseline, patients got significantly lower total scores of Y-BOCS ( $F = 4.101, P = 0.019$ , partial  $\eta^2 = 0.369$ ). The patients had lower difference values of the HAMD score ( $F = 4.124, P = 0.019$ , partial  $\eta^2 = 0.371$ ) and the HAMA score ( $F = 4.722, P = 0.011$ , partial  $\eta^2 = 0.403$ ), but the score of FFMQ was not changed significantly. 2. The results of qualitative research: patients generally responded that the reduction of symptoms, personal status, emotional management, family relations and social functions had improved. The benefits of mindfulness practice, the positive events in personal life, the positive atmosphere of group therapy and the difficulties the practical use of mindfulness affected the patient's benefit. The patient subjectively believes that maintaining efficacy factor is Attention shifts to new areas of life and interpersonal relationships, Mindfulness and acceptance, and social support.

### **Discussion**

Conclusion: MBCT has good therapeutic effect on the symptoms of obsessive-compulsive, anxiety and depression. The result of the study is a useful attempt on the localization of psychological treatment in China, and prepared for the next large sample randomized controlled study and a wide range of application.

## **Correlations Between the Clinical Profiles and the Profile of the Wechsler Adult Intelligence Scale-III in Obsessive Compulsive Disorder**

**Sayo Hamatani, Masato Nihei, Yuta Hayashi, Aki Tsuchiyagaito, Akiko Nakagawa, Eiji Shimizu & Yoshiyuki Hirano, Chiba University, Japan**

### **Introduction**

The intellectual level of patients with obsessive compulsive disorder (OCD) is reported to be within a normative range when assessed using the Wechsler Adult Intelligence Scale (WAIS) or the National Adult Reading Test (NART) (Abramovitch et al., 2017). However, few researchers have comprehensively examined cognitive features using the WAIS. Therefore, we examined the cognitive performance of patients with OCD using the full WAIS, and investigated the relationship between the results and clinical symptoms.

### **Method**

Sixty-three patients with OCD (mean age =  $32.73 \pm 8.44$  years) and 35 healthy controls (mean age =  $27.20 \pm 9.83$  years) participated in the study. Cognitive function was assessed using the WAIS-III. Clinical profiles were evaluated with the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Obsessive Compulsive Inventory (OCI), Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder 7-item (GAD-7) scale, and Autism Spectrum Quotient (AQ).

## **Results**

Adults with OCD showed significant decrements in the estimated Full Scale Intelligence Quotient (FSIQ), in comparison to those in the control group. Performance IQ (PIQ) in OCD was significantly lower than Verbal IQ (VIQ). Index score differences were seen exclusively in Processing Speed (PS). In the OCD group, the Communication subscale in AQ and Perceptual Organization (PO) index, or Block Design subtest, were negatively correlated. Moreover, in the OCD group, negative correlations were found between PIQ and Y-BOCS score, as well as between PO index and generalized anxiety.

## **Discussion**

In this study, patients with OCD had a lower FSIQ score compared to those in the control group, although their mean IQ was in the normative range. Moreover, we found that nonverbal ability is poorer than verbal ability. In particular, general intellectual performance in OCD is best characterized by deficits in processing speed. PIQ and PO index are reflected the ability of visual spatial problem solving, nonverbal reasoning, and visual motor skills (Kaufman et al., 2005). The weakness of visual spatial perception was correlated with the severity of compulsive symptoms after adolescence (Bloch et al., 2011). Our results as the negative correlation between nonverbal processing and anxiety support this finding.

## **Set-Shifting and Holistic Visual Processing in Body Dysmorphic Disorder Versus Anorexia Nervosa: A Meta-Analysis**

**Katie Lang & Kate Tchanturia, King's College London, United Kingdom**

**Amita Jassi, South London & Maudsley NHS Foundation Trust, United Kingdom**

**Georgina Krebs, King's College London, United Kingdom**

### **Introduction**

Body Dysmorphic Disorder (BDD) and Anorexia Nervosa (AN) are serious psychiatric conditions, characterized by body image disturbance. A prevailing theoretical model of AN, the cognitive-interpersonal maintenance model (CIMM, Schmidt & Treasure, 2013), suggests that difficulties with set-shifting and a bias toward detail at the expense of holistic processing (weak central coherence) play a crucial role in the development and maintenance of AN. Evidence has demonstrated suboptimal performance on set-shifting and holistic visual processing tests among patients with AN. The extent to which such deficits are associated with BDD is less clear. Such knowledge could have important implications for the conceptualisation of BDD and determining the relevance of the CIMM to this disorder. The aims of current study were to: a) establish whether BDD is associated with difficulties in set-shifting and central coherence; and b) to compare the neuropsychological profile of BDD to AN.

### **Method**

Studies were identified through a systematic search of numerous databases up until January 2018. Eligible studies included patients with a diagnosis of BDD or AN and a healthy control group; participants who were at least 18 years of age; assessed set-shifting and/or central coherence and were published in peer-reviewed journals in English. Ninety-four studies (17 on BDD; 77 on AN) were identified as meeting eligibility criteria and were included in the study. A standardised mean difference was calculated for each individual study per neuropsychological task, to indicate the difference in performance between the BDD/AN group and healthy control group. Pooled effect sizes were then calculated across studies for set-shifting and central coherence, for the BDD studies and the AN studies, respectively. Publication bias was assessed using funnel plots and Egger tests. Risk of bias within studies was assessed using the Quasyst tool.

### **Results**

The results of these analyses will be finalised in April 2019 and will be presented at the conference.

### **Discussion**

The poster will highlight the theoretical and clinical implications of the study's findings.

## **Psychosis & Bipolar Disorders**

### **A Pilot Study of Modified DBT Skills Training Groups Among Patients with Psychotic Disorders**

**Anna Ärmänen, Janna Hujanen & Riitta Seitsonen, Helsinki University Hospital, Finland**

#### **Introduction**

Although emotion dysregulation is one of the underlying mechanisms for psychotic disorders, it is often overlooked. Dialectic behavioral therapy (DBT) addresses emotion dysregulation through skills training aimed at understanding and coping with unpleasant affect. DBT skills training group has been shown effective stand-alone treatment in diverse clinical settings (Valentine et al., 2015), however research on its effectiveness for psychotic disorders is scarce. The aim of this study was to evaluate the effectiveness of a modified DBT skills training group for patients suffering from psychotic disorders.

#### **Method**

Twenty-five inpatients and thirteen outpatients participated in 9 to 14-week DBT skills training groups. These groups did not include training on interpersonal effectiveness. All participants were diagnosed with schizophrenia spectrum and other psychotic disorders (ICD-10). Baseline and outcome measures included self-evaluations of symptom severity (CORE-OM or BSL) and the participants level in the skills taught. Feedback surveys were collected after the intervention. Twelve outpatients completed the baseline and outcome measures. Inpatient response rate varied across the outcome assessments. Paired sample t-tests and descriptive statistics were calculated to examine the effectiveness of the training group.

#### **Results**

Participants in the outpatient group showed improvement in their self-evaluation of mindfulness and distress tolerance skills. Symptom severity, functioning and self-evaluation of emotion regulation as well as risk to self and others showed improving trends, however, none of these were statistically significant. In the inpatient group affective instability and self-evaluation of distress tolerance skills showed improving trends, however, these were not statistically significant. All respondents evaluated the intervention as useful and 90,5% reported that they used the skills taught in the group in their daily life.

#### **Discussion**

The results suggest that the modified DBT skills training group may be useful in improving coping with unpleasant affect and affective instability among patients with psychotic disorders. Participants perceived the group as useful and as an essential part of their rehabilitation. However, these results are preliminary and require further research using larger sample sizes, case-control settings and a follow-up period to

evaluate long-term effects. Improvement in metacognition should be controlled in future studies since it seemed to affect self-evaluations of emotion regulation. Emotion dysregulation appears to be an important, overlooked aspect in the treatment of psychotic disorders.

### **How Well Do Voice-Hearing Assessment Measures Capture the Positive Experiences of Individuals? A Systematic Review of Published Assessment Measures to Date**

**Lucy Armstrong & Pamela Jacobsen, University of Bath, United Kingdom**

**Lorna Hogg, University of Oxford, United Kingdom**

#### **Introduction**

Auditory hallucinations, in particular voices, are amongst the most commonly observed symptoms in schizophrenia. Much of the research and interventions around voice-hearing (VH) primarily focus on the idea that this phenomenon is distressing for people, however a handful of studies have demonstrated that beliefs and overall experiences of VH can also be positive (e.g. Jenner, Rutten, Beuckens, Boonstra and Sytema, 2008). By exploring positive experiences of VH, we may extend our understanding of coping strategies that individuals use in response to voices and potential reluctance to engage with treatment, even when individuals report as unwell. One area, yet to be explored, is the way in which positive experiences are represented in VH assessment measures used in research and clinical settings. In the present systematic review, we aim to provide an update of VH measures since the last review (Ratcliff, Farhall & Shawyer, 2010) and to assess how well these capture positive experiences.

#### **Method**

We would approach this review in three stages: 1) To provide an updated review of VH measures that have been published in the last 9 years (since the last review). Databases: PUBMED/MEDLINE; PsychInfo. Search terms: "auditory-hallucinations OR voice-hear\* OR hearing-voices" AND "instrument OR measure OR scale OR interview". Structure of scales along with their validity and reliability will be explored. 2) The term "positive experiences" will be defined using a triangulated approach (drawing on ideas from professionals, experts by experience and the research literature) and a framework of positive categories will be produced from this. 3) All published measures will be evaluated using this framework and results will be written up.

#### **Results**

Results will be available in May 2019.

#### **Discussion**

Discussion will be available in May 2019.

### **Self-Guided Use of a Psychosocial Online Intervention for Individuals with Psychosis: Qualitative Examination of Barriers to Engagement**

**Chelsea Arnold, Anne Williams, Fiona Foley & Neil Thomas, Swinburne University of Technology, Australia**

#### **Introduction**

Access to digital technologies is increasing amongst individuals with serious mental illness like psychosis. The Internet therefore provides a unique opportunity to improve access to evidence-based psychosocial mental health treatments. However, poor engagement with online interventions is common across clinical populations. More research is required to better understand factors that support engagement with online interventions amongst individuals with experiences of psychosis. Developing an understanding of what factors serve as barriers is critical to optimising both the design and implementation of future online interventions.

