"Sports Mega Events and Health Promotion: Policies and Legacies in Exercise and Sports Science"

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PROCEEDINGS

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PREFACE

On behalf of the organizing committee of the Inaugural BRICS Conference of Exercise and Sports Science (BRICSCESS 2017), it is our pleasure to present to you the official book of abstracts of the conference. The scientific program will be concentrating on enhancing health and wellness, sports, physical activity and sports mega events to achieve healthy active living through interdisciplinary, scientific and holistic approach in exercise science and sport. The world's leading experts from various professional backgrounds are here at this conference in Santos, to inspire and challenge you with their presentations. We are looking forward to listen to their ideas and viewpoints and we also trust a synergy can be gained through cross-disciplinary partnerships at this conference under each common theme. This book of abstracts reminds us of our achievements, but also the challenges in reaching outstanding performances in the areas of health, exercise and sport science. Our heartfelt thanks to all the speakers in allocating time to share their knowledge and expertise to ensure that this conference would be remembered for its high academic quality.We hope you will enjoy the conference programme that has been put together. We have dedicated many months to select relevant topics and to arrange a realistic schedule, accordingly. This historical conference will bring together practitioners, researchers and educators from around the world. We hope that you take home messages of promoting health and wellness in your countries. May you also make new friends and use the opportunity to promote communication, interaction and cooperation among all academies, research institutes, universities, researchers and students in the field of exercise and sports science.

Kind regards

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(Founding President)

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(Founding Secretary-General)

Prof. Dr. Ricardo UVINHA
(Chairman, LOC)

Prof. Dr. Nara DE OLIVEIRA
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KEYNOTE SPEAKERS

PROF. DR. MING-KAI CHIN
Global Affairs & Research HOPSports, Inc.
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"Changes" in Physical Education with Linkage to Health: Practical Implementations from Local to Global

In 2014, the new book "Physical Education and Health: Global Perspectives and Best Practice" of which scholars of 40 countries are contributing their chapters on the new direction of physical education and health in their respective country. All countries without exception indicated that they have child obesity problem and are asking for "changes" in physical education program. This presentation would 19nterdis these global movement of "changes" through discussions on the Global Forums for Physical Education Pedagogy (GoFPEP 2010-2016) in USA, Germany, South Africa and Turkey focusing on interactive technology, community networking, and model schools and best/good practice. Illustration with practical examples and 19nter clips taken from more than 20 countries and interactions with children and teachers in the past 5 years would be used throughout this presentation. It is na attempt by drawing the linkage these new concepts and application of a holistic health and physical education model with 19nterdisciplinar and practical approaches as one of the possible means of combating global epidemic of overweight and obesity, especially for children.

PROF. DR. J. HANS DE RIDDER
School of Biokinetics, Recreation and Sport Science
North-West University-Potchefstroom
South Africa.

Importance of Both Individual and Community Efforts to Increase Physical Activity: from a Cardiologist Perspective

Inappropriate diet, high blood pressure, smoking, physical activity and air pollution are the top risk factors for global burden of disease. It has been shown in the Western Nations that behaviors account for 50% of our health, environment and genetics 20% each and access to health care, 10%. However, 88% of the health care dollar is spent on health care services while only 4% is spent on encouraging healthy behaviors. The 4 basic components that comprise healthy behavior are non-smoking, eating 5 servings of fruits and/or vegetables per day, keeping a healthy weight with a body mass index of approximately 25, and vigorous physical activity of at least 150 minutes per week. However, less than 5% of the world's population achieves all 4 of these on a regular basis. Regular vigorous physical activity and a plant-based diet with the primary source of fat being monounsaturated fat, reduces chronic diseases including cardiovascular disease, stroke, dementia, diabetes, metabolic syndrome, Parkinson's disease, sexual dysfunction, and arthritis. In addition, these lifestyle changes not only prolong life but also the quality of

life and reduce the burden of chronic disease and fragility. For us to achieve this on a global basis, greater emphasis will need to be placed on population education on appropriate lifestyles and healthy diet. In addition, efforts to design communities that not only allow, but also encourage, physical activity must be incorporated. Also, national and international food production must be aimed towards foods that allow healthy choices as the default option, and this will require legislative actions on a national level.

DR. VICTOR MATSUDO
Physical Fitness Research Laboratory from São Caetano do Sul (CELAFISCS)
Brazil.

Agita Sao Paulo-Agita Mundo: Promoting Physical Activity and Health in the World

It is well documented that lack of sufficient physical activity (PA) has the first risk factor prevalence, the second major cause of death all across the globe, and the most expensive behavior. Although daily moderate-intensity physical activity such as walking, cycling, gardening, or climbing stairs can effectively prevent from many such incidences, considering the fact that practicing incidental, transportation-related, and occupational physical activity are substantially falling amongst different social groups, it is imperative to develop and implement efficient community-based national programs to increase the level of PA in different countries. With that purpose, Agita Sao Paulo was launched in December 1996 with the main purpose of promoting physical activity and the knowledge of benefits of active living in a population of 40 million inhabitants, comprising 645 cities in the State of Sao Paulo. A solid strategic partnership was established and involves more than 360 governmental, non-governmental, and private institutions, representing not only the traditional sectors (health, education, sports) but the non-traditional ones (transport, housing, environment, among others). The main approach has used the socio-ecological model under the Mobile Management, in which each institution was matched to one or more components of the model. A clear message was taken (all persons should take at least 30 minutes of PA per day), and social media has helped to pick up the name of the program (Agita Sao Paulo), the logo, the slogan (Thirty minutes make the difference), and the mascot (the Half-Hour Man). The program focus on three groups: Students, Workers (white and blue collars), and the Elderly. Every month the Executive Board has a meeting in which it is presented the main activities in the last month and the next events in the calendar. A combination of permanent activities, with Mega-events (Agita Galera, and World Day for Physical Activity) comprises over millions of participants, giving a high level of visibility that permitted Agita to not spend a coin in regular media, but to reach over 70% for positive recall for the brand. Main results involved: a- a higher knowledge of the PA recommendation and higher levels of PA among students from public school system (where Agita Galera happens); b- a relative decline of 41% in sedentarism in Sao Paulo Metropolitan area; c- a relative decrease of 70% of sedentarism in the State of Sao Paulo. It represents a lower demand for medical dates, laboratorial exams, drugs prescription, hospitalization, and surgeries, that represents, according to World Bank, in a saving of about 310 US Million dollars per year. Agita has inspired other countries in the continent in creating the Physical Activity Network of Americas, and the Agita Mundo Network, with members in 73 countries.

INVITED SPEAKERS

ASSOC. PROF. DR. MARIA ABULKHANOVA
Department of Physical Education and Sport Science
Moscow State Academy of Physical Education
Russia

Applying Interactive Learning in the Physical Education Area for Promotion of Health and Wellbeing in Russia

Physical education as an university subject is an integral part of developing social and professional skills of a modern successful person. Despite all efforts, the health of today's youth continues to decline. We have never gone through a more critical necessity to find new ways to engage young people to accept a healthy lifestyle as a survival skill. Modern physical education courses are dedicated to increasing the involvement of children and young people in physical education in order to improve their health and wellbeing. Research has been carried out to identify the best split between a formal education program in which students must participate and in physical education classes an online part of the program which allows the student learn the subject with at a speed which they are comfortable. The main purpose of physical education in high school is to inspire students successfully take conscious actions that protects and promote health and avoid or decrease health risks. Our students were suggested partially (in the different proportions), or completely substituted mandatory physical education classes with online courses. Interactive learning in physical education allows teachers to create a variety of educational master plans to make the classes more relevant and enjoyable. With help of the plans students can work on the development of relevant health information; set up personal goals that support health behavior; expand knowledge about healthy lifestyle standards, which should be valued in the modern society; develop the important ability to adopt, practice, and maintain health-improving behavior. Our research indicates that we should not completely substitute formal physical education classes with the online delivery of content. Nevertheless, interactive learning courses allow us to increase student's motivation to be more active irrespective of a student's past experience with physical activity and to guide them on a better fitness path.

ASSOC. PROF. DR. ANTONIO BRAMANTE
University of Brasília
Brazil

The City as a Privileged Locus to Promote Healthy Active Living under the Leisure Perspective

This presentation is based upon a case study of the city of Sorocaba, distant 100 kilometers southeast São Paulo, with approximately 700,000 inhabitants. Sorocaba is just a part of the accelerated urban process undergone in Brazil as general, moving from a rural country in the 1960's (75%) to the actual over 80% of people living in one to 5570

municipalities. This study will discuss the present-future challenges of medium/large-size cities in Brazil, which can also be applied to others developing countries, exploring alternatives in relation to its growth, stagnation or retrenchment when considered principles of a healthy active lifestyle community. In order to undertake this investigation, leisure perspective of a city will be considered, exploring elements of obligation and non-obligation of people's lives in the actual urban sites. It will be made a case that leisure dimension of life has a great impact on healthy active lifestyle as well as how the community should be prepared to undertake such a mission. Major functions of a city will be explored for the purpose of this presentation such as dwelling, working, moving and recreating. As a case study, Sorocaba will be considered during the past 50 years, from a textile city of 150,000 people to the actual administrative region headquarters with over 2 million people. How urban experiments in relation to healthy active lifestyle under leisure public policies perspectives should be considered and implemented? It is argued in this study that there should be an inversion of priorities in relation to elements of a pyramid of healthy lifestyle management in a city under the leisure perspective: construction, maintenance, programming, human resources and communication process. To conclude, some major challenges will be presented to mid-large size cities that have elected healthy active lifestyle as their future priority.

PROF. DR. IAN CULPAN
School of Health Sciences, University of Canterbury
New Zealand

Is Physical Education Worth Saving? What are the Benefits and Can Olympism Contribute to its Educative Worth?

Physical education across the globe is being questioned for its educative worth. Its future survival is by no means certain. If physical education is to make clear and coherent contributions to the education of young people then some significant re-thinking of current practices needs to occur. Reforms need to call for radical change and this needs to be led by academics collaborating and working with and alongside political decision makers, policy advisors and practitioners. The reforms will necessitate changes to school practices, teacher education programmes and community service initiatives. The future for physical education could well lie in the need for collaboration and will necessitate re-conceptualisations of the subject and compel visionary thinking. Such futurist under-taking is not without its problems. This presentation will exam possibilities for new directions and draw on some present attempts to plot a reformed future. It will highlight the importance of physical education needing to focus on creating personal and collective meanings for its learners in order for them to transfer that learning to everyday life and to address emergent social problems. With this in mind, the presentation will also focus on addressing a number of present 'pathologies' associated with the political economy of sport by capturing society's perceptions of the valued aspects of physical culture and tap into a contemporary view of the pedagogical power and potential of Olympism in order to align physical education with a moral criticality that takes it beyond traditional conceptualisations.

PROF. DR. GIYASETTIN DEMİRHAN
Faculty of Sports Sciences, Hacettepe University
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How Does Physical Activity Affect Cognitive Functions, Academic Performance and Positive Attitude?

The aim of this paper is to explain relationships between physical activity (PA) and cognitive functions (CF), academic performance (AP) and positive attitude (PA). Physical activity refers to all forms activity that requires physical effort, from simple house tasks to performance sports. This paper focuses on basic and specific movement skills, exercises, and sport skills. According to many research results, physical activity has an important roles on improving cognitive functions, raising academic performance and developing positive attitude. For instance, physical activity promotes children's and young people's health and well-being in many ways. It has also been noted to have a positive effect on learning and cognitive functions, such as memory and executive functions and, as a result, possibly on academic performance (Hilmann et.al., 2009; Kwak et. al., 2009; Tomprowski et. al., 2008). Because, physical activity is an important medium of learning offered by the growth environment, and physical activity increases brain volume and activity, in particular in regions associated with memory and executive functions (FNBE, 2012). Furthermore, many previously conducted studies have demonstrated that all forms of physical activity – from physical education to passive exercise – have a positive effect on the academic performance of children, and on the development of their cognitive characteristics. Reliable results from other studies have also indicated that physical activity has no negative effect on the academic performance of the children (Tomporowski et al., 2008). Physical activity also affects development of positive attitude. According to the results of the study conducted by Koca and Demirhan (2004), Hünük and Demirhan (2010) and Cairney et al. (2012); the attitude points of the children who do sports regularly for Physical Education and Sports are higher than those of the other children. As a result, it can be said that there are associations among PA, CF, AP and PA.

PROF. DR. LARRY DURSTINE
Department of Exercise Science
University of South Carolina
USA

The Rise of Chronic Diseases in Children: An Unwanted Lasting Legacy for Our Children

The increase in the incidents of many chronic diseases to include cardiovascular, pulmonary, diabetes, obesity, cancer, and kidney disease is presently occurring in most countries of the world and is a primary focus of the World Health Organization. These diseases extract an enormous economic and public health toll, and because of rising incident rates; attention is being paid to the comprehensive medical management for disease. The framework for the management plan is used for any disease and includes these points; proper medical supervision, appropriate medications, physical therapy, and counseling for diet, smoking cessation, and stress. Because of the low cost and the health

benefits associated with reduced risk for most chronic health conditions, daily physical activity and/or prescribed exercise programming has become an essential part of the management plan. Thus, physical activity and exercise are now known to have a tremendous positive impact on primary disease prevention and secondary disease treatment. Because physical activity and planned exercise result in favorable health benefits, exercise is viewed as a medicine. A growing concern for our children who now suffer from chronic diseases that once were considered adult diseases, and because these diseases are being encountered at such an early age, an unwanted lasting legacy of being unhealthy is to follow these young people into their adult life. The purpose of this presentation is to present the information regarding the increasing incidents and trends for chronic adult and childhood diseases, the health benefits of physical activity and exercise, and to examine the means by which physical activity and exercise should be brought back into the lives and schools of our children.

PROF. DR. KIM GRABER
Department of Kinesiology and Community Health
University of Illinois
USA

The Role of Teacher Educators in Relation to K-12 Physical Education

Teacher educators are those individuals largely responsible for educating the next generation of physical education teachers. They are individuals who are entrusted to develop certification programs that provide future teachers with the knowledge, skills, and dispositions necessary to develop and execute an effective physical education curriculum for children in K-12 schools. The landscape, however, of school physical education has shifted dramatically in recent years in response to curriculum that is considered too traditional and outdated, particularly in relation to its ability to adequately address the nation's childhood obesity and physical inactivity epidemic. The expectation that K-12 physical educators will change their practices to become more effective at producing quality physical education programs that engage children in high amounts of physical activity during the school day has necessitated that teacher educators become increasingly responsive to educating a different type of physical education teacher than in years past. Relatively little, however, is known about the individuals responsible for educating today's physical education teachers. Therefore, the purpose of this presentation is to provide a snapshot of teacher educators who work in colleges and universities throughout the United States. After conducting an extensive web search, 911 faculty from 505 institutions were contacted and asked to complete a valid and reliable survey (Graber, Erwin, Woods, Rhoades, & Zhu, 2011) that questioned teacher educators about their demographics, job responsibilities, and role preferences. In total, 505 individuals participated for a response rate of 49.2%. Although many similarities exist between today's teacher educators and those surveyed over 30 years ago (Metzler & Freedman, 1985), teachers educators today are more qualified to assume the role of teacher educator; they publish more, procure more grants on a regular basis, and are increasingly drawn to research. They perceive, however, that teacher education has not improved or is severely in trouble both at their institution and throughout the nation. This has serious implications

for physical education in K-12 schools because without outstanding teacher educators, effective K-12 physical education will be difficult to achieve.

PROF. DR. VERÓNICA VIOLANT HOLZ
Department of Didactic and Educational Organization
University of Barcelona
Spain

PROF. DR. MYRIAM GUERRA-BALIC
University Ramon Llull
Spain

Fitness Level Differences Between Advantaged and Disadvantaged Children in the City of Barcelona (POIBA Project)

The society is divided into social advantaged and disadvantaged in relation to their financial and education capital. This topic is directly related to social policies, and it is necessary to describe the real situation to be able to act and prevent inequalities and disadvantages in children with a future society exclusion. The POIBA project consist of designing and evaluating a multicomponent intervention to prevent overweight and obesity in school children, considering social and gender inequality, to improve nutricional habits, increase physical activity, decrease screen activities and increase sleeping time. The intervention was applied on children, families, school and community, and consisted of nutritional education, physical activity programs including physical educators and healthy lifestyle educations. All children were tested before and after the interventions, and later a follow up is planned to be performed to control ischanges on habits appeared. The first results obtained from the POIBA project, leadered by the Health Agency of the City Council of Barcelona, involved 3279 boys and girls of 7-10 years old divided into two groups: Advantaged group (n=1829) and Disadvantaged group (n=1450). The criteria for dividing groups was according to the Gross Disposable Household Income (GDHI), an ecological indicator that measures the average family purchasing power for each neighbourhood; neighbourhoods with a GDHI ≥85 are considered to be advantaged and those with a GDHI <85 to be disadvantaged. The fitness test performed were: vertical jump, ball throwing, horizontal jump, zig-zag running test, 20 m run velocity test and 20m shuttle run test. Significant worse values in the disadvantaged group appeared in all the field tests performed. Moreover, the disadvantaged group presented significant higher values of BMI This overweight/obesity might determine their fitness levels.The study was partially funded by FIS (PI09/02259), Spanish Ministry of Economy and Competitiveness, coordinated by Carles Ariza-Cardenal. Other coauthors are F. Sánchez-Martínez, J.Cabedo-Sanromà and G.Serral.

DR. GERDA JOUBERT
Biokinetic Association of Southern Africa (BASA)
South Africa

Biokinetics: Bringing Theory into Practice

Addressing the policies (HPCSA) and legacies (LTMIC) within the profession of Biokinetics, the aim is to prove and ensure the position of the profession within an integrated Health, Exercise and Sport Science system. Clarity will be provided as to the definition of Biokinetics and a correlation made between international counter parts for the profession. Supply and demand needs to be balanced within a profession and determines not only the success of a profession but, also the longevity of such a profession. The relevance of what the academia is offering and the question of whether it still meets the ever changing practical world of a growing profession needs to be addressed; not only in the context of SA and Biokinetics but internationally as well. Adjustments within the curriculums offered by training institutions may need to be jointly re-visited by the relevant training institutions, associations representing the private practitioners as well as taking in consideration government representation on future plans for the health and wellness industry of a country through the integration of Health, Exercise and Sport Sciences. Practical knowledge and experience in the field of Health, Exercise and Sport Sciences is of great importance. Introduction of a 4year professional degree for Biokinetics can address the gap experienced between theoretical and practical knowledge as well as practical experience gained during the study years; going a long way in elevating the practice shock experienced by first time practitioners. Can an increased focus on WIL (Work-Integrated-learning) be a possible solution in countries where the majority of the population consist of a low-skilled work force? The call for a mid-level worker in integrated Health, Exercise and Sport Sciences to meet the SA populations' need in health maintenance on ground level seems to be the topic of the day. However, in all mega-events, any policies made and legacies left in Integrated Health, Exercise and Sports Science the question should be: Is it implemented in the practice, to the best interest of the recievers?

PROF. DR. GULSHAN KHANNA
Faculty of Applied Sciences
Manav Rachna International University
India

Impact of Indian Professional Leagues and International Competition on Health Promotion

Sports, games and physical fitness is a vital component of Indian civilization. In its National Sports Policy it has been emphasized the need to integrate sport and PE for improving the health standards of people. Indians sports policy has also mentioned that sports should be for all and it will lead to better lifestyle and promote Health. All these things have been after the 2010 Commonwealth Games. India has launched a number of professional sports leagues to develop the sports culture and possibly with the objective to popularize the sports and physical activity and promote the health of the young population. Cricket,

football, badminton, tennis and kabaddi have already entered into the commercial sports scene. Whether it has increased the participation of the youth in the respective sports and has ultimately leading to decrease in the life style problems is still questionable and requires further in depth analysis. India has the largest youth population. Youth development through sport development assumes immense relevance for particularly keeping the young population Healthy and fit which will have positive effect on national development process too. Studies have indicated that the life styles diseases are rising in India. Reasons can be due to failure to implement the policy to create a sports culture and legacy and other factors associated with the sports development. Indian Sports Leagues and the associated partners, organizers and federations may have to take the collective responsibility to promote Olympic charter i.e. peace, prosperity, equality and community health. The impact of the popularization of sports through leagues has not yet been transferred to the School education and sports program and participation of children in the sports has not shown any significant increase. There is a need to promote healthy lifestyle by transferring the physical inactive population to active population by adopting the Olympics charter by various Sports League promoters so that young populations takes the sports and adopts in their lifestyle and be healthy.

ASSIST. PROF. DR. MARGARET KUO
Department of Tourism and Leisure Management
China University of Technology
Taiwan

Traditional Chinese Herbs for Anti-oxidation and Health Promotion in Chinese Population

Cells continuously produce free radicals and reactive oxygen species as part of metabolic processes. Exercise, especially when exhaustive, is also known to induce oxidative stress, inflammation, and muscle damage. Researches have been carried out to identify dietary strategies able to prevent or at least attenuate the exercise-induced muscle damage and stress. Therefore, dietary antioxidant supplements are marketed to and used by athletes as a means to counteract the oxidative stress of exercise. It was seen how mega-events are characterized by their large dimension, mass popular appeal and international significance. After olympyic games, “eat like an athlete” is a habit that many people will follow. This presentation focuses on review papers of traditional chinese herbs which olympians used and discuss the role of herbs supplement for anti-oxidation and health promotion in Chinese population. Astragalus is used for immune enhancement and maintaining overall health. Cordyceps is a Chinese mushroom which used for many conditions, including fatigue, respiratory disorders, sexual dysfunction, enhancing the immune system, and improving athletic performance. *Eleutherococcus senticosus* may neutralize free radical created while exercising, a supplementation of *Eleutherococcus senticosus* may protect cells from free radicals damage after exercise. Phenolic or flavonoid compounds have also been recognized as potent antioxidants. Studies have shown that the active components of the yin herbs are mainly flavonoids. *Spatholobus suberectus, Sanguisorba officinalis* and *Agrimonia pilosa* were reported to contain flavonoids. Ginseng is marketed for many purposes that may relate to athletes, but the

most common are to increase physical power, restore Qi or life energy, increase overall health, enhance immunity, and increase vitality. Rhodiola, which directly enhance performance. The nutritional support of Chinese herbs are needed for not only athletes but also for young and old adult who wants to improve and extending their quality of life.

ASSIST. PROF. DR. MIROSLAV PETR
Department of Physiology and Biochemistry
Faculty of Physical Education and Sport
Charles University-Prague
Czech Republic

Exercise Genomics: Is This a Way Towards Personalized Exercise?

Regular physical activity is a basic component of living a healthy lifestyle. Specifically, physical activity reduces the risk of cardiovascular disease, diabetes, and obesity. However, maintaining optimal health and experiencing a better quality of life in the future requires the proper volume and intensity of physical activity. Although performing long durations of light aerobic exercise on a regular basis is commonly recommended, the HERITAGE study from Bouchard et al. (2012) showed that adaptive responses to such exercise regimes can be highly individual, not only in relation to exercise-related adaptations, but also for other health-related parameters. Along these lines, it is important to realize that the systemic stresses placed on the body during exercise are also highly individualized. In fact, it has been shown that one's genetic makeup plays a large role in not only sport-related traits (Simoneau, Bouchard, 1995; Fox et al., 1996) but also adaptive response to exercise (Bouchard et al., 2012). Recently, several diagnostic tools, including genomics, are used to optimize exercise stimuli to improve adaptive responses. The most promising genomic diagnostics, supported by research, will be presented and discussed.

DR. SHARON PHELAN
Lecturer in Physical Education and Dance
Institute of Technology-Tralee
Ireland

Eirerobics: Dancing Towards Fitness the Irish Way!