#### **Method**

The current study aimed to examine barriers to engagement with online interventions for psychosis. The Self Management and Recovery Technology (SMART) website provides materials on illness self-management and personal recovery, based on cognitive behaviour therapy methods. Semi-structured interviews were conducted with 17 participants of the SMART research study after they had access to the website for 12 weeks. Interviews were analysed using a thematic approach.

#### **Results**

Preliminary results from the thematic analysis will be presented. These findings will be discussed in the context of designing and implementing online interventions, such as CBT, for individuals with psychosis.

#### **Discussion**

Understanding barriers to engagement with online interventions can improve design and implementation of future online interventions for psychosis.

### **Predicting Engagement with Online Interventions for Psychosis: Findings from the Self-Management and Recovery Technology (SMART) Project**

**Chelsea Arnold, Neil Thomas, Denny Meyer, Kristi-Ann Villagonzalo & Fiona Foley, Swinburne University of Technology, Australia**

**John Farhall, La Trobe University, Australia**

#### **Introduction**

Research has demonstrated that psychological interventions such as CBT can be delivered effectively over the Internet. However, poor engagement with online treatment programs is common across clinical populations. Research has shown that factors related to the intervention (e.g. email support) and the individual (e.g. motivations for treatment) influence engagement with online psychological interventions. However, there is currently limited knowledge of factors that influence engagement with online interventions amongst individuals with serious mental illness, including psychosis. Understanding these factors is critical to optimising both the design and implementation of future online interventions.

#### **Method**

The current study aimed to investigate individual- and intervention-related variables that may predict engagement with online, psychosocial interventions for psychosis. Ninety-eight participants received access to the Self Management and Recovery Technology (SMART) website, an online resource providing materials on illness self-management and personal recovery based on cognitive behaviour therapy methods. To examine the impact of receiving additional email support, participants were randomised to receive either independent access to the SMART website, or access to the website coupled with weekly emails from a mental health worker over a 12-week period. Participants provided information relating to demographics, recovery style and motivations for using the website. Regression analyses were conducted to examine predictors of total engagement with the website.

## **Results**

Negative binomial regression revealed that receiving additional emails, having a tertiary education, older age, and lower levels of external motivations for treatment predicted greater use of the SMART website over the intervention period.

## **Discussion**

Both intervention and individual level factors predict engagement with self-guided digital interventions for psychosis. This presentation will involve a discussion of these factors and how they should be considered when designing and implementing online psychological interventions for individuals with severe mental illness such as psychosis.

## **Challenges and Facilitators in the Integration of a Mobile Health Solution for Cognitive Behavioural Interventions for Psychosis. IMPACHS Study: A Multi Site Feasibility Trial**

**Stephen Austin & Anna Frosig, Region Zealand Psychiatry, Denmark**

**Alissa von Malachowski, Tania Lincoln & Bjorn Schlier, University of Hamburg, Germany**

**Mads Frost, IT University of Copenhagen, Denmark**

**Erik Simonsen, University of Copenhagen, Denmark**

### **Introduction**

Schizophrenia is a complex and debilitating mental disorder that provides a significant challenge to researchers and clinicians. Advancement and better access to technology such as the internet and mobile applications has led to the examination of how these technologies may supplement and potentially improve the effectiveness of treatment for psychosis. The use of mobile based interventions can improve access to knowledge and/or strategies and enable users to flexibly integrate interventions into their daily life without the restriction of local or temporal boundaries. The aim of this feasibility study was to capture service-users' perspectives on the integration of a mobile application designed to supplement cognitive behavioural treatment approaches to first episode psychosis.

### **Method**

All participants had a diagnosis within the schizophrenia spectrum disorder (n=24) and were recruited from two clinical sites in Denmark and Germany. The study was an open clinical trial where participants accessed the App as part of standard treatment for a maximum period of 6 months. Quantitative data on symptoms, functioning and personal recovery measures was collected pre and post intervention and a subset of service users participated in qualitative interviews to capture perspectives on the integration of m-health solutions into therapeutic interventions for psychosis. Content from the interviews was analyzed using thematic analysis. The App was specifically developed for the study and was based on cognitive behavioural principles and consisted of self-monitoring/feedback functions along with modules covering a variety of interventions for psychosis (delusions, hallucinations, self-esteem, behavioural activation, emotional regulation...). Modules were selected in collaboration with the treatment provider and involved psychoeducation, interactive exercises, and strategies to deal with a range of psychological problems.

### **Results**

Preliminary analysis from the interviews indicated that service users were positive towards the integration of the App into treatment. Key themes from interviews included access to information and strategies outside of the clinical setting and using self-monitoring data to inform clinical interventions. Accessing self-monitoring functions and modules greatly varied as a function of illness stage and focus in treatment.

### **Discussion**

Qualitative factors that facilitated and hindered engagement and use of the App will be examined. Challenges in implementation from the patients and clinicians perspectives along with organizational factors will also be reviewed. The integration of an m-health solution to supplement cognitive behavioural interventions for psychosis appeared feasible. Knowledge generated in this study can be used to design future systematic trials to evaluate the effectiveness of various elements of the App and their usefulness to reduce symptoms, distress and promote recovery.

## **Examining the Effectiveness of Recovery-Oriented Group Cognitive Behavioural Therapy for People Who Experience Psychosis (CBTP)**

**Nancy Bahl, University of Ottawa, Canada**

**Nicola Wright, Tomas Fogl, Lisa Murata, Carrie Robertson & Kevin Ritchie, Royal Ottawa Mental Health Centre, Canada**

### **Introduction**

Schizophrenia is a chronic and disabling illness with a lifetime rate of approximately 0.5%. To treat the debilitating symptoms of schizophrenia, typically antipsychotics are prescribed. Importantly, about 25% of patients do not respond to antipsychotics. As a result, the National Institute for Health and Care Excellence guidelines (NICE, 2014) recommends the addition of cognitive-behavioural therapy for psychosis to assist in promoting recovery in people with persisting positive and negative symptoms. This study will examine the effectiveness of a 16-week group protocol for those with a schizophrenia spectrum disorder delivered by an inter-professional team at a tertiary care mental health hospital.

### **Method**

Patients (n= 10) with a diagnosis of a schizophrenia spectrum disorder are currently completing a 16-week group (plus one follow-up booster session) protocol for psychosis, following a Cognitive Behavioural Therapy for Psychosis (CBTP) manual. All group members have completed pre-measures used to assess change, including the Beliefs about Voices Questionnaire, Satisfaction with Life Scale, Recovery Assessment Scale, The Questionnaire about the Process of Recovery, and Adult State Hope Scale. These questionnaires will also be given at post-treatment and following the booster session at 3 months post treatment. The group and follow-up are expected to finish in early June 2019.

### **Results**

Data will be analyzed for univariate outliers, skewness and kurtosis. A repeated measures ANOVA will be conducted to examine measures of change between pre-treatment, post-treatment, and at 3-month follow-up. Effect sizes will be reported. Data will be analyzed in June 2019.

### **Discussion**

This study will examine pre- and post-data to explore the effectiveness of a 16-week group protocol for individuals with schizophrenia-spectrum diagnosis. The group treatment is delivered by an inter-professional team at a tertiary care mental health hospital. This study may serve to potentially fill a critical gap in the literature, as individuals with complex presentations of schizophrenia-spectrum disorders and psychosis are often excluded from clinical trials.

## **Structure of First-Episode Psychosis Symptoms**

**Radomir Belopavlović, Zdenka Novović & Ljiljana Mihić, University of Novi Sad, Serbia**

**Richard Bentall, University of Sheffield, United Kingdom**

### **Introduction**

Contemporary trends, mediated by numerous empirical findings, are seemingly distancing themselves from a reductionistic rationale of psychosis, the notion that psychosis has one “cause” (be it spiritual, medical or social), and, consequently, one “treatment”. A growing body of literature suggests a multifactorial, mechanistic model, in which indicators of psychosis exhibit system-like behavior. This perspective conceptualizes psychosis as a system of interdependent, causally bound, indicators, which have, potentially, different causal agents or risk factors (Borsboom & Cramer, 2017). Network theory and analysis have received empirical support in the domain of psychosis (e.g., Isvoranu et al., 2016). Different from the previous network studies which included patients with heterogeneous psychosis history, the aim of this study is to examine the symptom connectivity within first-episode patients.

### **Method**

The data was derived from a prospective, rater-blind, and randomized controlled trial named “Study of Cognitive Reality Alignment Therapy” (SoCRATES, Lewis et al., 2002). We analyzed the Positive and Negative Syndrome Scale (PANSS, Kay, Opler & Fiszbein, 1987) data from 256 first-episode psychosis patients (Nmale= 177). With regard to the data characteristics, we fitted a L1-regularized GGM model with the Extended Bayesian Information Criterion. Regularized correlations, centrality, and stability measures were estimated.

### **Results**

Results show two large chains or clusters, one mainly including positive symptoms, and the other including negative symptoms. The positive cluster (Delusions-Suspiciousness and Hostility-Agitation-Disorganization) seem to be connected by two mediators (Uncooperativeness and Impulsivity). Other large chain represents a highly clustered axis of negative symptoms (Poor Rapport-Blunted Affect-Emotional Withdrawal-Lack of Spontaneity). Although there are several possible pathways between the two, the clusters are connected easiest via Social Avoidance, evidenced by high betweenness of this item. The cluster of negative symptoms is most central in the network, while Somatic Complaints, Guilt, Grandiosity, and Hallucinations are least central. Finally, the measures of correlation and centrality stability as well as replication simulations support our findings.