In dance, the entire body (physical and psychological) is the tool of expression. As a result, all aspects of fitness are needed to dance to full potential. Today, dance has evolved into a popular fitness tool and research has highlighted certain lifelong benefits. These include improved cardio-vascular health, amended motor skills, enhanced perceptive powers and memory skills, increased flexibility and muscular strength as well as a healthier mental state. Different dance forms have different fitness strengths; line-dancing provides a moderate aerobic workout; Hip Hop challenges fine motor skills and ballet improves balance and co-ordination. However, while certain dance forms focus on specific elements of fitness, it is necessary to consider all components of fitness during a dance fitness course. This may mean adopting or adapting particular dance forms, types and styles.This

paper, will focus in Irish dance as a fitness tool. Often termed Eirerobics, this recent phenomenon is largely present in Ireland and in America. Irish dance is particularly useful as it has many differing types and movement styles. As the latter vary in tempo, pace, use of space and the body, Eirerobics can appeal to a wide audience. For instance, dancers wishing to improve their aerobic fitness, usually progress from moderate Eirerobic Workouts using Irish jig rhythms to advanced Eirerobic Workouts using faster reel rhythms. As we understand and develop more appropriate Irish dance fitness training methodologies, the benefits are twofold. On one level, professional Irish dancers with companies such as Riverdance, will gain improved performance and longevity in their careers. However, on a more imprtant level, everyday Irish dancers will gain improved health and longevity in their lives. During this paper, as the speaker addresses Irish dance from fitness-based perspectives, she will also provide live demonstrations to affirm the academic theories presented.

PROF. DR. GURMEET SINGH
Sports Department of Physical Education
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India

Practical Implication for Long-Term Athletic Development to Assist Coaches with a "Best Practices"Model to Develop a Movement, Physical and Sports Literacy that Improve Athleticism

This presentation will offer a framework for practical, functional, and sequential skill development to assist coaches with a "best practices" model to develop a movement, physical literacy, and movement skills that improve athleticism. The LTAD must start at the youth level. This presentation will focus on ages 5–15 years. To date, little has been done to provide youth coaches with knowledge of how to teach and develop proper movement techniques. Coaches are left often with an excessive number of competitions, incomplete athlete development, and an emphasis on sports-specific skills only. Many athletes suffer systemic overuse injuries caused by improper training and repeated sub-maximal repetition stress, followed by inadequate recovery. A successful LTAD program must implement and become committed to coach education at all levels. It should be coach-driven and athlete-focused in an attempt to create a family concept, and include proper training, competition, and a recovery plan.

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Through the Lenses – 'A China Study' on Media Coverage of Health, Nutrition and Wellness.

The main objective of this presentation is to observe China's paradigm shift in media

coverage of health, nutrition and wellness. It is a close-up look at China - through the lenses of the speaker and China journalists - and the causal relationship between the country's demand for better health and the changing social and journalistic responsibility of its media to satiate the masses' hunger for immense knowledge on health. Traditional news media fulfill this need by boosting the scope of coverage. A lift in Government ban on the sensitive issue of food safety prompted pioneer media – *CCTV News, The China Daily* and *Global Times* – to provide better health information to society. Their repertoire of stories go beyond health crises, expanding interest to lifestyle impacts on health. Precedented by China's pursuit for a higher quality of life and the demand for healthier and safe foods, food and nutrition dominate more media attention. As this phenomenon is in parallel with China's astronomically escalating cases of life-threatening cancers and lifestyle-related diseases, China's social media network goes viral leading discussions on health. Its famed microblog SinaWeibo, with 600 million registered users, runs endless discussions on 'yang sheng', a traditional concept of natural health, maintenance and prevention. Phone app Wechat and local lifestyle shows follow suit and are not shy of huge followings. The World Health Organization actively engages the Chinese public in ongoing conversations on how individuals can improve their health. On tobacco control and second-hand smoke alone, WHO's platform on Weibo has 480 million reads to date. The China experience evidently reflects an increasingly contagious appetite for health journalism and the media's powerful influence as disseminator, educator and advocate. China media's diversely expanding interests in health trendsets a great leap forward that editorial decision-makers now consider and adopt holistic angles in their coverage.

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Brazil

Sports, Leisure and Health Promotion: Potential Legacies from the "Sports Megaevents of the Decade" in Brazil

Brazil has recently gained attention in the world where special thought is given on how the country would hold the so-called "sports megaevents of the decade": a) Pan American Games Rio 2007; b) Parapan American Games Rio 2007; c) 5th CISM Military World Games 2011; d) FIFA Confederations Cup 2013; e) FIFA World Cup 2014; e) Olympic Games Rio 2016; and, f) Paralympic Games Rio 2016. The legacy was born as an opportunity to discuss investments and where they would be applied - before, during and after the event, as well as benefiting the lives of the inhabitants in the host cities. Events on a global scale can also stimulate new sport and physical activity policies and leisure programs. Several local representative entities, like sub-town hall, reference centers, district associations, labor unions, state parks administration were seeking led policy development. Therefore, the sports megaevents of the decade stated a unique opportunity to promote public health and improve the awareness of the benefits of physical activity, leisure and sports.

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Optimal Physical and Cognitive Rest after Sports-related Concussions in Youth

Sports-related concussions are a major public health problem in the US, affecting 1.6 to 3.8 million youth each year. These concussions can disrupt brain function and contribute to long-term severe health conditions. Current guidelines for early clinical management of sports-related concussions call for physical and cognitive rest. However, these guidelines are not strongly evidence-based. Furthermore, the optimal levels of physical and cognitive rest needed to promote recovery are unknown, precluding personalized rest plans for youth with different concussion characteristics. The *aims* of this study are to: 1) objectively measure the physical and cognitive rest among youth with sports-related concussions, 2) identify optimal levels of rest in relation to post-concussive symptoms (PCS) and functional impairments, and 3) examine the relationship between the levels of rest and PCS and functional impairments for high versus low risk concussions. Youth ages 11 to 17 years old from 18 schools (15 high schools and 3 middle schools) were recruited and enrolled at the beginning of season through sign consent from parents and assent from youth. Following a confirmed concussion diagnosis, injury information and acute clinical presentation were assessed at the time of injury as part of routine clinical care. Participating youth were followed to assess concussion outcomes, including functional impairments, at three time points: within 48 hours of injury, and at day 7 and day 45 post-concussion. A parent/legal guardian of the concussed youth were also asked to report his/her child's post-concussion outcomes at the three time points. In addition, participating youth were monitored on daily physical and cognitive rest and PCS, using two electronic devices (Actigraph and Narrative Clip) and daily survey in various lengths until acute symptoms resolve. Objective and real-time data on the type, duration, and intensity of physical and cognitive rest/activity, collected here for the first time will help fill critical knowledge gaps regarding the level of rest needed for optimal recovery from high- or low-risk concussions. More importantly, the results will have a significant impact on clinical practice by shaping standards of care and informing treatment decisions about optimal rest/activity for sports-related concussions among youth.

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Functional Assessment of Human Performance in Prevention and Rehabilitation of Injuries

In addition to traditional orthopaedic assessment, functional testing of the subject's speed, strength, endurance, body balance and mobility is commonly performed with aim to estimate injury risk and track rehabilitation progression over time. Isokinetic dynamometry

was introduced in the late 1960s and to date it has been the standard diagnostic tool to measure the strength of single muscle groups, especially the thigh muscles. The most frequently used isokinetic cycle ergometry allows evaluation of peak and mean values of force and power produced at various revolution rates by the left and right leg. This measurement provides valuable information on lateral functional deficit due to injury. Despite the many advantages of isokinetic machines, which allow the collection of accurate and consistent data in a safe, controlled manner, they do not simulate sport-specific movement patterns. For most athletes, this means assessing their capability to produce muscle power under conditions similar to performance. Additionally, such diagnostic systems are costly and require sophisticated laboratory installation, and thus are not applicable for use in everyday sport or rehabilitation practices. Once the formal rehabilitation period is over, athletes usually continue in a supervised exercise program in order to speed up recovery and prevent re-injury. Since most of the exercise programs are performed in fitness centres, reliable evaluation tool using portable diagnostic systems is needed. In order to partly fill in this gap, our research was centered at development of evaluation protocols for tests of strength and power of knee extensors and knee flexors, speed of step initiation, core strength and stability, static and dynamic balance, and so forth. Experience indicates that these tests represent a suitable practical alternative for the screening of individuals at higher risk of lower limb injury or back pain, as well as for those conducting post-rehabilitation exercise programs after different types of injuries.

WORKSHOPS

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Contemporary Dances to Reflect Chinese Culture and Philosophy

Chin's Dance = Chinese culture + Chinese Philosophy + Health + Martial art + + Contemporary Arts

The Chinese culture and philosophy got over 5000 years in history, while martial art and is one of the most representative elements in it. Through applying these elements into simplified contemporary dances, the general public can easily get in touch with dances and getting good health and be able to sense the spirit of Chinese culture particularly the feeling of harmony with the nature. Chin had produced 8 series of martial art and dances for reflecting the source of the martial art, principle of movement, Yi philosophy, the five elements of nature, health and living philosophy. Chin will explain the creation process of these 8 series of dance including how she did the research and development. We see and feel then we dance, we dance to show what we see and feel, that means dance is a body language. It is therefore dances are the history of people's culture and philosophy. Thus Chin's dance tells the contemporary ways, shows the culture and spirit of Chinese. Through explanation, video and participation and embodiment, this workshop may lead students and professionals to understand what Chin's dances bring to them..... Chinese culture, Chinese philosophy, good health, spiritual state via contemporary dynamic movements.

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Physical Activities/Practices in Favor of Health as a Possible Legacy to the 2016 Rio Olympic Games

The Olympic Legacy go beyond sports. From this perspective, the health promotion is considered part of the social impacts and can include the encouragement to the physical activities. However this is a critical issue. When we talk about health, we must consider

numerous aspects such as public policies, access the population has to leisure equipment and venues, improvements to urban infrastructure, hiring of Physical Education professionals, physical activities/practices and so on. Therefore, it is a complex matter to be thought over. Physical activities/practices which are integrated in people's routines are fundamental to the improvement of one's health and can bring countless benefits to the quality of life. Consequently, it is essential to guarantee the population access to informative actions of physical activities/practices in order to foster a healthier life style. In order to make that happen, it is necessary to construct effective public policies of sports and leisure which consider as indispensable the offer of venues and sports equipment to the population as well as human resources which include the participation of Physical Education professionals in the planning and practice orientation. In addition to that, the promotion of researches can form a solid base both to the process of intervention along with the population and the follow up for the programs to evaluate and improve them. This workshop is aimed at presenting research data which indicate that physical activites/practices contribute to a healthier/better life style and can be a legacy of the 2016 Rio Olympic Games held in Brazil.

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The Use of Basic Anthropometric indicators in Health

Basic anthropometric measurements for example body mass, height, waist and hip circumferences are most appropriate for use in field settings to determine the morphological and health profiles of adults. The major advantages of anthropometric techniques are, they are non-invasive and the equipment is commonly portable and therefore suited to use in a wide range of settings. Over the last two decades, the prevalence of overweight and obesity has increased at an alarming rate. A major concern is that overweight and obese people have a relative high risk of developing diseases and disorders associated with excess body weight and body fatness. Because of these public health implications, the epidemic increase in overweight and obesity has stimulated much interest in identifying accurate ways to assess the body composition and morphological profiles of these patients. The aim of this workshop is therefore to demonstrate basic anthropometric measurements to do health profiling in adults. Anthropometry is often the preferred approach, because it is relatively inexpensive and can be used as a field method in both urban and in rural situations. Field methods are commonly used in clinical settings to estimate body composition for the purpose of classifying the levels of body fitness.

Anthropometric measurements may also be used as markers of adiposity or of fat distribution. However, anthropometry requires adequate training by experienced professionals and also quality control. The range of body composition assessment methods is extensive and range from relatively simple and inexpensive field methods to more complex and expensive laboratory techniques requiring advanced equipment. The latter are therefore out of reach of most health workers and therefore it is important to teach the correct and reliable method for taking basic anthropometric measurements.