### **Discussion**

Our study yielded results which suggest that there are direct, non-spurious relations between symptoms which is line with the network theory. Even though the estimated network does not show “small world properties” i.e., high transitivity, it would seem that the positive and negative symptoms are connected via social disengagement, where both causal directions are plausible. Interestingly, while the negative symptoms are most central, and Delusions are a part of a defendable cascade of phenomena, other “hallmark” symptom of psychosis – hallucinations exhibit poor clustering properties. This can potentially imply that hallucinations have different biological, psychological, or social correlates not included in this network. Clinical implications of considering different causal pathways for and between the symptoms will be discussed.

## **Barriers and Facilitators to Accessing Psychological Therapies for Severe Mental Health Problems in Later Life**

**Katherine Berry, Jennifer Sheardown, Uma Pabbineedi & Gillan Haddock, University of Manchester, United Kingdom**

**Catherine Cross, Greater Manchester Mental Health Foundation Trust, United Kingdom**

**Laura Brown, University of Manchester, United Kingdom**

### **Introduction**

The number of people growing older with severe mental illness (SMI) is rising, reflecting societal trends towards an aging population. Evidence suggests that older people are less likely to seek help, be referred for and receive psychological therapy compared to younger people, but past research has focused on those with mild to moderate mental health needs. This research aims to identify the specific barriers faced by older people with SMI.

### **Method**

We interviewed 53 participants (22 service users with SMI aged over 50 years, 11 carers of people with SMI, and 20 health care professionals) about their views and experiences of accessing therapy for SMI in later life.

### **Results**

Thematic analysis revealed five themes: organisational and resource issues; myths about therapy and attitudinal barriers; stigma; encouraging access to therapy and meeting age-specific needs.

### **Discussion**

Barriers faced by older people with SMI are not only age-related, but also reflect specific issues associated with having a SMI over many years. Improving awareness of the benefits of psychological therapies is important not only for older people with SMI themselves, but also for their carers and staff who work with them.

## **Individuals' Subjective Experience of the Negative Symptoms of Schizophrenia**

**Isabelle Butcher, Gillian Haddock, Katherine Berry & Jasper Palmier-Claus, University of Manchester, United Kingdom**

### **Introduction**

Individuals who have a diagnosis of schizophrenia can experience both positive and negative symptoms. Positive symptoms are those attributes that occur in addition to normal behaviours, such as voice hearing and delusions. Negative symptoms are those symptoms that are a deficit of an attribute and include, but are not limited to, lack of concentration, loss of motivation, and emotional and social withdrawal. Little research has been conducted to date on negative symptoms, yet these symptoms can be disabling and can affect those around the individual as well as wider society.

### **Method**

A qualitative thematic analysis study was conducted in order to understand how individuals subjectively experience the prominent negative symptoms.

### **Results**

Twenty individuals from a range of NHS services across the United Kingdom were interviewed. Common themes that emerged from the transcribed interviews included withdrawal, loss of concentration, and the role of feeling. Individuals also suggested what may have led to the development of these symptoms.

## **Discussion**

These findings are of particular importance to clinicians working with individuals who may experience negative symptoms of schizophrenia, as well as to their family members and carers.

## **Implication of CBT in Patients with Treatment Resistant Delusional Disorder- An Indian Study**

**Megha Choudhury, Central Institute of Psychiatry, India**

**Susmita Halder, Amity University, India**

### **Introduction**

In this paper, two cases of haloperidol resistant delusional disorder are taken. A case of delusion of love, erotomania type and another case of delusion of persecution was taken, both of which also had secondary features of delusion of grandiosity present as well. Both patients were in in-care treatment for over a period of 6 months and various combinations of antipsychotics had been tried. Post the optimum level of haloperidol and clozapine was tried, the cases were taken for cognitive therapy to aid in the treatment process.

### **Method**

The patients were approached with chaining questioning in a way which did not indicate disbelief to their ideas that they held strongly. Evidence seeking and jumping to conclusions was addressed to reach to the underlying self-devaluing schemas that these patients held. Sessions were conducted daily for 2 months and improvements were measured on Brown Assessment of Belief Scale, which reported a breaking of a belief which the patients held strongly. Distraction techniques, behavioral experiments along with activity engagement, with evidence for non-delusional thoughts were also addressed that helped in dealing with cognitive errors of arbitrary inferencing and jumping to conclusions. A regular intake of pharmacological management as well as a regular follow up was also advised to the patients, which helped in monitoring maintenance and relapse rates.

### **Results**

With the cognitive behavioral approach, we can bring certain parameters of delusions along the spectrum towards normality, help in reassigning some of the delusional misinterpretations, and thereby aiding in socio-occupational rehabilitation and improvement in quality of life of such patients.

### **Discussion**

A delusion is a false unshakeable belief which arise out of internal morbid processes and is out of keeping with a person's educational and cultural background. Research has shown that often delusions, while in continuum to a normal belief and an overvalued idea, are often an approach to a defensive attributional style protecting against low self-esteem, providing a theoretical basis for many of the techniques and approaches of cognitive therapy used for treating delusions.

## **Improving Well-Being and Self-Esteem in People with Paranoid Tendencies; A Study of the Effectiveness of a Group Intervention with ESM Data**

**Alba Contreras, Regina Espinosa, Carmen Valiente & Almudena Trucharte, University Complutense of Madrid, Spain**

**Borja Paredes, IE University, Spain**

**Vanesa Peinado, University Complutense of Madrid, Spain**

### **Introduction**

The promotion of well-being and self-esteem is an essential element in the recovery process of any mental health problem. Despite a traditional pessimistic view of prognosis in psychiatry, there is now a greater awareness of the need for a positive movement that involves focusing attention, not only on reducing symptoms, but also on well-being and positive psychosocial factors (Jeste, Palmer, & Saks, 2017).

### **Method**

The aim of the current study was to demonstrate the effectiveness and feasibility of a manualized group intervention protocol to improve well-being and self-esteem, using Experience Sampling Methodology (ESM) in the context of daily life. The sample consisted of 50 patients who were currently in individual psychotherapy as usual in a University Clinic and with paranoia scores one standard deviation above the average in the sub-scale SCL-R-90 of paranoia. Psychological variables with ESM were assessed 10 times per day during one week before and one week after participants received the intervention.

The goal of the intervention was to direct the participants attention towards generating positive emotions and actions congruent with what is important for them. The manualized protocol included exercises of Positive Psychological Therapy for psychosis (Meyer et al., 2011; Slade, Brownell, Rashid & Schrank, 2017) and of Acceptance and Commitment therapy for psychosis (Morris, Johns, & Olive

### **Results**

Multilevel analysis showed that the protocol was feasible and highly acceptable for participants, showing significant improvement on different domains of subjective psychological well-being in the daily life context; positive emotions ( $F(1, 317)=15.8; p<.001$ ), perception of closeness to others ( $F(1, 330)=16.8; p<.001$ ), self-esteem ( $F(1, 336)=23.4; p<.001$ ) and well-being ( $F(1, 322)=24.4; p<.001$ ).

### **Discussion**

The usefulness of ESM has been demonstrated in a study of the effectiveness of a psychological intervention. It allows a more ecological evaluation of the impact of the therapy on the daily life of the participants. Moreover, the results of this pilot study indicated that this group therapy may be helpful in increasing well-being and self-esteem among people with paranoid tendencies.

## **An Exploration of Fear of Death and Psychosis Proneness: Positive Schizotypy as a Function of Death Anxiety and Maladaptive Coping**

**Dane Easden, Australian National University, Australia**

**Caroline Gurvich, Monash University, Australia**

**Ryan Kaplan, Swinburne University, Australia**

**Susan Rossell, University of Melbourne, Australia**

### **Introduction**

Psychosis is characterised by potentially debilitating mental states signifying a diversion from reality. Psychotic experiences such as persecutory and grandiose delusions have been linked to fear of death and theorised as maladaptive coping mechanisms to modulate existential anxieties arising from mortality. Terror Management Theory (TMT) posits that self-preservation instincts conflict with mortality

saliency and lead to an existential dilemma, popularly termed death anxiety. Death anxiety is thought to underlie the development and continuation of various psychiatric conditions. Through the lens of TMT, delusions may be framed as ‘cognitive defences’ against death anxiety. Whereas healthy individuals can envelop themselves in a death-denying and life-directing order of symbolic immortality, psychosis is associated with an inability to maintain the cultural worldview (meaning system) needed to buffer death anxiety. Psychosis-prone individuals may instead seek meaning, self-esteem and connection through the formation of protective delusions. Given the conceivability of death anxiety as a transdiagnostic construct linked to psychopathology, and manifestations of psychosis, the present study aimed to explore death anxiety along a psychosis continuum, and examined death anxiety as a potential risk factor for psychosis proneness.

#### **Method**

Relationships between variables were investigated in a non-clinical community adult sample (N=61; 46% female, 54% male) aged 18–39 years (M = 24.03, SD = 4.25). Participants completed measures of death anxiety (Death of Self subscale of the Revised Collett-Lester Fear of Death Scale; CLFD), trait anxiety (Trait subscale of the State-Trait Anxiety Inventory; STAI-T), maladaptive coping (composite maladaptive coping scale from the Brief COPE) and positive schizotypy (Unusual Experiences subscale of the Oxford-Liverpool Inventory of Feelings and Experiences; O-LIFE).

#### **Results**

As hypothesised, there were significant positive correlation coefficients between all four variables ( $r = .39$  to  $.62$ ). Hierarchical regression analyses showed that, over and above the effects of trait anxiety, death anxiety significantly predicted positive schizotypy. Furthermore, this relationship was moderated by maladaptive coping. That is, there was a significantly stronger positive association between death anxiety and positive schizotypy at higher versus lower levels of maladaptive coping.

#### **Discussion**

These novel findings indicate that a relationship between death anxiety and psychosis may exist along a psychosis continuum, that this relationship is distinct from trait anxiety, and is especially pronounced for those who more often engage in maladaptive coping strategies. These findings are discussed within the framework of TMT, and manifestations of psychotic-like experiences are considered as maladaptive coping mechanisms used in efforts to buffer death anxiety. These findings may advance understanding on three fronts: first, of the vulnerability factors implicated in psychosis; second, to clarify the biopsychosocial framework of psychosis proneness; third, to aid in elucidating the relationship between death anxiety and psychosis. To justify targeting death anxiety in treatment for those experiencing or at-risk of psychosis, experimental research must first identify whether one’s inability to cope with death anxiety gives rise to, perpetuates and/or exacerbates, psychotic-like experiences. If death anxiety is implicated, it could provide rationale for trialing a TMT-informed therapy such as TMT-integrated existential therapy as an integrative or adjunct therapy to CBT.

### **Brief CBT Model for Psychotic Like Experiences in Adolescent Years: A Model Description with a Clinical Case-Example in Helsinki University Hospital**

**Niklas Granö, Mauri Marttunen & Klaus Ranta, Helsinki University Hospital, Finland**

#### **Introduction**

Psychotic like experiences (PLE’s) form a continuum of atypical experiences varying from infrequent, mild unusual experiences to strong, recurrent bizarre experiences. PLE’s occur on the same factor structure as symptoms of psychotic disorders. Subjects with PLE’s may have a heightened risk to develop psychosis later in their life. PLE’s often generate dysfunctional beliefs, which have negative effects on mood, anxiety and behaviour. Although cognitive behavioural therapy (CBT) has shown to lead to symptom reduction in the treatment of psychosis and clinical high risk of psychosis in adults, there is little evidence of benefits of CBT for adolescents suffering of PLE’s.

#### **Method**

In Helsinki University Hospital (HUH), Department of Adolescent Psychiatry, we developed a brief 10 session (+ 3 booster sessions) treatment model (CBT-PLE) for 13-to-17-year old adolescents with PLE’s. It is theoretically based on the French & Morrison CBT model for psychosis risk. The main target of treatment is to reformulate the distressing, dysfunctional beliefs regarding PLE’s to minimize their effect on anxiety, mood and behaviour. Therapeutic strategies include individual formulation, identification of dysfunctional beliefs, normalization, psychoeducation, reformulation of dysfunctional beliefs and behavioural experiments. Meetings with parents are included in the beginning and the end of the treatment.

#### **Results**

We present a pilot case example of a 14-year old girl suffering from PLE’s treated with our CBT-PLE program. The main outcome measure was symptom reduction assessed with PQ-B (Prodromal Questionnaire-Brief). For this patient, baseline scores were 19/74 and endpoint scores 11/38 (total/distress scores, respectively). The main therapeutic strategies of the treatment are described and visualized for this pilot case. We present the case formulation and the identification of dysfunctional beliefs. Furthermore, we describe how techniques of normalization, psychoeducation and reformulation of beliefs led to a possibility to test the new, alternative beliefs in behavioural experiments.

#### **Discussion**

Pilot work on CBT-PLE has yielded encouraging results. The CBT-PLE treatment manual has been published in Finnish and it is available for all professionals who work with adolescents. Implementation of the treatment model to the clinical services at HUH and results from the RCT -study (2018-2022) will reveal the effectiveness of CBT-PLE in the future.

### **The Phenomenology and Antecedents of Verbal Auditory Hallucinations in Everyday Life in Psychosis: A Diary Study**

**Emily Hickson & David Raune, Harrow and Hillingdon Early Intervention in Psychosis Service, United Kingdom**

**Lia Kvavilashvili & Andrew Laughland, University of Hertfordshire, United Kingdom**

**Marvin Iroegbu, Saira Mohammed & Natasha Lyons, Harrow and Hillingdon Early Intervention in Psychosis Service, United Kingdom**

#### **Introduction**

One of the key features of psychosis is verbal auditory hallucinations (‘Voices’), although patients also report experiencing non-verbal hallucinations such as sounds and music. Despite intensive research on the nature and the causes of Voices in psychosis, relatively little information is available about the actual content of the Voices, including how they manifest in everyday life. Also, although Voices are not usually active all the time, little is known about what actually triggers them off in everyday life. Furthermore, the few studies that have investigated the phenomenology and the content of Voices in psychosis, have used questionnaire and interview methods which required respondents to retrospectively remember and evaluate the frequency of hearing voices and their various characteristics.

## **Method**

An advantage of the present study was therefore to minimise retrospective bias, inherent in these methods, by using a structured diary method to study the content of Voices and the conditions in which they occur in everyday life. Eighteen male and seven female participants, aged between 19 and 35 years (mean age =25.3, SD = 5.6), who were diagnosed with psychotic spectrum disorders, and were experiencing Voices, at the time of the study, were recruited. Participants attended three sessions, one week apart, to complete the Psychotic Symptom Rating Scale (PSYRATS-Voices), which measures the frequency and phenomenological aspects of hallucinatory experiences, and the Hospital Anxiety and Depression scale (HADS), each time. In addition, all participants were given a paper diary to record their Voices for a one week period. Participants had to complete the brief questionnaire of a diary page every time they experienced an Voice.

## **Results**

Findings revealed a large variability among participants in terms of the number of recorded entries (M = 11.6, SD = 9.1, range 1 – 40 across the one week), as well as the content of Voices and the conditions and triggers that preceded their occurrence. However, there were also important commonalities in the way Voices were experienced. A majority of the participants had Voices with negative content, manifesting as commands or comments, from unfamiliar male voices. In addition, Voices were anteceded by negative emotions, cognitively undemanding activities, and in response to internal and external cues. The majority of Voices were also reported at home, and occasionally while travelling.

## **Discussion**

The potential implications for Cognitive Behaviour Therapy for Psychosis for reducing Voice frequency and associated distress will be outlined, and further suggestions for research into Voice triggers and phenomenology will be discussed.

## **Short-Term Intervention of Self-Monitoring Mood and Activities for Bipolar II Disorder Comorbid Anxiety Disorder: A Case Report**

**Yasuhiro Kimura, Fukushima College, Japan**

### **Introduction**

This case report describes a short-term intervention of self-monitoring mood and activity. The client was a female in her 20s who had developed bipolar II disorder because of interpersonal relationship problems at work. She was denied many opportunities at work, resulting in a loss of confidence and feeling of self-worthlessness. In addition, she was anxious about the workplace-related stimulus related. We decided to work on improving her the depression, as she desired.

### **Method**

Although she experienced high frequency of self-critical thoughts and negative effects (e.g., depression, anxiety), she performed little coping to change her mood. Therefore, I hypothesized that it might be because she could not accurately grasp her mood state. The therapy was conducted for two months; it comprised six sessions of 60 minutes each. Self-monitoring was conducted from the second session to the fourth session. She was asked to record her mood state from 1 to 100 and how it changed after activities. Cognitive restructuring was performed in the fifth and six sessions. This intervention was used to make it easy to approach the anxiety situation.

### **Results**

The Beck Depression Inventory-II (BDI-II; Beck et al., 1996; Kojima & Furukawa, 2003) score, a depression index, decreased from 27 to 7, compared to that recoded before the intervention. One month later, this score further decreased to 2.

### **Discussion**

As a result, her negative mood was improved; she began coping with negative effects by performing various activities (e.g., talking with a friend, shopping, reading, and eating). She said that her emotions were easier to control than before. Self-monitoring not only notifies own mood on the time, but also the contingency of behavior and mood. This is the idea of behavioral activation. Consequently, it was suggested that self-monitoring mood and activities may have been effective for the client.

## **The Effectiveness of Metacognitive Training Program for Early Psychosis in a Korean Community Sample.**

**Kanguk Lee & Jun-Won Hwang, Kangwon National University Hospital, South Korea**

### **Introduction**

Recently psychological interventions for treating people with psychosis have been shown to be effective for both symptom improvement and reduction of illness burden (Turner et al., 2014). The purpose of this study was to test whether cognitive behavioral program is beneficial in the various aspects of patients' quality of life such as attribution style, depression, stress perception, stress level, subjective well-being, and resilience.

### **Method**

Seven patients with first episode of psychosis (F20~F29 according to ICD-10), 2) within 5 years after the first outbreak of the illness were recruited from the community sample. Program was consisted of eight weekly sessions which lasted for 2 hours respectively using Korean version of metacognitive training for psychosis (MCT, Aghoto et al., 2010). The program included modules regarding "Jumping to conclusions", "Theory of mind", "Memory", "Changing beliefs", "Attribution style", "Stigma", "Self-Esteem". The effectiveness of the program was measured with Short version of Ambiguous Intentions Hostility Questionnaire (AIHQ-S), Beck's Depression Inventory (BDI), Subjective Well-being under Neuroleptic Scale – short version (SWN-K), Drug Attitude Inventory-10 (DAI-10), EuroQoL-5D, Rosenberg's Self-Esteem Scale, Perceived Stress Scale (PSS), Resilience Scale (RS).

### **Results**

The amount of medication was maintained for all of the seven participants during the study period. Paired t-test for pre- and post-program revealed the improvement of negative attributional style (hostility bias, aggression bias, and blame score,  $t=2.567$ ,  $p=.043$ ), decreased depressive mood ( $t=3.396$ ,  $p=0.016$ ), increased subjective well being ( $t=2.611$ ,  $p=0.040$ ), and decreased perception of stress ( $t=3.076$ ,  $p=0.028$ ).

### **Discussion**

It has been well recognized that real world effectiveness of antipsychotic medications is yet far from being satisfactory. This study indicates treatment approaches for the correction of bias and beliefs as well as perspective of others (theory of mind) can increase understanding of the psychological mechanisms associated with psychotic symptoms. Also, this metacognitive training helped the patients improve their quality of life in the patients with relatively early psychosis.