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Easy and Accurate Way to Assess Posture in Schools: New York State Posture Evaluation Test

Posture as the baseline of body positions is formed during the process of normal motor development of the person while sitting, lying down or standing, and while walking, running, bending, leaning etc. These static and dynamic positions are defined according to the interactions between the body parts and the gravity line. However, the positions that the joints bear the least workload are considered as correct-good posture, which requires strong muscles, flexible ligaments and muscles and good joint control (Kendall et al, 2005; Magee, 2014). On the other hand, the body composition, weight status, physical and emotional features and health of the person may affect the posture (McGinnis, 2013). For instance, the postural faults common among school children as flat foot, kyphosis, scoliosis, flat back are mainly due to wrong sitting or standing positions at home and at school, if they are not the consequences of musculoskeletal or neurologic problems (Horak, 2006; Cho & Choi, 2005). Therefore, it is important to screen the posture of the children to observe them while growing and increase the awareness of the teachers and the families for preventive measures. New York State Posture Evaluation Test is an accurate and easily performed test scoring the amount of the postural changes according to its chart on 13 items and a point was issued for each item as follows: 5 for normal, good posture; 3 for slightly effected posture; 1 for severely effected, malposture. The total score achieved was compared with the norm table where the rating score were ≥45: very good; 40-44: good, 30-39: medium; 20-29: poor, ≤19: very poor, bad posture (Magee, 2014). Thus, the purpose of this workshop first is to provide knowledge on posture and postural problems common among the school age children, and than, how to evaluate the postural status of the students (with and without any disability) by using the New York State Posture Evaluation Test. The workshop is intended for students and professionals who are interested in learning how to evaluate the body posture.

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The New Trend and Connection of Physical Activity and Sports to Health for Women in Iran: From the Middle East Perspective

Iran is located in Middle East. The population of Iran is almost 80 million and extremely diverse. The official religion is Shiite Islam, practiced by about 90% of the population. According to historical documents during all previous ages, until now (because of obedience of religious rules or culture) covering hair, and having long dresses has been practiced by majority of Iranian women. After the Islamic revolution Sex-segregation in schools and Having Hijab in public places became obligatory. But, this situation did not cause any limitation in social and individual progress of women including sport/exercise activities which made them distinguished in middle east countries. Although participating in some international competitions has been impossible for Iranian women because of their dress code, but the progressive participation of women in exercise/ physical activity for health is obvious. According to Islamic rules women are recommended and participate in exercise/sport activities for their health. During 20 years ago until now, Iranian women have experienced real revolution in women sport. Simultaneous to improvements in women education and social contribution, women physical education in schools and universities, recreational and professional sport, number of female coaches, sport associations, and sport clubs has improved. In main organization of sport the hierarchical level of women role has been improved. Despite all of all these progresses in sport /physical activity, prevalence of non-communicable disease such as breast cancer, obesity, pregnancy problems and osteoporosis are increasing and physical activity is discussed as preventive method. Shortage of physical activity in Iranian women is discussed as an effective factor. Some important barriers for sport participation of Iranian women according to available studies include shortage of facilities, high expenses, lack of family support, lack of motivation, business and shortage of information through media especially for women. The trend and cause of women exercise/sport activities progress of women, prevalent health problems related to inactivity and barriers of women physical activity in Iran will be discussed in the workshop.

FUTURE LEADERS/VOLUNTEERS POSTER

Differences in adolescent lifestyle based on educational level and professional orientation

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Introduction: Adolescence has been referred to as the “last best chance” to prevent adult non-communicable diseases (NCDs). The reasons include the fact that the earlier some risk factors appear, the greater the impact they are going to have on future health and that habits acquired during adolescence are difficult to change once stablished. A considerable body of research has showed a tight interplay between social, educational and health outcomes throughout the lifespan, to the point that the interrelation between health behavior and educational pathways in adolescence has been suggested as one of the mechanisms leading to health inequalities in adulthood. Specifically, occupational careers have been associated to worse health outcomes than academic ones. We also hypothesize that the area of knowledge of these careers (health, technology, arts) will entail differences at the same educational level. While public policy plays an important role in preventing these differences, identifying them also allows the development of more appropriate non-policy actions to leverage inequalities. Objective: The aim of this study was to identify potential differences in adolescent lifestyle based on educational level and professional orientation. Methods: A descriptive cross-sectional study was carried out in a simple of 646 adolescents between 14 and 18 years old from different SES public and private high schools in Barcelona (Spain). Adolescents were handed a folder, which included the VISA-TEEN questionnaire, a validated tool to assess different dimensions of lifestyle, plus basic sociodemographic questions. A member of the research team was always present during the session. *Opt-out* informed consent was obtained from both, adolescents and their parents or legal tutors. Descriptive analysis was conducted using mean and standard deviation parameters. For comparative analysis, ANOVA with Games-Howell post-hoc test were run for every variable. Major Findings & Discussion: Our results indicate that there exist differences in adolescent lifestyle based on educational level and professional orientation, supporting the need to adapt health promotion actions to different groups depending on their characteristics and needs. Further research is needed to elucidate whether these differences are extensible to a wider sample and, in case it is, to investigate how to better deliver health promotion activities in different educational groups.

Taking Mental Training into Schools - Polish Perspective

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Introduction: Sport psychology can be influential in helping to ensure that the sport experience contributes positively to the childrens' self-concept, and the acquisition of positive values and healthy coping skills. Sport psychology knowledge can be useful for counseling services to youngsters for whom physical activity participation is and should be an important part of their lives; knowledge and experience of „mental skills training" tools can help to improve: managing their emotions, choosing a positive attitude, etc. Although learned in the school context, these are the same life skills necessary for success in other goal-oriented environments; The main aim of the study was to investigate the usefulness of mental training techniques in teaching process for physical education (PE) teachers. Methodology & Subject Characteristics: From January until July 2017 workshops for Physical Education students from University School of Physical Education in Poznan and 22 teachers from five high- schools in Poznan were made. Investigated 98 students (52 man and 46 women) varied in age from 19 to 21 (M= 20) and 22 teachers (15 man and 7 women) varied in age from 24 to 59 (M= 41,5).Seven workshops for 6 groups of students and 7 workshops for 2 groups of teachers were prepared. Each workshop took 90 minutes. They were conducted by experienced sport psychologist with an academic background. The workshops were focused on the Time Management, Goal Setting, Team Building/Group Projects, Stress Management, Intrinsic and Extrinsic Motivation/Rewards, Team Captains, Motivation. To investigate the teachers who complete programs a qualitative approach was used. In the individual semi-structured interviews (30 minutes each, 5-8 open questions) 10 participants (5 teachers and 5 PE students), discussed their experience of workshop involvement. Interviews were tape-recorded and the tapes were analyzed. Inductive content analysis were adopted to identify raw data themes and higher-order themes that emerge from the verbatim semi-structured interview transcripts. Results: The general dimensions for teachers and students are: school climate, student-teacher relationships, teaching styles, academic expectations, safety and discipline, student voice, communication, goal setting, and improving student learning. The most useful workshops for them were about motivation and dealing with stress. Teachers pointed their lessons might be more dynamic and active after the workshops. They believe that in order to teach physical education using mental techniques is challenging for them, but taking risks is well worth the benefit. Conclusion: Research shows that an inspiring and informed teacher is the most important school-related factor influencing student achievement, so it is critical to pay close attention to how train and support both new and experienced educators. In Poland mental training workshops for teachers are not popular, idea was borrowed from Australia (Victorian Education State Plan). The results of our research, highlight the similar benefits of the mental training workshops like in Australia study.These results strongly support the utility of integrating the program into classrooms to ensure all students have the opportunity to learn for life. This program has the potential to build resilience and enhance learning

The effect of resistance exercise intensity on the arterial stiffness and ankle brachial index (ABI).

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Introduction: Arterial stiffness has used to predict cardiovascular disease. There are numerous studies have shown that endurance exercise decreases arterial stiffness; however, the effect of resistance exercise is controversial. Therefore, this study was aimed to examine the acute effect of resistance exercise intensity on the arterial stiffness and ankle brachial index (ABI) of healthy adults. Methods: Twenty healthy young participants (10 men and 10 women; age 21.69 ± 1.94) were studied under parallel experimental conditions on two separate days. The order of exercise was randomly assigned between a protocol of high intensity resistance exercise (HRE; 80% 1-RM) and low intensity resistance exercise (LRE; 50% 1-RM) consisting of three sets of 8 repetitions (lat-pulldown, bench press, triceps push-down, dumbbell curl, leg extension, leg flexion, leg press, squat). Arterial stiffness (brachial-ankle pulse wave velocity; baPWV) and ABI were measured pre-exercise, immediately after exercise, at 15 min, and 30 min post-exercise. Results & Discussion: There was a significant reduction in baPWV in response to HRE immediately after exercise (p = .034) and at 15 min post-exercise (p= .016), but, no significant change at 30 min post-exercise. Similarly, HRE significantly decreased ABI immediately after exercise (p = < .001) and at 15 min post-exercise (p = .01), but no significant change at 30 min post-exercise. Neither baPWV nor ABI changed significantly in response to LRE. There was a great significant ABI difference in measurement time but no difference in exercise intensity. Conclusion: An acute bout of HRE decreases arterial stiffness and ABI in young healthy adults, whereas LRE did not have any impact.

The types and levels of physical activity and sedentary behaviour of Senior Phase learners in Potchefstroom

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Background: Worldwide, the health risks of decreasing physical activity levels and increasing sedentary behaviour among adolescents are a raising concern. Regular engagement in moderate to high-intensity physical activity has been shown to protect the individual from chronic diseases and conditions such as obesity, diabetes and coronary heart diseases, to promote bone development and bone strength, and to provide psychological advantages such as self-confidence and self-image. Objective: To determine the types and levels of physical activity as well as that of sedentary behaviour of a group Senior Phase learners in South Africa. Methods: The adapted Children's Leisure Activities Study Survey (CLASS) questionnaire was used for determining the types and levels of physical activity and sedentary behaviour of 230 Grade 7 learners, from three schools in Potchefstroom. Data were analysed by means of the SAS statistics programme, and descriptive statistics, as well as independent t-tests and effect sizes (ES) were used. Results: Moderate to high-intensity physical activity levels of between 334 and 361 min per week were found, and sedentary behaviour of between 3077 and 3410 min per week, which implies that between 70.7% and 71.9% of the participants, did not meet the recommended health-based guidelines. Higher activity levels were shown during weekends, where the boys were significantly more active than girls ($p < 0.001$; ES between 0.21 and 0.56), and girls showed more sedentary behaviours than the boys (ES

between 0.18 and 0.20). The leisure time physical activities with the highest participation were soccer, recreational swimming, jogging and dancing, while the sedentary activities were listening to music, riding a vehicle and being busy on the phone. Conclusion: Strategies need to be implemented to raise the physical activity levels of Senior Phase learners, especially during weekdays, and to decrease sedentary behaviour. With this view in mind, recommendations are made for Physical Education teachers.

Physical activity among primary school children residing in the city of Poznan in Poland

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Introduction: Regular physical activity (PA) during childhood is associated with improvements in numerous physiological and psychological variables. Therefore there is a need to control the amount of PA undertaken by school-age children. The purpose of this study was to objectively assess PA of primary school children from the city of Poznań of Poland by sex. Methods/Methodology: The study involved 95 children (55 girls, 40 boys) aged 10 to 11 years (10.5 ± 0.5 years) from three primary schools. The participants were recruited from the same grade level of standard urban schools. Additionally, the group of participants was divided into two groups (by sex) of those with extra and without extra PA during the leisure time (active girls/boys and inactive girls/boys). Participants were using a Garmin Vivofit (USA) activity tracker, which monitored the number of steps taken daily over a period of 7 days to measure daily PA. Declared PA was measured by the questionnaire. Height, weight and body mass index were assessed according to standard procedures. Anthropological measures were taken during physical education classes. Descriptive statistics were calculated for all measurements. Sex differentials were assessed using Student's *t*-test, while differences between active and inactive girls/boys were assessed by the use of the Mann-Whitney *U*-test. Results & Discussion: Objectively determined data from our study indicates that the entire study sample did not achieve the recommended daily average of 12.000 steps per day when step counts were averaged over the 7-day week. PA (step counts) does not varies by sex in children from the Poznań city of Poland. The results show that both girls and boys achieved a comparable number of steps and also the comparable level of declared PA. PA on weekend days was lower than on weekdays in both sexes. When comparing active and inactive girls/ boys, a significant difference was found in declared activity only between active vs. inactive boys (5.2 ± 1.7, 4.3 ± 1.2 day/week, respectively). The findings showed that there is a need to create a habit of spending leisure time in an active way among primary school children. In view of the health implications of these findings, community-based strategies designed to facilitate effective and sustainable PA intervention programmes in schools are recommended.