## **The Effect of Using First Acquired Versus Later Acquired Language and Effortful Control on the Expression of Psychopathology in Bilingual (Spanish-English) Individuals with Schizophrenia**

**Daisy Lopez, Ana Martinez de Andino & Caitlin Brown, University of Miami, USA**

**Marc Weintraub, UCLA Health, USA**

**Amy Weisman de Mamani, University of Miami, USA**

### **Introduction**

Language is our primary means of transmitting info about our beliefs, values, desires; etc. This begs the question of what happens to thought processes in individuals who speak more than one language. More specifically, in this talk we will focus, on what happens to thought processes in bilingual individuals when they experience psychopathology. Although literature in this area is sparse, some research suggests that psychotic symptoms are expressed at different severity levels in bilingual individuals, depending on the language of the clinical interview. Case studies by Del Castillo (1970) and Hemphill (1971) indicate that psychotic patients display more severe psychopathology when assessed in their mother tongue versus a later acquired language. Del Castillo (1970) further hypothesized that the effortful control involved in speaking a second language may serve to focus an individual, putting him/her in closer contact with reality. Del Castillo and Hemphill's observations are cited frequently, yet have little empirical backing. Using a between subjects design, we recently found that patients with schizophrenia do exhibit more thought disturbance when assessed in their mother tongue than in a later acquired language (Brown & Weisman de Mamani, 2017). These findings suggest that researchers/clinicians may want to assess bilinguals in their mother tongue to gain an accurate picture of symptomatology potential (at its most severe presentation).

### **Method**

In the current study, we aimed to assess del Castillo's second hypothesis, that effortful control is greater in bilingual individuals' later acquired language, and that this in part attenuates the expression of psychopathology. 44 bilingual participants with schizophrenia were given an hour-long battery that included a variety of cognitive and psychological tests. Tasks were repeated in English and Spanish using a within subjects design in which language order was counterbalanced. After each language portion of the battery, participants were queried regarding their perceived effortful control on a 0-9 Likert scale.

### **Results**

Interestingly, no differences were found in perceived effortful control in one's mother tongue versus later acquired language ( $p > .05$ ).

### **Discussion**

Thus, while our earlier study does support Del Castillo's observation of greater psychopathology evidenced in the mother tongue, our current findings suggest that effortful control may not be the mechanism that accounts for this pattern. Potential explanations of these findings, study limitations, and future directions will be discussed.

## **Modeling the Effects of Family Factors on Suicidal Ideation among Individuals with Schizophrenia**

**Daisy Lopez & Amy Weisman de Mamani, University of Miami, USA**

### **Introduction**

Although suicide is the leading cause of premature death among those with schizophrenia (Palmer, et al., 2005), it is unclear what places someone at risk. Given the difficulties of living with schizophrenia, individuals often rely on family for assistance (NAMI, 2018) and emotional support (Awad & Voruganti, 2008). Indeed, greater family cohesion has been associated with lower symptom severity in patients with schizophrenia (Weisman, et al., 2005). Among non-clinical samples, family cohesion is protective against suicide attempts (Borowsky, Ireland, & Resnick, 2001) and caregiver criticism predicts greater suicidal ideation (Wedig & Nock, 2007). Among schizophrenia patients, Lopez and colleagues (2004) find caregiver criticism and warmth to predict relapse rates. However, no research has examined the relationships between family cohesion or caregiver criticism/warmth as they relate to depression, anxiety, stress, and suicidal ideation in schizophrenia.

### **Method**

Individuals with schizophrenia ( $N = 155$ ) were assessed using the family cohesion index (FC) of the Family Environment Scale (Moos & Moos, 1994), the suicidal ideation (SI) item (1-7 Likert rating) from the Brief Psychiatric Rating Scale (Ventura, Lukoff, Nuechterlein, Liberman, Green, & Shaner, 1993), criticism and warmth Likert scale items developed by the study PI (see Weisman et al. 2006), and the Depression, Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995). Caregiver reports of family cohesion were also collected. Participants were, on average, 38.79 years old ( $SD = 13.29$ ), male (58.6%), and Hispanic (44.8%), Caucasian=23.8%, Black=29.4%, Other=2.1%).

### **Results**

Patient reported family cohesion (PT/FC) was associated with less SI, Wald's  $X^2 = 6.89$ ,  $p = .01$ ,  $OR=1.224$ . Caregiver reports of FC were not predictive of SI, Wald's  $X^2 = 1.78$ ,  $p = .18$ ,  $OR=1.12$ . Decreases in PT/FC increased DASS,  $b = -5.46$ ,  $SE = 1.2$ ,  $p < .001$ . Patient reports of caregiver criticism (CRIT) were related to greater SI, Wald's  $X^2 = 6.11$ ,  $p = .01$ ,  $OR=1.80$ , however reports of warmth were not, Wald's  $X^2 = .44$ ,  $p = .51$ ,  $OR=0.80$ . CRIT was not predictive of DASS,  $F(1, 120) = 1.02$ ,  $R^2 = .01$ ,  $p = .32$ . A path model where PT/FC and CRIT predicted SI was tested. Included in the model was the mediation of PT/FC through DASS. There was good model fit,  $X^2(1) = .053$ ,  $p = .82$ ,  $CFI = 1.0$ ,  $RMSEA < .01$ ,  $WRMR = .08$ . PT/FC was not an independent predictor of SI,  $b = -.03$ ,  $SE = .04$ ,  $p = .44$ , rather it was fully mediated through DASS, with a significant indirect effect,  $b = -.09$ ,  $SE = .03$ ,  $p < .001$ . CRIT remained a significant independent predictor,  $b = .36$ ,  $SE = .15$ ,  $p = .02$ .

### **Discussion**

Weaker family cohesion may be a stressor, exacerbating suicidal ideation through increased depression, anxiety, and stress. Moreover, family degree of criticism, independent of family cohesion, may be a risk factor for greater suicidal ideation. Study findings suggest that interventions aimed at increasing family cohesion and revamping attitudes and detrimental attributions made by caregivers may be warranted. Furthermore, the study highlights the importance of capturing patient perceptions and perspectives.

## **Schizophrenia and the Disembodiment Thesis - An Experimental Validation**

**Naomi Lyons, Johannes Graser & Johannes Michalak, University Witten/Herdecke, Germany**

### **Introduction**

In schizophrenia, phenomenologists discuss a disturbance of disembodiment as possible cause of the disorder (Fuchs, 2005). Fuchs states a diminishment of the subjective feeling of body boundaries resulting in the inability to dissociate oneself from the environment. As a

consequence, ego destruction symptoms and acoustic hallucinations, where the source of someone's thoughts is not located in the person itself, might emerge. Delusions might then result as an attempt to give meaning to the altered experiences due to the disturbance. In this study, the disembodiment thesis is investigated with the hypothesis that an increase in body awareness leads to less delusional symptoms. Additionally, it is assumed that heart rate variability (HRV), a measure of global impairment increases along with an increase in body awareness.

#### **Method**

Body awareness is manipulated with a massage intervention in 36 patients with schizophrenia. As a control condition, another 36 participants massage a fabric ring in order to control for physiological arousal. Delusions are assessed with a questionnaire and the jumping to conclusion bias (JtC bias) as a cognitive correlate of delusions. HRV is assessed before, during, right after and after a period of twenty minutes after the intervention.

#### **Results**

Expected results are a significantly higher increase in HRV for experimental- than for control group and a lower JtC bias in the experimental group. For the delusion questionnaire, no differences are expected, as bodily interventions mostly fail to impact open questionnaire measures.

#### **Discussion**

If results are confirmed, an increased awareness of one's body boundaries might add to the treatment of schizophrenia symptoms. Fuchs' disembodiment thesis would be supported by a study with an experimental design.

### **The Association Between Autistic Traits and Psychotic-Like Experiences in the General Population. A Study from the 2007 The Adult Psychiatric Morbidity Survey**

**Anton Martinez, The University of Sheffield, United Kingdom**

**Sophie Wickham, University of Liverpool, United Kingdom**

**Georgina Rowse, Elizabeth Milne & Richard Bentall, The University of Sheffield, United Kingdom**

#### **Introduction**

Autism and psychosis have been considered related conditions throughout the history of psychiatry. Scientific studies have shown that there are overlapping traits and symptoms between these two conditions. For example, systematic reviews have found that people with psychosis report higher rates of autistic traits compared to the general population and autistic people report higher levels of paranoia compared to non-clinical controls. Moreover, studies of the association between schizotypal traits (e.g., unusual perceptions) and autistic traits have found that the latter predicted the former in adolescents. However, no study to date has addressed this association from an epidemiological approach in the general population. In this study we assessed this association by using the Adult Psychiatry Morbidity Survey 2007 (APSM, 2007), predicting specific associations between autistic traits, and the specific psychotic experiences of paranoia and strange experiences.

#### **Method**

The APSM 2007 screened 7353 individuals 16+ years living in private households for probable psychosis using the Psychosis Screening Questionnaire (PSQ) and for underlying autism traits using a shorter 20-item version of the Autism Quotient (AQ-20). The PSQ assessed probable psychosis and psychotic-like experiences, mania, thought insertion, paranoia, strange experiences, and auditory hallucinations, indicating the presence or absence of each psychotic experience. The AQ-20 provided a score between zero and twenty, where a higher score indicated greater likelihood that a person may present autism traits. Binomial logistic regressions were performed using AQ-20 as independent variable and probable psychosis and psychotic experiences measured by PSQ as dependent variables.

#### **Results**

Significant associations were found between autism traits and probable psychosis ( $b = .50, p < .001, OR = 1.68$ ), autism traits and paranoia ( $b = .32, p < .001, OR = 1.25$ ), and autism traits and strange experiences ( $b = .26, p < .001, OR = 1.23$ ). A significant association was also found between autism traits and thought insertion ( $b = .26, p < .01, OR = 1.29$ ), however this effect was no longer significant once we controlled for the remaining psychotic symptoms ( $b = .14, p = .11, OR = 1.15$ ). No significant associations were found between autism traits and auditory hallucinations ( $b = -.03, p = .75, OR = .93$ ), or between autism traits and mania ( $b = -.02, p = .15, OR = .97$ ).

#### **Discussion**

Results showed that a higher level of autism traits in the general population increases the chances of manifesting psychotic experiences particularly paranoia and strange experiences. This is in line with the 'increased vulnerability model' that aims to explain these associations by proposing that autism increases the risk of experiencing psychosis. Moreover, the fact that significant associations were found for specific psychotic experiences and not for others suggests that there might be shared mechanisms such as heightened interpersonal and perceptual sensitivity that may lead by different pathways to paranoia and strange experiences.