Effects of mobile application-delivered intervention to increase physical activity levels and reduce sedentary behavior

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Introduction: The use of mobile applications to promote healthy diet, increased physical activity, weight control and water consumption is increasing. There are thousands of applications available today and as it is estimated that by 2020, 90% of world's population aged over 6 will have a mobile phone the number of applications will only grow. It is of vital importance that these applications contain and promote research-based content to utilize positive influence on users' perceptions, habits and actions. The aim of present research is to explore the effects of online software for personal training adapted for use within educational system on physical activity (PA) levels and sedentary behavior. Methods/Methodology: A convenience sample of 104 high school students (mean age 16.45±0.95, F 71.2%, M 28.8%) were included in the study after signing informed consent and divided into control (49, 47.1%) and experimental (55, 52.9%) groups. Research-based and professionally supervised exercise program was created by Physical Education (PE) teacher and delivered to students in experimental group via dedicated mobile application. Students were instructed to follow the program in the afternoon or evening, outside school hours for 12 weeks. Both groups participated in standard PE classes two times per week and were encouraged to engage in everyday leisure-time physical activity. The Physical Activity Questionnaire for Adolescents (PAQ-A) was used to assess students' physical activity levels. A Mann-Whitney U test was run to determine if there were differences in PAQ-C items' scores between control and experimental groups. Results: Thirteen (23.6%), 40 (72.7%) and 2 (3.6%) experimental group students participated in the program once/week, 2-3/week and every day, respectively. Total PA levels were moderate for both groups with experimental group having somewhat higher result (median 2.9; mean rank 57.94) than control group (median 2.7; mean rank 46.4) and the difference between groups approaching significant level ($U = 1.646$, $z = 1.952$, $p = .051$). Significantly higher ($U = 1.884$, $z = 3.632$, $p = .000$) moderate-to-high PA was reported during evenings for experimental group (median 4.0; mean rank 41.54) than moderate PA in control group (median 3.0; mean rank 62.26). Experimental group also reported higher PA during each day last week (median 3.3; mean rank 58.46) than control group (median 2.9; mean rank 45.81) with significant between-groups difference ($U = 1.675$, $z = 2.139$, $p = .032$). Discussion & Conclusion: Recent review addressing technologies to promote health and lifestyle changes states that digital health technologies will play a prominent role in future cardiovascular disease management, risk management and delivery of care. At the same time, a review of the most popular commercial applications for weight management indicate that these applications are associated with behavior change but "more attention to information quality and evidence-based content are warranted to improve their quality". The content of mobile application used in this study is created by University professors and implemented and supervised by PE teachers. It aims to provide individualized content based on student's personal preferences. It is a tool for PE teachers to reach their students during leisure time, monitor their progress, provide feedback and effective real-time communication. It can be used to create exercise programs but also to increase students' motor skills and address healthy eating habits and lifestyle choices.

Virtual Reality Applications Used by Physiotherapists inTurkey

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Virtual reality (VR) technology is becoming popular in physiotherapy and rehabilitation and as well as in motor control studies[1]. It is an interactive, computer generated environment simulating the real world[2]. Virtual environments (VEs) can be developed to present simulations to assess, treat and rehabilitate the human functional performance under a range of stimulus conditions that can not be easily delivered and controlled in the 'real-world'[3]. VR applications, which are tools for measurement and analysis, and also video games for rehabilitative purposes are to improve upper limb function, gait and balance of the person. However, it is also considered as safe and easily applicable interventions that is aiming to improve the participation of the person to social life. Virtual reality is developed by the sensor based technology that is using sensitive motion and weight capture hardwares. These hardwares are integrated with a virtual reality software, which creates a computer generated environment. Virtual Reality in Turkey - In Turkey, physiotherapist are quite enthusiatic to utilize VR technologies in their rehabilitation programmes. For instance, measuring the range of motions (ROM) of extremity joints the motion capture technology (Fizyosoft® KinectROM[4]) can be preferred as an assessment tool. For small joints such as hand joints, there are more specialised sensors and softwares having an infrared camera technology (Fizyosoft® HandROM[4]) to measure the ROM of fingers and wrist. This VR technology available in Turkey, also allows to save data on joint movements (angle, velocity) as well as the person's postural analysis outcomes that may provide the utilization of these detailed information in different stituations during the process of the rehabilitation programms. One of the other common virtual reality hardware is weight plates analysing the static/dynamic balance of the person. The software (Fizyosoft® Balance System[4]) is to analyse the position of the centre of pressure in frontal and sagittal planes are commenly preferred by the physiotherapists for rehabilitative purposes as well as for assessment of balance. Virtual Reality Games - All of these VR softwares can be utilized for exercise applications. Physiotherapists can use these applications as video games besides the conventional exercise programmes[5] to increase ROM of a joint or to improve balance of a person. Since it is effective in developing balance, coordination and upper extremity functions, video based games are recently considered as a new treatment modality that increases the motivation and the participation of person, additionally it entertains the person while giving the target training[6]. However, studies have shown that VR games have detractive effect on phantom limb pain of amputeed population[7] and have positive effect on balance of children with mild cerebral palsy[8].

Creation and verification of effectivness of our new "Music-based physical educational program for pre-school children"

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Introduction: In today's technology based world, people`s interest and time availability for physical activities and sports are fading. Children's natural need for movement is pushed to the sidelines. The first generation in this way growing up children, begins to feel on their

psychical and physical health consequences of the lack of movement. Contemporary professionals, but also the general public, try to solve all problems that arise from this one-sided interests and attitudes of adolescents to the world. Researchers in pedagogy and psychology agree that the key period for a positive attitude towards physical activity is a youth, which is also a key period for building a positive relationship to the active and healthy lifestyle. They also point to the fact that music-based physical education (MBPE) has a crucial and irreplaceable value in child´s all-round personal development. Methods/Methodology: The aim of our research is to draft and attempt to validate a comprehensive interventional educational program for pre-school children focused on all-round personal development. An additional effect of the executed research should be the support of pre-school child's natural and comprehensive kinetic development, sensorimotor, musical and rhytmical competences with the stress on personal health and hygiene. Quantitative methods are based on the new modifiend test battery by pre-test and post-test after one school year intervention of our MBPE program in selected kindergartens. Based on qualitative methods, we studied and provided results of our observations, observations by teachers and parents throughout the school year, interviews with children, expert analysis of videos, discussions with experts in pedagogy and child´s psychology. Results & Discussion: With pre-test and post-test use of a (our) newly modified test battery, we have witnessed considerable improvements in aesthetical motoric exhibitions, in general in relation to the quality of motoric and musical skills and in feelings towards the music. This was conducted after one school year of our MBPE program. By analysing the average change of a child`s musical/motor skills before and after the MBPE program intervention the following results can be seen: children's rhythmic perception improved by 27,3%, time for rhytmic adaptability was reduced by 54%, music/motor memory improved by 31,3%, motor memory improved by 68,2%, a child´s time coordination was 59,6% faster and the time needed for dynamic balance was reduced by 30,4%. Regarding results of qualitative methods we have witnessed considerable improvements in aesthetical motoric exhibitions, in general quality of motoric and musical skills and in feelings towards the music. The children aquired new competences from the fields of general knowledge and social communication too. The strengthening and deepening of the interpersonal boundaries and relationships among the children contributed to their orderliness and discipline. Conclusion. Considering our results, we can ascertain that our MBPE program has a positive influence on, not only a child´s musical/motor skills, but also on their acquisition of a wide set of new physical competences, experience, musical competences, social skills. Our MBPE program is focused on kindergartens, but it can be also applied to lower grades of primary school.

Initial Finding of Brain Break Research with High School Students in Brazil
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The aim of this study is to examine the effects of technology supported brain-break on attitudes towards beliefs, self-efficacy, self-confidence, motivation as well as their average grades per semester and an attention test called Shulte test. We have now the initial results of the pre-test of this study; it is the first of it's kind in Brazil. The participants for this study included 66 students high school students from grade 10

from a private school in the state of São Paulo, consisting of 32 students in an experimental group (48%) and 34 in a control group (52%). The mean age of the groupe was 15.21. There are 33 males (50%) and 33 females (50%). The “Attitudes toward Physical Activity Scale (APAS) (Mok et al., 2015) was used at pretest to measure the attitudes, beliefs, self-efficacy, self -confidence and motivation toward physical activity, with seven different categories. We also used the Shulte Test (Anauate & Glozman, 2017) as well as the average of every quartermester from the students. This study is still ongoing, therefore these are all the initial findings of this study that consists of the questionnaire mean for control and experimental group, the mean of the average grade for experimental group and the categories of attention type in the Shulte Test.

Sports Tourism in Bulgarian Black Sea Coast

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It is widely acknowledged that Sports Tourism is a fast-growing industry. According to research in 2011 sports contributed about $USD180 billion to the global tourism industry, representing an 18% contribution to global tourism and an 8% increase in growth since 2006 (UNWTO, 2012). Touristic destination Bulgaria as the other European destinations is characterized with significant seasonal variations. The high season in Bulgarian Seaside comprises not more than three months: June, July and August. In fact, that is insufficient for development of competitive touristic destination in terms of arising of new potential lucrative touristic markets. Purpose: The issue of the study is focused on the development of sports tourism in the Black Sea tourist region, with the purpose to overcome seasonality and increase economic efficiency through optimization of the supplied sports animation products. Methods: The fundamental methodological concept is based on market research in tourism, it have been made studies of the sales market, the product and the consumers. We are using benchmarking comparing the market in South and North Bulgarian seaside. We are making the segmentation model of the consumers using database and direct marketing and to provide the framework for marketing planning objectives we are using the S-T-P approach; Segmentation→ Targeting → Positioning. The results of the survey on the attitudes and the needs of the consumers and the data collected from the master files of the hotels at Bulgarian Seaside were analysed using SPSS 19.0 statistical software and summarized thru descriptive statistic and cluster analysis. Results & Discussion: Bulgarian Seaside is divided in two touristic destinations South and North, which are characterized with different kinds of natural and anthropogenic recourses. We use the benchmarking to discover the best practices in observed regions related with the development of sport tourism. The main sports activities developed in the South part of Bulgarian Seaside are related with the disposable natural recourses, besides the supplied activities in the North part are the unique combination between the natural potential and the developed sports infrastructure. We examine two of the new conceptual resorts in the South and North part of Bulgarian Seaside. Due to the common basic characteristics of the examined resorts, we make a comparison of the sales market. We can declare that the season in the North touristic region is longer than the South region with around than three months. As a good

practice, we have to present the brand new sport recreational resort situated in the North part of Bulgarian Seaside. Such practice present the meaning of using the S-T-P approach. Conclusion: Development of sports tourism especially the sports activities independent of the seasonal fluctuations can extend the season in the region of the Bulgarian Seaside. The disposable natural and anthropological recourses in observed touristic region present the opportunity to make Bulgarian Seaside the sustainable touristic destination in all the seasons in the year.

Implementation of technology in physical education teaching process based on teachers experiences

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Introduction: Living in a world empowered by technology, ICT should and can be used as an effective strategy in the process of teaching and learning. This, does not exclude physical education teaching process. Furthermore, combining technology and physical activity could be beneficial for students, teachers and effects from overall process of physical education. In this regard, the purpose of this study was to explore teacher's experiences and approaches in implementation of technology in physical education teaching process as well as to determine the possible differences between classroom teachers teaching physical education and PE subject teachers regarded this issue. Methods: The sample for this study included 174 teacher (134 classroom teachers and 40 specialized physical education teachers) from 15 primary schools, located in five different sites in Republic of Macedonia. Descriptive analytical and descriptive explicative method was applied. The survey was realized using specially designed questioner was used to determine attitudes of the teachers and their approaches in the implementation of technology at PE classes. The questions were pointed toward teachers' attitudes for using technology at PE classes, their knowledge and competences to do so, forms of implementation, types of applied technology and interest of children for such working strategies. Data were analyzes qualitative and quantitative. Obtained results were analyzed using frequencies (f) and percent's (%). Differences between opinions of both group of teachers were tested using chi-square and t - test. They were considered statistically significant at $p < 0.05$. Results and discussion: Based on result analyses, a general negative attitude is notable for both classroom teachers and PE specialist regarded the implementation of technology at PE classes. Furthermore, 80% of PE specialist and 76% classroom teachers agree that using technology at PE classes reduce the level of PA of children and also children are not interested for such approach. Yet, for 64% of surveyed classroom teachers, if properly used and correctly implemented, technology could motivate children to be more active. This opinion is not supported by PE specialists. From the point of current use of technology, statistically significant differences are determined between both groups in a sense of greater and frequent use of technology in PE by classroom teachers. This group of teachers often or very often use ICT as a method of demonstration (76,9%), supporting material during some phases of the class (66%) when learning new movements (76%). This is not a case with PE specialist.