### **OASIS: Moderated Online Social Therapy Utilising Therapeutic Comics to Treat Social Anxiety in First-Episode Psychosis**

**Carla McEnery, Michelle H Lim & Ann Knowles, Swinburne University of Technology, Australia**

**Mario Alvarez-Jimenez, Orygen, The National Centre of Excellence in Youth Mental Health, Australia**

#### **Introduction**

It is well established that social anxiety disorder (SAD) is a significant clinical issue for individuals with a psychotic disorder (Roy, Demers, Achim, 2018; Pallanti, Quercioli, & Hollander, 2004). Comorbid social anxiety in individuals with psychosis has been associated with poor premorbid functioning, depression and a reduced quality of life (Romm, Melle, Thoresen, Andreassen, Rossberg, 2012; Roy et al., 2018). Cognitive behaviour therapy (CBT) is recommended for people with psychosis as a first-line psychological treatment; however, its focus and evaluation primarily revolves around reducing psychotic symptoms and not necessarily targeting comorbid social anxiety symptoms (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012; Michail & Birchwood, 2009). OASIS (Overcoming Anxiety Symptoms in Social Situations) is a novel online social CBT-based intervention specifically designed by our multi-disciplinary team to primarily treat social anxiety symptoms in young people with first-episode psychosis (FEP).

#### **Method**

OASIS (Overcoming Anxiety Symptoms in Social Situations) is a novel online social CBT-based intervention specifically designed by our multi-disciplinary team to primarily treat social anxiety symptoms in young people with first-episode psychosis (FEP). OASIS integrates (1) key features of the efficacious Clark and Wells CBT treatment model for SAD, (2) tailored clinical content based on relevant literature findings relating to psychosis and its clinical correlates (e.g., shame, social rank and its relationship with social anxiety and paranoia), (3)

feedback from focus groups to inform a user-centred intervention design and (4) a highly multidisciplinary collaborative approach to develop engaging evidence-based novel therapy comics, which supplemented the CBT intervention.

#### **Results**

The acceptability, feasibility and initial clinical benefits of OASIS were examined through an eight-week pilot study with 13 participants with FEP. Six-six per cent of participants completed at least eight of the 12-week online module content. System usage was high during the study. There were no incidents and all participants reported feeling safe, empowered and less socially anxious using OASIS. Analysis revealed a significant reduction in social anxiety symptoms post-intervention.

#### **Discussion**

Our results indicate that OASIS is feasible, engaging and safe and reduces social anxiety symptoms in young people with FEP. The potential of OASIS to improve social anxiety experiences in individuals with psychosis is worthy of further investigation.

### **Effortful Control in Proficient Bilinguals with Schizophrenia**

**Merranda McLaughlin & Amy Weisman de Mamani, University of Miami, USA**

#### **Introduction**

Effortful control has been indicated as an important process in bilingual populations, such that individuals with schizophrenia in particular expressed fewer positive symptoms in their acquired language compared to their mother tongue (Del Castillo, 1970). While subsequent research has supported similar findings in symptom patterns in individuals with schizophrenia and healthy controls (Brown & Weisman de Mamani, 2017), effortful control has yet to be measured directly against the bilingual population in order to better understand these underpinnings.

#### **Method**

In this study, we gave 44 fully bilingual participants a battery assessing effortful control in English and Spanish. Participants were required to demonstrate moderate language proficiency in both languages on the Bilingual Language Profile. Tasks were repeated in English and Spanish using a within subjects design in which language order was counterbalanced. After each language portion of the battery, participants were queried regarding their perceived effortful control on a 0-9 Likert scale.

#### **Results**

Interestingly, using a within subjects design, no differences were found in perceived effortful control in one's mother tongue versus later acquired language ( $p > .05$ ). Furthermore, no differences were found when comparing all participants in English and in Spanish.

#### **Discussion**

Thus, contrary to Del Castillo's view, we do not find differences in effortful control in one's mother tongue versus a later acquired language. However, previous work did not require individuals to be fully bilingual; perhaps effortful control is engaged more when one's acquired language is less proficient. Future research may explore how effortful control shifts across levels of language proficiency.

### **Effects of Metacognitive Training Plus Conducted by Psychiatric Department Home-Visit Nurses—Analysis of Interviews with Subjects**

**Kazuya Norikane & Kengo Takidai, Hirosaki University, Japan**

**Takuma Ishigaki, The University of Tokyo, Japan**

**Manabu Taoka & Yukiko Nagai, Hirosaki Aiseikai Hospital, Japan**

#### **Introduction**

In the present study, we examined the effects of metacognitive training Plus (MCT+) conducted by psychiatric department home-visit nurses in patients with schizophrenia (subjects) living in the local community.

#### **Method**

Nurses who were continuously responsible for subjects for one year or longer performed home visits and conducted MCT+. After completion, the researchers conducted a semi-structured interview with the subjects. From the recorded utterances, we created a verbatim transcription, extracted data while paying attention to contents and context, and categorized the categories. MCT+ was conducted by visit nurses within normal home-visit nursing hours (1/w, 20 minutes, 12 times, May-December 2018). The interviews were conducted by researchers visiting the houses of the subjects (September- December 2018). About MCT+ Consisting of eleven units with objectives, such as "changing beliefs", "jumping conclusions" etc. MCT+ is carried one-to-one, and it is administered by asking questions based on power point slides and participation in the ensuring interactive communication (S Moritz, Todd S. Woodward 2010).

#### **Results**

We classified the 29 data items extracted from the remarks of two subjects, and two major categories were extracted: [Benefits provided by the home-visit nurses] and [Changes]. [Benefits provided by the home-visit nurses] was classified into the three subcategories of (Ease of performance), (Enjoyment), and (Sense of security). [Changes] was classified into the five subcategories of (Cognition), (Way of thinking), (Outlook), and (Emotion), (Methods of response). From (Ease of performance), the following data were obtained: "It was a nurse who always comes to see me, so I am used to the nurse, and the nurse was kind and easy to talk to", and from (Enjoyment), "I enjoyed talking with the nurse when performing MCT+ and solving MCT+ challenges with the nurse" was extracted. In (Cognition), there was "I began to think that I should not stick to my ideas too much". In (Way of thinking), there was "I have started actively thinking and putting my thoughts into practice little by little.

#### **Discussion**

The results revealed that the intervention by the familiar visit nurses prevented interpersonal nervousness in the subjects and brought about concentration on MCT+ with enjoyment. These findings suggest that conducting MCT+ in such a relationship in which trust has been established may have been a trigger for the subjects to understand their habit in cognition and way of thinking by looking at himself or herself objectively, leading to a feeling of gratitude and love toward surrounding people and enhancement of effective coping methods.

## **Combined Schema-Therapy and CBT in Treatment of Delusional Disorder – Example of Practice**

**Marie Ociskova & Jan Prasko, Palacky University in Olomouc, Czech Republic**

**Milos Slepecky & Antonia Kotianova, Constantine the Philosopher University in Nitra, Slovakia**

### **Introduction**

Delusional disorder is a less prevalent psychotic disorder that is often challenging to treat. Guidelines of good practice are lacking and general CBT for psychosis may not be sufficiently effective for some patients. This poster presents a case of the application of combined schema-therapy and CBT with a patient with delusional disorder, the paranoid type.

### **Method**

The patient was a 50-years old woman, a cleaner, divorced with three daughters. The disorder developed a year before the psychotherapy after accumulation of stressful life events. She had a comorbid paranoid personality disorder. She refused antipsychotics but was willing to take an antidepressant (escitalopram 10 mg/day) which she discontinued after 15 sessions. The active phase of the psychotherapy included 40 sessions. The start of the therapy included only schema-therapy, CBT was added after 13 sessions when the patient improved enough to manage cognitive work. The therapist used PANSS and Brown Assessment of Beliefs Scale to assess change in psychopathology.

### **Results**

The starting score of PANSS was 75 points (P: 20, N: 12, G: 43); BABS was 21 points. After 15 sessions, the patient reached fragile remission (PANSS: 60 points – P: 11, N: 10, G: 39; BABS: 9 points). She then decided to discontinue the antidepressant which led to worsening of symptomatology (PANSS: 67 points). She reached remission again after six sessions. In the end of the treatment, she scored 43 points in PANSS (P: 10, N: 9, G: 24) and 5 points in BABS. She has undergone a maintenance therapy since then, remaining fine except for occasional increase of worries.

### **Discussion**

A combination of schema-therapy and CBT may be effective for some patients with delusional disorder. Quantitative studies with representative samples are needed to further evaluate this therapeutic approach.

## **Are Childhood Trauma and Negative-Self-Schema Specific Psychological Mechanisms of Psychosis?**

**Shierlen Octavia, Sali Rahadi Asih & Edo S. Jaya, Universitas Indonesia, Indonesia**

### **Introduction**

Childhood trauma is an important risk factor of psychosis, and many studies have shown that negative-self-schema plays an important mediating role. However, it is unclear whether this pathway from childhood trauma through negative-self-schema is a specific psychological mechanism of psychosis or a general psychological mechanism of mental disorders. In the present study we tested the specificity of this pathway by using negative-self-schema as a mediator of the relationship between childhood trauma and common mental disorders including psychosis.

### **Method**

We recruited 1775 adults of whom 495 participants (128 male; age,  $M = 21.9$ ,  $SD = 5.1$ ) completed our online survey and thus included in the study. Some participants ( $n = 162$ ) self-reported to have been diagnosed with a mental disorder, and a few has a diagnosis of schizophrenia ( $n = 14$ ). Psychosis was assessed using the positive and negative symptoms items of the Indonesian version of the Community Assessment of Psychic Experiences (Stefanis et al., 2002; Jaya, 2017). Symptoms of anxiety, depression, psychosomatic, panic attack, and eating disorder were assessed using the Patient Health Questionnaire (Spitzer, et al., 1999). Childhood trauma was assessed using a self-report questionnaire (Jaya & Lincoln 2016). Negative-self-schema was assessed using the negative-self items from the Brief Core Schema Scale (Fowler et al., 2006). Mediation analysis with structural equation modeling using the lavaan package in R was used.

### **Results**

A significant direct effect of childhood trauma on positive symptoms ( $\beta = 0.189$ ,  $p < 0.001$ ), negative symptoms ( $\beta = 0.131$ ,  $p = 0.001$ ), psychosomatics ( $\beta = 0.242$ ,  $p < 0.001$ ), depression ( $\beta = 0.158$ ,  $p < 0.001$ ), anxiety ( $\beta = 0.155$ ,  $p < 0.001$ ), and symptoms of eating disorders ( $\beta = 0.155$ ,  $p = 0.003$ ) was found, but not on symptoms of panic disorder ( $\beta = 0.081$ ,  $p = 0.359$ ). Negative-self-schema was a significant mediator for the relationship between childhood trauma and positive symptoms ( $ab = 0.103$ ,  $p < 0.001$ ), negative symptoms ( $ab = 0.174$ ,  $p < 0.001$ ), psychosomatics ( $ab = 0.058$ ,  $p < 0.001$ ), depression ( $ab = 0.245$ ,  $p < 0.001$ ), anxiety ( $ab = 0.194$ ,  $p < 0.001$ ), and eating disorder ( $ab = 0.018$ ,  $p = 0.005$ ).

### **Discussion**

Our results further confirms cognitive models of psychosis in which negative schemas are postulated to translate the effect of childhood trauma to psychosis. However, this psychological mechanism seems to be not specific to psychosis, but can also explain the symptoms development of psychosomatics, depression, anxiety, and eating disorder.

## **e-PROBAD - Internet Psychoeducation for People with Bipolar Affective Disorder**

**Jan Prasko, Marie Ociskova, Ales Grambal & Antonin Kolek, University of Palacky Olomouc and University Hospital, Czech Republic**

**Milos Slepecky & Antonia Kotianova, Constantine the Philosopher University in Nitra, Slovakia**

**Jakub Vanek, University of Palacky Olomouc and University Hospital, Czech Republic**

### **Introduction**

The internet is an important source of information and exchange for patients and can exert considerable influence on their health-related behaviors and decisions. Internet-based therapy typically involves the interaction between a consumer and therapist via the Internet and incorporates the use of a structured Web-based treatment program for consumers to access in conjunction with therapist assistance (usually by email). Over the past decade, Internet-based treatments have been found effective for a variety of physical health conditions and mental health disorders, such as headache, encopresis, tinnitus, depression, panic disorder, social phobia, GAD and posttraumatic stress disorder. The purpose of this open study will be to test the efficacy of therapist-assisted internet 12 module 4 month long self-help program based on cognitive behavioral approach (IB-CBT) with the treatment as usual (TAU) for bipolar affective disorder patients who are medicated with thymostabilisers.

### **Method**

Participants who recruit from the patients of the Psychiatric clinic Olomouc at time of start the maintenance pharmacological phase of the treatment of bipolar affective disorder will be randomized to the TAU (treatment as usual) and IB-CBT (12 modules of internet based CBT+

TAU). All participants will complete a clinical diagnostic interview, and a set of questionnaires to assess affective symptoms at four time periods (start of the maintenance treatment period and at follow up: 6 month, 12 month and 24 month. The study will be done in open conditions.

### **Results**

60 patients suffering with bipolar affective disorder (BAD) fulfill including criteria and were randomly assigned or to internet psychoeducation program e-PROBAD. Mean age was 43.26+14.02, 35 females and 25 males, 44 patients completed 6 month follow up, mean age was 40.57+ 13.2 years, 26 females and 18 males. 21 completers were from program and 23 from control group, 16 drop out because stop collaboration. 30 patients were randomized to e-PROBAD, 9 stopped collaboration •6 after first module – mostly “I have no time to do it”. •1 after second module – developed depression and stopped, and •2 after third module – “because have no time”.

### **Discussion**

Increasing knowledge and practice to work with paci•60 patients suffering with bipolar affective disorder (BAD) fulfill including criteria and were randomly assigned or to internet psychoeducation program e-PROBAD. Mean age was 43.26+14.02, 35 females and 25 males. 44 patients completed 6 month follow up, mean age was 40.57+ 13.2 years, 26 females and 18 males. 21 completers were from program and 23 from control group, 16 drop out because stop collaboration. 30 patients were randomized to e-PROBAD, 9 stopped collaboration. 6 after first module – mostly “I have no time to do it”. 1 after second module – developed depression and stopped, and 2 after third module – “because have no time”.ents without strong dissociation.

## **Effects and Costs of Cognitive Behavioral Therapy Provided by Assertive Community Treatment Teams in Japan: A Cluster Randomized Controlled Trial**

**Sayaka Sato, Makoto Ogawa & Asami Matsunaga, National Institute of Mental Health (NCNP), Japan**

**Masashi Mizuno, Tokyo Kasei University, Japan**

**Sosei Yamaguchi, Akiko Kikuchi & Chiyo Fujii, National Institute of Mental Health (NCNP), Japan**

### **Introduction**

In Japan, community mental health system for people with severe mental illness is now being formed. As a next issue, interests about effective psycho-social programs in community setting are growing among practitioners who have been supported their community lives including staffs of assertive community treatment (ACT). CBT have recommended in the fidelity scale for ACT and seemed clinical skills that had large expectations for community care of SMI not only in Japan but also in western countries. So objects of this research were to examine effects and costs of CBT that assertive community treatment teams provided their service users in the community.

### **Method**

We set the following eligible criteria of the study participants; 1) over 20 years old 2) service users of ACT, 3) being judged as a person who had difficulties in dairy life for symptoms or problems derived from anxiety, and 4) being able to submit a written consent. This study employed a cluster randomized controlled trial design. Therefore, we have recruited ACT teams that had interests in CBT and then these teams were randomly assigned to the CBT+ACT group or the ACT only group. Staffs belonged to the team assigned the CBT+ACT group have been took part in trainings and supervisions once in two months for one year. Those who belonged to the team assigned the ACT only group implemented TAU as ACT teams in the same period. The outcomes included psychiatric symptoms, social functions, trait anxiety, fear of negative evaluation from others, degree of recovery in their lives, QOL, variables related working and admission. We also collected data of costs for medical and welfare services.

### **Results**

ACT teams (n=15) were randomly assigned to the CBT+ACT group (teams: n=8; participants: n=50) or the ACT only group (teams: n=7; participants: n=44). We found significant improvements in time by group interaction on trait anxiety (B=-5.57, p<.01), degree of recovery (B=8.38, p<.01), QOL about environments (B=.31, p<.05), Average score of QOL (B=.17, p<.05), GAF (B=6.22, p<.01), in the CBT+ACT group, compared to the ACT only group. Also, costs of hospital stay of the ACT only group was about five times those of the CBT+ACT group (the ACT only group: JPY49,612; the CBT+ACT group: JPY10,931, per month respectively).

### **Discussion**

The present findings demonstrate that it could be expected benefits of CBT provided by ACT teams regarding both of clinical improvements about community mental health care and reducing health care budgets.

## **Prevalence, Severity and Predictors of Depression and Anxiety in Informal Carers After First-Episode Psychosis**

**Natasha Stace-Woods & Jo Billings, University College London, United Kingdom**

**David Raune, Caroline Floyd, Natasha Lyon & Lucy Brown, Early Intervention in Psychosis Service, Central and North West London Foundation Trust, United Kingdom**

### **Introduction**

At First Episode Psychosis (FEP) Carers exert influence negative and positive outcomes for the patients they care for and Carer distress is common even at this early stage of caring. In the world’s largest and most demographically diverse sample to date, our study investigated the prevalence and demographic, clinical, belief and coping predictors of Depression and Anxiety in FEP Carers.

### **Method**

Design: A cross-sectional design utilising routine service data from Carers’ assessments was used to gather information on patients with FEP (N=198) and their informal carers (N=254). Instruments: Assessed patient clinical features included duration of untreated psychosis, length of psychosis, and diagnosis. Demographic features of patients and carers included age, ethnicity, religion and relationship between patient and carer. Carers Anxiety and Depression was assessed using the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983), the Illness Perception Questionnaire for Relatives (Lobban et al., 2005), and the COPE (Carver et al., 1989; 1994) for coping strategies.

Analysis: Descriptive statistics were used to determine prevalence rates of clinical Caseness for Depression and Anxiety. Univariate analyses were used to investigate associations between Depression and Anxiety Caseness and severity with potential predictor variables. Predictors for which evidence of an association were found (p<=.05) were entered into multivariate models. Mixed effect binary logistic models controlling for clustering within patients were used to assess associations with Anxiety and Depression Cases, whilst multivariate linear models were used to assess relationships with Anxiety and Depression severity.

## Results

Two-thirds of the sample were non-White and demographic were diverse. 31% of Carers met Caseness for Anxiety and 18% met Caseness for Depression. Multivariate models indicated that two demographic, two illness beliefs and two coping strategies were associated with Anxiety severity, whereas one specific illness belief and one coping strategy predicted Anxiety Caseness. Depression severity was predicted by one demographic factor, one specific illness belief, and four coping strategies, whereas Depression Caseness was predicted by one specific illness belief and two coping strategies. Six factors independently predicted a Carer being co-morbidly Case status on Anxiety and Depression, whereas four factors predicted carers being completely free of Anxiety/Depression Case status.

## Discussion

At FEP Depression and Anxiety in Carers is common across demographics. A small range of demographic, clinical and cognitive behavioural factors predict Anxiety and Depression Caseness and severity, varying according to whether the Carer is Anxious, Depressed, both or neither. These findings can be incorporated into cognitive theoretical models of Carer outcomes as well as help to identify which carers will develop Depression or Anxiety and why. FEP Caring Anxiety and Depression, including at Clinical Case Level, is common enough to warrant routine careening and intervention. Specific demographic characteristics may prove useful for routinely identifying Carer subgroups at risk of developing Depression or Anxiety after FEP in Early Intervention in Psychosis services. A small number of specific Carer beliefs and ways of coping might be useful as early intervention therapeutic targets to reduce Depression and Anxiety in individual or family CBT at this FEP Caring stage.