Regarded the type of applied technology, surveyed classroom teachers mainly use internet platforms (60%), you tube videos (66%), smart phones and mobile application (52%). PE specialist are less interested in technology and nearly half of surveyed PE specialist never or vary rare use such sources. Conclusion: Classroom teachers are more open for use of technology in PE teaching process compared with PE specialist. Future steps should be pointed toward greater familiarization of both groups of teachers for benefits of implementation of technology in PE and manners how to do it.

Moderate intensity exercise on lipoprotein particle size and concentration in older women

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Cardiovascular disease (CVD) is the leading cause of death around the world. Blood triglyceride and cholesterol concentrations are well established biological markers associated with CVD risk. Not only is blood cholesterol concentration a measurement of CVD risk, but recent research has placed great importance on the function and effect of different lipoprotein particle sizes (small and large LDL; small, medium and large HDL). While current research demonstrates that exercise is an atheroprotective behavior that increases lipoprotein particle size and effects concentration, little research has been conducted to determine the effects of exercise dose on these outcomes. Purpose: To determine if there is an exercise dose effect on blood triglyceride concentrations or blood LDL and HDL particle size and concentration in older sedentary women after 16 weeks of moderate-intensity aerobic exercise. METHODS: Sixty-five women (age = 64.7 $\pm$ 4.2 years) were randomized into higher-dose (n = 30) and lower dose (n = 35) exercise groups. Exercise training sessions were supervised treadmill walking. Exercise training sessions lasted approximately 35 or 55 minutes 3 times per week, for lower-dose and higher-dose groups, respectively. Fasting plasma samples were collected before and after exercise intervention. Plasma lipoprotein particle concentrations and average sizes were determined by nuclear magnetic resonance spectroscopy. Results: Exercise intervention or training resulted in a decrease of overall HDL particle concentration ($p<0.01$). When analyzed by exercise groups, only the lower-dose group displayed a decrease in HDL concentration ($p=0.001$). There was no significant change in particle concentration of individual HDL or LDL when grouped by small, medium or large sizes. The overall model for mean HDL particle size showed a significantly increased exercise effect. In addition, both exercise dose treatments were found to significantly increase HDL particle size ($p<0.05$) with no difference between groups. LDL particle size only increased in the higher-dose treatment group ($p<.05$). Blood triglyceride concentration significantly decreased ($p<0.05$) in the lower-dose exercise group only. Conclusion: The results from this study suggest that exercise in sedentary older women will decrease CVD risk. Though the HDL particle concentration decreased in the lower-dose group, maintenance of HDL particle concentration in the higher-dose group along with the increase in mean HDL and LDL size are characteristics associated with lower CVD risk. The decrease in blood triglyceride concentration in the low-dose group is consistent with current literature.

Applying the Sport Education Model to Tennis: The Experiences of Preservice Teachers'

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Introduction: Physical education teacher education programmes have being encouraged their preservice teachers to use different instructional models such as sport education, teaching games for understanding, teaching of personal and social responsibility based on model-based instruction in physical education in order to improve teacher effectiveness. As one of these, sport education should be included as a principal component of any physical education teacher education programme. A variety of sports have been taught in different groups through the sport education model, including net games, basketball, soccer, hockey, and football. Implementing the sport education model into a preservice teacher education program provides preservice teachers with a familiar transition by aligning their prior experience with their future profession as teachers. In this context, the purpose of the study was to reveal the perceptions and the experiences of pre-service physical education teachers on applying the sport education model to tennis in physical education teacher education. Methods: This qualitative study was conducted during 2015-2017 academic years in a four-year undergraduate physical education teacher education programme in Cappadocia region of Turkey. The voluntary participants of the study consisted of two different groups. The first group was nine pre-service teachers with tennis coaching certificate in their final year who was purposely selected in order to use spor education model in the context of tennis course that was an elective course of the programme. The second group was 24 preservice teachers (M_{age}=19.71, SD=2.15) in their second years of the programme. Sport education was incorporated into a 14-week tennis course. The course included 4-hour classes a week. Data was collected through weekly observations, field notes, semi-structured interviews and focus groups. The researcher conducted independent observations of the preservice teachers, preservice teachers who use the model in their final year kept field notes for each classes. All recordings were transcribed, triangulated and analysed using thematic coding of standard qualitative techniques. Results & Discussion: After data were categorized, four main themes were emerged. The main themes and the categories within parentheses were given respectively: (a) Learning outcomes of sport education (content and pedagogical content knowledge, responsibility, having empathy, fair play, being respectful and sensitive to others, motivation, observation skills, giving feedback, time management, criteria-based objective evaluation), (b) Barriers to using sport education model (Disagreements on culminating event, time consuming, impatience on assessment and practicing only tennis skills, singles structure of tennis in crowded class, first time experience), (c) Facilitators to using sport education model (teamwork, cooperation, active participation, enjoyment of roles, enjoyment of the model, motivation, get away from being bored), (d) Reflections on the future (fully understanding of the model, effective observation of the model, inclusion of the model in preservice education and the schools). Conclusion Preservice teachers' perceptions on Sport Education model have been very positive, they enjoyed of using this model, besides some barriers, they saw the advantages of using it. It can also be foreseen they would be likely to use sport education model in the future.

Brain Breaks® program as a technique to reduce sedentary behavior in school hours

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Introduction: School age children are the target population to teach them healthy habits, including physical activity and nutrition. Focusing in physical activity, almost all Spanish schools include physical education just two hours per week, considered not enough to encourage and educate children. Consequently, families and themselves are not aware about the importance of being active. Emerging evidences show that high amounts of sedentary behavior increase risk to suffer health issues such as adiposity, low physical function, reduce self-esteem and poor academic performance. (Tremblay et al., 2011) Nowadays, there are some campaigns to make children and families aware about the importance of physical activity. It has been demonstrated that teachers and experts have to find a new tool to emphasize about these issues. Aims: Our main aims are to introduce Brain Breaks program based on HOPSports as a new methodology in a Spanish public primary school to reduce their sedentary behavior and increase physical activity levels in school time. Methods: This project will be a quasi-experimental study, with pre and post evaluation after a Brain Breaks intervention 3 times per week, during 6 months. The sample size will be 135 children between 10-12 years old from a Spanish primary public school. Informed consent will be obtained from the School director and from tutor and/or legal guardians of children. Children will be asked to sign their assent, too. The main outcome is sedentary behavior during school hours (ActiGraph wGT3X-BT). Other outcomes are sociodemographic variables fitness function related with health (ALPHA-fitness battery) (Ruiz, JR, España Romero V, Castro Piñero J, Artero EG, Ortega FB, Cuenca García, M, 2011) and lifestyles (VISA-TEEN Questionnaire) (Costa-Tutusaus & Guerra-Balic, 2015). The assessment will be before and after sixth month of the intervention, and an ANOVA will be applied to study differences between assessments. Children will be evaluated during the Physical Education sessions. Descriptive for all data will be obtained. Conclusions: We hypothesize that the effects of Brain Breaks program based on HOPSports will be positive to reduce sedentary behavior in school hours and it will help to improve their fitness level.

Body Composition and Physical Performance Characteristics of the 2016 Zimbabwe Women's Soccer Team - "The Mighty Warriors"

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The profile of an athlete plays a role in determining players potential for success in soccer. Scientific profiling of elite national athletes is virtually non- existent in Zimbabwe. The purpose of this descriptive non interventional study was to determine the body composition parameters and assess the physical fitness of elite female soccer players in Zimbabwe.

Methods: 29 elite females mean age of 24.43±3.36 years from the Zimbabwe Women's National team were profiled. Descriptive statistics of means, Standard deviations and variation Coefficient through the Statistical Package for Social Sciences (SPSS version 20) used. Analysis of variance was used to compare means for different playing positions. Results: The general results showed body mass of 57.3kg, stretch stature of 161 cm, %BF of 15.23 ± 3.43%, BMI 18.53 ±1.95kg/m2. VO2 Max 43.75 ±2.88ml/kg/min, Trunk Hyper extension, speed, trunk and abdominal muscular endurance (sit ups and press ups in 60 seconds), were excellently performed aerobic endurance and agility (Illinois) were performed above average. By playing position, the defenders had a mean age of 24.33 years, body mass of (56.6±5.65 kg), stretch stature (161.10±4.71cm), %BF (15.35±2.57), BMI (18.51±2.30). The strikers had a mean age of 24.86 years, body mass of (57.3kg), stretch stature (161.cm), %BF (14.72), BMI (18.56).Body Fat % and Body Mass Index were normal for sports persons. Muscular Endurance (Upper body strength), Aerobic endurance and vertical leg power was average and had to be improved. The midfielders had a mean age of 24.82 years, body mass of (56.2kg), stretch stature (161.cm), %BF (14.65), BMI (18.28). Body Fat %, Body Mass Index was normal. Aerobic endurance, Muscular Endurance (Sit ups) Leg power, Agility and Flexibility were very good and to be maintained while muscular Endurance (Upper body strength) was average and had to be improved. The goalkeepers had a mean age of 23.39 years, body mass of (64.5kg), stretch stature (171.cm), %BF (17.25), BMI (19.79). Body Fat % and Body Mass Index were normal. Muscular Endurance (sit ups), Speed and Flexibility were very good and had to be maintained. Leg power, Agility, upper body strength and aerobic endurance were average requiring improvement. Conclusions and Recommendations: Zimbabwe's elite female soccer players were lighter shorter and with a lower percentage Body Fat. Although these players had proved themselves superior to their national counterparts, their physical performance could have been improved in terms of Muscular endurance, leg power and upper limb strength. Since at the time of conducting this exploratory study the players were preparing for an international meet, there is need to continually and periodically duplicate such a study with larger numbers of participants. Coaches, athletes and institutions are encouraged to complement training with optimal nutrition. Future studies could focus on body composition and somatotype in different age groups in order to reflect a complete picture of the variations in body physique at different stages of growth.

ORAL PRESENTATIONS - ABSTRACTS

Developing strength abilities through two models of training with a woman's football team in Slovan Bratislava

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Introduction: This study focused on the development of strength abilities in women football players (ŠK Slovan Bratislava – Slovak 1st league) in the transition and preparation period of the 2006/07 and 2007/08 seasons. The main goal was to investigate the efficiency of developing strength abilities through models of combined and complex training methods in our observation periods. The study also helped to obtain more information about developing strength abilities of women football players. Methods: Our experimental sample was a single group (Slovan Bratislava) – inter individual (13 players time unparalleled for 9 weeks (2006, 2007) quasi experiment with a gradual independent variable characterized by complex and combined models of strength training and dependent variable level strength abilities. Results & Discussion: In terms of work results, we found that both models of training have a different impact on the development of various kinds of strength abilities. After using the combined model we can expect greater improvements in performance indicators during submaximal to maximal resistances. In a complex model, we achieve greater development of velocity force and better performance indicators with medium and low resistances weights. Conclusion: The results conclude that a complex model is more efficient for the development of the limiting factors of strength abilities and thus it could increasingly affect game performance in football. However the combined model gives certain preconditions for future achievement of high level of explosiveness.

Sport in Megacity: an example of St-Petersburg, Russia

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Introduction: The paper presents the result of a sociological study of sporting life in the urban space of Saint-Petersburg, the largest northern megacity on the globe. Being challenged by growing global capitalism, modern cities become centers of concentration of sports activities. Citizens dichotomize work and leisure, especially among those living on the proceeds from the sale of its workforce, whether in industry or in service. Leisure time implies freedom from the daily duties of life, family, and obligatory forms of cultural activity. In this sense, leisure time seems to be a space of complete individual autonomy. However, looking at the city Saint-Petersburg we should take into account its inevitable social conditionality. Although the boundaries between leisure and work are much more erased in Russia than in Western countries, the relationship of the two facets of the modern way of life continue to play a decisive role in choosing the way of spending free time. Methods/Methodology: The paper is based on the data analysis of the results of a public opinion poll of Saint-Petersburg residents about the role of health and sport practices in their lifestyles. Sociological research was organized as a telephone survey by

personal standardized interview with the quota stratified sample (more than 1,000 people) and was made in the «CATI» system. The results of this research are generalized on basis of analytical methods of social sciences. Precisely we investigate the social dichotomy of work and leisure as a core feature of capitalist social structure. Results and Discussion: The study showed the existence of a number of problems about how Petersburgers spend leisure time. Many residents spend most of their time indoors and lead a sedentary lifestyle. Sport is designed to resolve alleviate the health related problems from this type of lifestyle. The survey reveals that Saint-Petersburg residents care about their health and are committed to strengthen or improve it. The indicators of involvement in sports life correspond to the European average, and even higher. The study showed that respondents differ fundamentally over what the sports they engage in and those of which they are jus spectators. When the first-glance-attitude to the choice of a participatory sport depends on the availability of free time and the need to reduce work related tension, the active involvement in the activity is produces psychological well-being and a high degree of self-control concerning access, the rhythm and the level of stress. The interests of spectators are based on the competitiveness and game character of sports. The structure of sports practices is diverges by education, age, and gender. A significant difference of the interests depends on the type of employment and related opportunities and motivation. The choice of sports strongly depends to the income, family status and number of children. Conclusion: The research in Saint-Petersburg has demonstrated an increasing gap between those who engage in sports activities and those that are exclusively spectators. This tendency seems to be socially conditioned and institutionally reproduced.

Restrictive monetary policies on smes performance in international crude oil price fall: implication of adopted cbn's Nigeria.

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This study empirically investigated the implication of the adopted restrictive monetary policies on the SMEs. The CBN adopted the restrictive monetary policy as a palliative measure to cushion the unfavourable effect of the plummet of international crude oil price on the macro-economy without a thorough rethink of the effect on micro –economy specifically SMEs in Nigeria. The study is borne out of the curiosity to determine the aftermath of this panic measure adopted by CBN on Small and Medium Scale Enterprises which is the bedrock of any developing economy seeking industrialization like Nigeria. The research work employed Survey research design. The study revealed interestingly that high interest rate discourages investment. But, it further shows that irrespective of the level of interest rate, there are other factors that drive investors to invest more even when the level of interest rate is unfavourable which the study hypothesized as Market or Demand-Side Investment Driven. It is also revealed that CRR actually quarantined money supply which limits the access of the SMEs to credit because not less than 67% of this sector relies on commercial banks credit; Naira devaluation is really a cog in the wheel of SMEs investment and serves as drag to the SMEs performances. The research offered a set of policy prescriptions that is holistic and integrated approach which would make SMEs in Nigeria to be able compete with the foreign competitors, and the industrialization need of

the economy can be achieved harmoniously with the nation's economic growth and socio-economic development

Commensality, conviviality and individuality: eating practices of athletes
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Introduction: Athletes' food choices are affected by several factors, among which the eating practices adopted by those with whom they live and spend time. The objective of this study was to understand commensality, conviviality, and individuality of eating practices among athletes. Methods: Narratives of Brazilian and Spanish athletes practicing martial arts (n = 18), collective sports (n = 42), and gymnastics (n = 15) were obtained through individual interviews and focus groups. Data was interpreted through Content Analysis. Results & Discussion: Families influence athletes' food habits throughout their sports trajectory. "Supportive" and "demotivating" families were identified throughout the sample, regardless of nationality or sport. The interactional dimension of commensality is affected by athletes' unintentional (e.g. agenda incompatibility) and/or intentional (e.g. not eating together because they adopt restricted eating practices) withdrawal from shared eating moments. In the case of martial arts gymnastics athletes, both of whom tend to adopt restrictive diets, mealtime conviviality and commensality is affected by pressure to eat what the group in consuming. Athletes share eating moments, which have important meaning for performance and group sense, especially in the case of rugby. Time, fatigue, and culinary skills have emerged as determining factors of food choices of athletes who live alone. Conclusion: Families and friends play an important role in determining athletes' food habits and choices. Their approach towards athletes' nutritional needs can affect commensality and conviviality, with a greater impact in the case of athletes who control their weight. Among athletes, in shared eating moments, food acquires other meanings. Athletes who live alone have additional stress factors which affect their food choices.

Comparison of cognitive functions, reaction time, event related potentials and autonomic functions between adolescent athletes and non-athletes-A cross sectional study
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Introduction: About one-fifth of India's population is in the adolescent age group (10–19 years). Physical activity-cognition coupling has been observed early in infancy which gets further strengthened in the adolescence. Demands of athletic level training include coordinated complex movements, team participation, precise response and preempting unnecessary stimuli. Physical activity induced cognitive loading might prove beneficial for the child's cognitive development. Although there is conclusive documentation of health benefits of regular physical activity in the adolescent population, there is no consensus about the effectiveness of athletic training on executive functions including sensory-motor processing, attention span, mental flexibility, strategic analysis. Hence, the present study was conceived to assess and compare the cognitive functions, reaction time, event-related

potentials and autonomic functions in athlete and non-athlete adolescents. Methods: This study was a cross-sectional collaborative study conducted between Department of Physiology, JIPMER, Puducherry, India and two CBSE board schools involving adolescent participants in the age group of 10-19 years. After obtaining approval from scientific advisory and the ethics committee for the study, we also obtained informed consent from the guardians and assent from the participants who had met the inclusion and exclusion criteria. Thirty boys representing their school at state or national level aerobic sports event and have undergone physical conditioning training for at least one year, were recruited as athletes and 30 age-matched non-athlete students were recruited as controls. Following parameters were recorded for all the participants: Neurocognitive test battery consisting of Letter Cancellation Time (LCT), Trail Making Test A & B (TTA & TTB); Event-Related Potentials [ERP (Latency and amplitude)], Autonomic function battery and reaction time (visual and auditory). The data were recorded and statistically analysed by SPSS version 19. Results & Discussion: We observed significant reduction in LCT (Time), TTB, VRT & ART in athletes as compared to non-athletes. Also, RMSSD, SDNN, TP, Absolute LF & HF power, HF (n.u.), E: I ratio, 30:15 ratio were significantly higher in athlete group. In ERP parameters, Latencies were decreased (N1, P2, N2, P300) and amplitudes (N1P2 and P2N2) were higher in athletes than non-athletes. Our results demonstrated that athletic training improved cognitive domains of attention, visual scanning speed, mental flexibility and strategic analysis. It also improves sensory-motor performance and processing by the central nervous system along with resetting better autonomic tone and reactivity. We hypothesize that athletic training causes higher cognitive loading and contextual cognitive processing presented with a complex motor plan that must be ideated, monitored, modified and finely regulated, might induce neuroplastic changes in prefrontal cortex and subcortical structures. This may lead to better neuro-effector communication, attentional set processing, executive functions and parasympathetic dominance in athlete adolescents. Conclusion: Athletic level physical conditioning training-induced cognitive loading may improve neuro-effector communication, cognitive processing and autonomic functions that may prove beneficial to the adolescents' mental health.

Meanings of professional practice in physical education in the health area in Santos-SP, Brazil

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Introduction: The seaside city of Santos-SP, Brazil, is known by its social contrasts. Despite such inequalities, physical activity practices are usual among the various social groups. In addition to the tradition of sports' clubs and the football team that bears the name of the city there are several places for physical activity practices, including in the public health services, from the seafront to the furthest boroughs. However, it must be noted that even in a city with about 420,000 inhabitants, there were only three Physical Education professionals working in the public health services in 2015. It is up to them to develop physical activity programs focusing on the promotion of population's health. This situation points to the following question: even with an increasing recognition of the relevance of physical education professionals in the health area, in general the

undergraduate formation doesn't focus on to the health work, also the professional insertion in the public health system is still poorly consolidated. This study aims to analyze and reflect on the meanings of professional practice in health based on the experience of the three Physical Education professionals working in public health services in Santos-SP, Brazil. Methods: A qualitative research with an ethnographic approach was carried out, using as research tools interviews with the only three Physical Education professionals who were working in the public health services at that moment and participant observation of their physical activity practices aiming the population attended in these health services. Results & Discussion: These professionals consider the public health contents acquired in their basic formation to be insufficient, however their daily experiences in the health units seems to have enabled them to work with health promotion and care. The organic-functional benefits become the consequence of a practice focused on relationship, coexistence and socialization; called by the interviewees as "social gymnastics". Once these practices have been re-signified, there is a need of attributing more legitimacy to their work. In this way they prefer not to be called teachers, or instructors, but rather "professionals of Physical Education of Health". Conclusion: The experiences of these professionals seem to indicate that their practices and thoughts integrate "webs of meaning" in a constant process of production, because as they have come across new issues they were faced with the need to re-signify practices for which they have not been previously formed. It is not expected the results of this research to answer all the questions about the professional insertion of Physical Education in Health. However, we consider it is opportune to contribute to this debate, from a sociocultural approach and from the point of view of the professionals who are in the "front line", revealing aspects that are not so predictable, because individuals give meanings to their lives in a process that is so as dynamic as their experiences.

Comparative effect of video-modeling and video-feedback on learning archery skill among the trainees

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Introduction: The acquisition of motor skill takes place in three phases; cognitive phase, which involves understanding the intricacies of the skill, associative phase, where the learner performs the task in efficient and refined manner. The last and final stage of motor learning, the motor skills becomes more automatic and the learner performs the task with ease. Thus, the role of feedback and modeling is very important in the first two stages of motor learning. The kind of feedback is one of the important factors in the learning outcome. In the present study we investigated the impact of two varied feedbacks on learning archery. Methods: Twenty physical education trainees with an average age of 22.7 years were selected for the study. The participants were randomly assigned into four groups, Expert video Modeling Group (Group A), Video Replay of their own performance (Group B), Combination of Expert Video Modeling+ Video replay of their own performance (Group C), and Control Group (Group D). The participants in the experimental Group A observed a videotape of an expert model performing the skills, participants in experimental group B observed a videotaped replay of their own performance and participants in the experimental Group C observed expert model performing the skills and

observed a videotaped replay of their own performance. Verbal cues were provided simultaneously with the videotaped demonstration. After four weeks of training, archery skill test was conducted using AAHPERD archery skill test. Results & Discussion: The average archery shooting scores of the group A, B, C and D were 117.40, 105.20, 120.0, and 97.0 respectively. The archery shooting scores revealed that the group C has the highest score whereas, the group D has the lowest. One way analysis of variance (ANOVA) was computed to find the significant differences among the groups. The F value of 4.95 was found significant (P≤0.05). Further Post-hoc test (LSD) revealed that there are significant difference in the archery shooting scores of group C and D (P≤0.05), group A and D (P≤0.05), and between group B and C . The group C shows relatively higher improvement in archery shooting skill than the other groups and group D displays least improvement. Conclusions: Modeling plus watching video replay of their own performance during the first two phases of motor learning seemed to improve the acquisition and learning of archery skill, this procedure could be used by practitioners while imparting coaching to the trainees.

Motivation, illusion of control and problem lottery playing behavior among sport lottery players

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Introduction: Sport lottery is a popular recreational pastime in China. However, a small group of these players lost control and escalated into problem lottery playing behavior which had negative effects on lottery players, families, and the society. One approach to increase the understanding of this behavior is to employ multidimensional motivation-type model. There is a growing body of research literature documented that motivation had an important influence on lottery gambling, but little is known about the mediating mechanism underlying the relation. Illusion of control was another important factor that played a crucial role in the development and maintenance of problem lottery playing and could be influenced by various motivations. The present study aimed to explore the association between four types of lottery motivation and problem lottery playing, and the mediating roles of illusion of control between them. Methods: The present sample comprised 3762 sport lottery players (3160 male, 602 female) recruited from various cities in china. Participations in the study were voluntary and reward was provided after they finished. Problem lottery playing severity index, lottery playing motivation, and illusion of control were measured. Data were analyzed using SPSS 17.0 and Amos 22.0 which was specifically developed for assessing the complex models. Results: Results showed that lottery motivation was significantly related to illusion of control and problem lottery playing. Illusion of control partially mediated the relationship between the motivation to play lottery for escape, enhancement, money and problem lottery playing. Illusion of control fully mediated the relationship between the motivation for enhancement and problem lottery playing. Conclusion: The present research, with a cross-level design, examined the mechanism through how different lottery motivation influenced problem lottery playing behavior. The research expands our understanding of the psychological mechanisms between lottery players' motivation and their behavior. It has significant implications for prevention and treatment programs.