## Metacognitive training (MCT) in a Routine Open Group Setting in Japan: A Preliminary, Multi-Center, Single-Group Study

Hiroki Tanoue, Naoki Yoshinaga & Yuta Hayashi, University of Miyazaki, Japan

Takuma Ishigaki, The University of Tokyo, Japan

Hideki Funahashi & Yasushi Ishida, University of Miyazaki, Japan

### Introduction

Metacognitive training (MCT) is a type of psychological education focusing on cognitive bias and a quiz format discussion, enabling patients to engage in humorous exercises aimed at providing corrective "aha moments" (i.e., metacognitive experiences), initially developed for schizophrenia (Moritz & Woodward, 2007). One of the key features of MCT is an open group delivery-format; that is, patients can start with any module of the training cycle. In Japan, psychiatric day-care service usually provides the same group program for people with various disorders; thus, it is common for patients with various disorders to receive MCT in the same group. However, previous clinical trials of MCT only targeted specific disorders, such as schizophrenia and depression. In this preliminary study, we examined the effects of MCT on patients with various mental disorders in a routine open group setting in Japan.

### Method

This single-arm study recruited mental disorder patients at two psychiatric day-care centers, and conducted 10 sessions of MCT program via open group format. The outcome measures were Global Assessment of Functioning (GAF), Beck Depression Inventory-II (BDI), and Rosenberg Self-Esteem Scale (RSES). We also used the Positive and Negative Syndrome Scale-Positive symptom subscale (PANSS-P) and the Cognitive Biases Questionnaire for psychosis (CBQp), for patients who have delusional symptoms at baseline (PANSS-P1 [delusional item]  $\geq 2$ ). Assessments were conducted at baseline, during MCT, after MCT, and 4 weeks after MCT (follow-up). The study protocol was approved by the Ethics Committee of University of Miyazaki (Reference number: O-0250).

### Results

A total of 26 participants were enrolled in the study; of these, 23 (88%) completed 10 sessions of MCT (18 patients suffered from schizophrenia). From baseline to follow-up, significant improvements were observed on the GAF ( $p=0.034$ ) and the BDI ( $p=0.010$ ), but not on the RSES ( $p=0.512$ ). Among patients who had delusional symptoms at baseline ( $n=18$ ), significant improvements were observed on the PANSS-P ( $p<0.001$ ), but not on the CBQp ( $p=0.127$ ). No significant differences were noted in antipsychotic (chlorpromazine-equivalent) dosages throughout the study.

### Discussion

The results suggest that MCT has some beneficial effects in improving depressive symptoms and global functions, even when patients with various types of disorders are included in the same MCT group. Future study should replicate these findings in randomized controlled trials conducted with larger and more diverse samples.

## Group Cognitive Behavioural Therapy for Psychosis and Social Anxiety: Using an Acceptance-Based Approach to Foster Meaningful Connections and a Reduction in Symptoms

Jessica S. Tutino & Nancy Bahl, University of Ottawa, Canada

Tomas Fogl & Nicola P. Wright, Royal Ottawa Health Care Group, Canada

### Introduction

Schizophrenia and psychosis-related disorders have high comorbidity rates with social anxiety, as individuals often have concerns about how they are perceived or judged by others. In part, this is perpetuated by the stigmatization of people living with psychosis, and may result in people feeling more anxious during social interactions. Cognitive behavioural therapy for psychosis (CBT-P) has been shown to be an effective treatment for individuals living with symptoms of psychosis (e.g., auditory verbal hallucinations, delusions, paranoia). More recently, classic CBT-P has been extended to include related concerns (e.g., social anxiety, obsessive compulsive disorder, trauma) that individuals with psychosis often experience.

### Method

Outpatients with psychosis and social anxiety ( $N = 12$ ) in a tertiary care mental health hospital are currently participating in a 16-week CBT-P group for social anxiety. Sessions are centred on a cognitive behavioural understanding of psychosis and social anxiety, with a focus on social skills building through role plays, dyad work, and exposures. A compassion and strengths-focused approach is taken in order to highlight the resilience of all clients. At baseline, clients completed measures of social anxiety, depression, life satisfaction, and functioning. Clients will complete the same questionnaires following the completion of the group (scheduled for March 2019).

### Results

Upon completion of the group, we will conduct pre-to-post comparisons for the following measures: the Social Phobia Inventory, the Liebowitz Social Anxiety Scale, the Brief Fear of Negative Evaluation Scale, the Beck Depression Inventory II, the Beck Anxiety Inventory,

the Outcome Questionnaire, the Recovery Assessment Scale, the Satisfaction with Life Scale, and the Work and Social Adjustment Scale. Moreover, qualitative data will be collected on clients' experiences of the group.

#### **Discussion**

These results will be discussed within the context of the efficacy rates of CBT-P for psychosis and social anxiety, and the importance of using a compassion and acceptance-focused lens when working with this client population. We will focus on the importance of group therapy for individuals with psychosis and social anxiety in promoting resilience, an increased confidence in oneself, and in fostering meaningful social connections.

### **Virtual Reality Based Theory of Mind Intervention in Schizophrenia (VR-ToMIS) for Improving Theory of Mind Skills and Functional Outcome in Schizophrenia**

**Edit Vass, Semmelweis University, Hungary**

**Zita Fekete, University of Debrecen, Hungary**

**Laura Lencse & Mária Ecseri, Semmelweis University, Hungary**

**Patrik Pálffy, Pázmány Péter Catholic University,**

**Balázs Kis, Szabolcs-Szatmár-Bereg County Hospitals, University Teaching Hospital and Jóna András Teaching Hospital, Hungary**

**Lajos Simon, Semmelweis University, Hungary**

#### **Introduction**

The functional significance of Theory of Mind (ToM) deficit and its strong connection with pragmatic language impairment is well documented in schizophrenia. Since pharmacotherapy hasn't found any satisfying solutions to functional deficits in schizophrenia so far, growing interest in psychosocial interventions have been shown in the last decades. Based on literature data and development trends our goal was to find a solution to one of the most mentioned deficiencies of such interventions, which is the incapability of grab the complexity of the skill of ToM and its schizophrenia specific characteristics.

#### **Method**

Our research team at the Semmelweis University developed a targeted ToM intervention, that uses immersive Virtual Reality and cognitive and behavioral therapy techniques. (VR-ToMIS) Our main purpose is to assess the feasibility of VR-ToMIS in schizophrenia through a randomized controlled (control group: unstructured VR activities) trial, with a three-month follow-up. All patients are assessed for psychopathology, neurocognition, Theory of Mind and functional outcomes.

#### **Results**

The feasibility study is still in progress. However, the preliminary experiences are really encouraging. VR-ToMIS is well tolerated among the patients, and improvement on ToM and functional outcomes were shown.

#### **Discussion**

With the help of VR, we are able to simulate real-time realistic social interactions. in a controllable and replicable way. The strongest feature is that the intervention is structured, and can be personalized at the same time, where the complexity of the simulated interactions increases gradually. Our experiences indicate, that VR-ToMIS might be a potentially helpful tool for patients suffering from schizophrenia.

### **The Effect of Cognitive Behavioral Therapy for At-Risk Mental State on Schemata**

**Kazuho Tomimoto, Tohoku University, Japan**

**Yumiko Hamaie & Masahiro Katsura, Tohoku University Hospital, Japan**

**Toshifumi Kishimoto, Nara Medical University**

**Michio Suzuki, University of Toyama, Japan**

**Masafumi Mizuno, Toho University, Japan**

**Kazunori Matsumoto, Tohoku University, Japan**

#### **Introduction**

It is well-known that schemata for individuals with at-risk mental state (ARMS) are negative and related to attenuated psychotic symptoms (APS). Furthermore, self and other schemas are related to depression and anxiety in healthy individuals. Based on these facts, the possibility of changes in the schemata to self and others being related to improvement in the ARMS symptoms by CBT were assumed.

#### **Method**

A total of 14 participants with ARMS (mean age:  $18.4 \pm 3.6$  years, 5 men) were recruited at the outpatient clinics of four Japanese university hospitals. All participants received 50-min weekly CBT sessions with a maximum of 25 sessions over a period of 6 months (mean duration:  $16.5 \pm 5.1$  sessions). We assessed the participants using the Brief Core Schema Scales (BCSS), Comprehensive Assessment of ARMS (CAARMS), Positive and Negative Syndrome Scale (PANSS), Beck Depression Inventory-Second Edition (BDI-II), and State-Trait Anxiety Inventory Form (STAI).

#### **Results**

In ARMS, as compared with the control samples of university students about BCSS, the scores of negative-self ( $13.07 \pm 4.58$ ,  $p < 0.001$ ) and negative-other schema ( $7.71 \pm 6.43$ ,  $p = 0.01$ ) were high, while those of positive-self ( $2.21 \pm 3.95$ ,  $p < 0.001$ ) and positive-other schema ( $3.93 \pm 4.51$ ,  $p = 0.02$ ) were low. At the baseline, correlation analysis revealed that the scores of negative-self and -other schemata were associated with depression. The scores of positive-self schema were associated with unusual thought content of CAARMS. The scores of negative-self, negative-other, and positive-other schemata improved after CBT as compared with those at the baseline. We also compared the amount of change in the scores of each schema between the baseline and after CBT by correlational analysis. Improvement in negative-self schema was associated with General Psychopathology scale of PANSS, depression, and state and trait anxiety. Moreover, improvement in positive-self schema was associated with t

#### **Discussion**

In this study, negative-self and negative-other schemata were associated with depression in participants of ARMS. Improvement in these negative schemata after CBT was paralleled with improvement in depression and anxiety. This indicated that improvement in emotional symptoms of ARMS was associated with the improvement in negative schemata. Conversely, the change in negative schemata was not associated with that of APS. Improvement in APS may be associated with factors other than negative schemata. Given the small sample size, we suggest that these findings should be considered provisional.

## Notes

## Notes