Cad risk factors: impact of aerobic and anaerobic training on highly obese type 2 diabetic patients

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Introduction: Coronary Artery Disease (CAD) risk factors is a condition in which a waxy substance called as 'plaque' builds up on the inner walls of the coronary artery which narrows blood flow to heart muscles (Poullis, 1999). The factors may include age, sex, inactivity, high BP, diabetes and such related components. Exercise is widely prescribed in developed countries as an intervention to treat type 2 diabetes by controlling glucose level and BP (Lee et al, 2005). Here, the purpose of the study was to find out the changes on CHD risk factors due to aerobic and anaerobic training on obese type 2 diabetic patients. Method: - Twenty four students between the age group of 30 and 50 were selected as the subjects of the study. The Body Mass Index (BMI) of those students were above 35. They were classified into three groups of eight each at random. All the selected subjects were having Type 2 diabetes with different variations. Group -1 went to aerobic training, Group-2 went to anaerobic training and Group 3 kept as control group. The Pre-test and Post-test data was compared for the selected variables (Arterial Pressure, Fasting Blood sugar, High density lipoprotein and Low density Lipoprotein) and statistically analyzed to find out whether there is any significant differences exist on the obtained data. Results: Paired 't' test for pre-test and post-test mean differences for all variables showed that there were significant differences exist for both aerobic and anaerobic groups. Obtained F value for both experimental groups were greater than the table value. Scheffe's post hoc test was also applied to find out mean differences between experimental groups and control groups which proved that there exist significant difference on CAD risk factors due to Aerobic training and anaerobic training on highly obese type 2 diabetic patients. The Mean difference for Aerobic group and control group for arterial pressure ,fasting blood sugar, HDL, and LDL were 8.75,17.05, 6.2 and 10.95 respectively and the Mean difference between Anaerobic group and Control group for the said variables were 6.65,9.8 ,4.85and 6.45 respectively. Conclusion:- There were significant improvement due to aerobic training and anaerobic training. It shows that aerobic training is comparatively better than anaerobic training group and control group. Key words:- Coronary Artery Disease, Aerobic , anaerobic , Diabetes.

Definition of plantar fasciitis in levels of lesion, through the balanced scoredcard

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Introduction: The way of business management has undergone changes and has impacted all business areas. Fasciitis Plantar (FP) is one of the most common injuries among runners, and its treatment is time-consuming and expensive. Using a management tool such as the Balanced ScoreCard (BSC), could help in the management of the treatment of Plantar Fasciitis. The objective of the study is to define the levels of Fasciíte Plantar in runners and thus help in directing pipeline choices according to the level presented. Methods: Participants in the study were runners with Fasciitis Plantar, both

sexes between 30 and 50 years old, who practiced the sport for at least six months, who train at least 20 km/week, with a visual analogue scale (EVA) of at least 3. To build a Balance ScoredCard (BSC) model for Fasciíte Plantar (FP) levels, indicators, goals and objectives were defined from four perspectives: (i) the results; (ii) the patient; (iii) internal process; (iv) learning and growth. The BSC indicators were determined through the assessment instruments: Sports Athlete Foot and Ankle Score (SAFAS), Hop test, Core test, assessment of the intrinsic muscles, Jack test, the navicular drop test; visual analogue scale (EVA); Star Excursion Balance Test, Step Down; Range of motion (ROM) of foot and ankle, and Lunge test. Results: Four levels of Fasciíte Plantar (FP) were obtained in runners, as follows: level I (20.58%); level II (76.47%); level III (2.94%); level IV (0.00%), with I being the best level and IV being the worst level. It was found that 97.06% of the runners concentrate on the first two levels (I and II) of the disease, which indicates for sportsmen and women included in these levels, a near absence of more serious Fasciíte Plantar (FP) lesions. Conclusions: It is observed that after the construction of the Balanced ScoreCard (BSC) that provides the level of the patient's Fasciíte Plantar (FP), we have a management system where we obtain a more precise knowledge of the level of lesion of the patient, it communicates what we intend to do, compatible daily work (treatment) with the defined strategy, provides a standard for defining the patient's lesion. Thus, when the level of Fasciíte Plantar (PF) is obtained, shorter, punctual and efficient treatments are expected.

Effect of foot and hip muscle strengthening protocol in patients with plantar fasciitis: A randomized controlled clinical trial

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Background: Stretching of the plantar fascia and triceps surae muscle is often employed in the conservative treatment of plantar fasciitis. However, there is no evidence if combining foot and hip muscles strengthen would be benefit. Objective: Was compared the effect of stretching with and without muscle strengthening of the foot alone or foot and hip on pain and function in patients with plantar fasciitis. Methods: Eighty-three patients with plantar fasciitis were allocated to one of three treatment options for an eight-week period: Foot Exercise Group (extrinsic and intrinsic foot muscles), Foot and Hip Exercise Group (abductor and lateral rotator muscles) and Stretching Alone Exercise Group. Main measures: A visual analog scale for pain, Foot and Ankle Outcome Score and Star Excursion Balance Test. All evaluations were performed before treatment and after the last treatment session. Results: Improvements were found in all groups regarding the visual analog scale, pain, activities of daily living, sports and recreation, quality of life ($p < 0.001$) and other symptoms ($p < 0.01$) subscales of the Foot and Ankle Outcome Score as well as posterolateral movement, posteromedial movement and composite score ($p < 0.001$) on the Star Excursion Balance Test. No time-group interactions were found for any of the variables ($p > 0.05$). Conclusions: All three exercise protocols analyzed led to improvements at eight-week follow-up in pain, function and dynamic lower limb stability in patients with plantar fasciitis.

Translation, Validity, Reliability and Responsiveness of the Brazilian Portuguese Version of the Identification of Functional Ankle Instability (IdFAI) Questionnaire

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Background: Ankle sprains are among the most frequent musculoskeletal injuries in daily life and sports. The recurrence index may reach up to 80% in athletes, due to residual symptoms that characterize a chronic ankle sprain. The Identification of Functional Ankle Instability (IdFAI) Questionnaire has been developed because up to now there was no reference measure or universally accepted definition of functional ankle instability. It has been the only questionnaire able to determine the presence of functional ankle instability and is a valid instrument, reliable and developed in English language. Objectives: Translate and culturally adapt IdFAI questionnaire to Brazilian Portuguese language; even analyze the validity, reliability and responsiveness. Methods: Translation and cultural adaptation of IdFAI to Brazilian-Portuguese version process, was accomplished using standard guidelines and was applied in 50 university students. The reliability and validity of IdFAI was tested in 100 lower limbs. The reliability was tested thru the reproducibility evaluation (test-retest inter and intra-observer), internal consistency, standard error of measurement and minimal detectable change. The validity was made using the Portuguese version of Visual Analog Scale for Instability (VAS-I), Cumberland Ankle Instability Tool Questionnaire (CAIT) and Lower Extremity Functional Scale (LEFS). Correlation among IdFAI and VAS-I, CAIT and LEFS was analysed by Spearman's Correlation Coefficient. For responsiveness measurement, 12 assessments were used before and after an eight week treatment period in 25 patients with functional ankle instability. Responsiveness was tested with the effect size and effects of "floor and ceiling". Results: The Brazilian Portuguese IdFAI version showed high internal consistency (Cronbach α= 0.90), excellent reproducibility (intraclass correlation coefficient = 0.98 for inter and 0.96 for intra-observer); and excellent agreement (standard error of measurement, 0.94 and 1.46 points for inter and intra-observer; minimal detectable change at the 90% confidence level, 2.20 points for inter and 3.40 for intra-observer). IdFAI-Brasil version showed a strong correlation (r= 0.74 and -0.78; p< 0.001) with specific tools that measure ankle instability VAS-I and CAIT, and poor correlation (r=-0.21; p=0.03) with LEFS scale. There was high responsiveness, with an effect size of 1.34 for patients receiving physical therapy intervention, and no floor or ceiling effects were detected for the IdFAI Brazil. Conclusion: The Brazilian version of the IdFAI questionnaire has shown to be a valid, reliable and responsive tool to evaluate ankle functional instability and it may be used in clinical and scientific fields.

Efficacy of Blood Flow-Restricted Low Load Resistance Training for Osgood-Schlatter Disease: Two Case Reports.

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Introduction: Osgood-Schlatter disease (OSD) is characterized by inflammation of the insertion of the patellar tendon in the tibial tuberosity in the apophyseal stage of development, affecting boys aged 12 to 15 years and girls aged 8 to 12 years, with higher prevalence in males (Vaishya et al, 2016). Its etiology is associated with excessive traction of the tibial tuberosity apophysis due to quadriceps contraction during sports activities (Gholve et al, 2007). In painful knee conditions, there is a consequent decrease in the quadriceps strength and activation, leading to an altered knee joint kinematics, with less extensor momentum and greater ground reaction force. To reduce these consequent changes, blood flow-restricted low load resistance training for the quadriceps may be an important alternative method for this population, as its efficacy is similar to that of resistance training with high loads in terms of muscle strengthening, release of markers responsible for myogenesis, reduction of knee pain, and improvement of function (Bryk et al, 2016; Kim et al, 2017). No rehabilitation protocol has been well established for the conservative treatment of OSD, and the hypothesis of blood flow-restricted low load resistance training for quadriceps strengthening in this population has not yet been tested. Thus, the objective of this study was to investigate the effect of blood flow-restricted low load resistance training for quadriceps strengthening to reduce pain and improve function in two cases of OSD. Design: A report of two cases. Setting: Outpatient department of a single center. Participants: Two young athletes aged 13 years who were clinically and radiographically diagnosed as having OSD. Interventions: The two patients performed the same strengthening protocol composed of posterolateral hip and hamstrings muscle strengthening (80% 1 RM) and a blood flow-restricted low load resistance training for quadriceps strengthening (20% 1 RM) twice a week for 6 weeks. Outcome measures: Pain and function were evaluated at baseline and at the end of the treatment (6 weeks) by using the numerical pain rating scale at rest and effort, Kujala questionnaire, and Lower Extremity Functional Scale (LEFS) questionnaire. Results: After 6 weeks of treatment, both patients showed reduction of pain at rest and effort (mean reduction of 3 points) and improvement in Kujala and LEFS questionnaire scores.Conclusion: Blood flow-restricted low load resistance training for quadriceps strengthening was effective for reducing pain and improving function in the two patients with OSD.

Kinesio Taping® method does not improve painful symptoms and function in patients with patellofemoral pain syndrome: A double-blind, randomised, controlled trial.

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Introduction: Patellofemoral pain syndrome (PFPS) is one of the most common disorders affecting the lower limbs. PFPS is characterised by retropatellar and peri-patellar pain, which could lead to limitations in activities of daily living and sports practice. Its aetiology is

multifactorial, with an estimated annual incidence of 3.8 and 6.5% and a prevalence of 12 and 15% in men and women, respectively. (Davis & Powers, 2010) PFPS is a multifactorial syndrome and conservative treatment is the primary choice considering the neuromuscular dysfunctions. (Rohtermich et al, 2015) Among the conservative treatments, strengthening exercises of the abductor muscles and lateral rotators of the hip and quadriceps are vital to decrease pain and improve function in patients with PFPS. (Fukuda et al, 2010; Rothermich et al, 2015) The KinesioTaping® (KT®) method has been studied as a therapeutic approach to assist in the conservative treatment of PFPS. KT® generates cutaneous stimuli and soft-tissue stabilisation with improved proprioception. (Kase & Kase, 2003) Conflicting evidence regarding the effects of the KT® method in the treatment of several locomotor disorders exists. Some studies demonstrated that the method is not superior to placebo in the treatment of non-specific chronic low back pain. In addition, the method apparently could not improve muscle strength and quadriceps performance after anterior cruciate ligament reconstruction. (Junior et al, 2015; Jesus et al, 2015) By contrast, other studies suggested that the method is efficient in improving pain, soft-tissue flexibility around the knee, patellar stability, motor function, and quality of life in patients with PFPS, especially when used as a complementary technique to an exercise protocol. (Chen et al, 2008; Chang et al, 2015) This study aimed to evaluate whether different techniques of KT® application with an exercise protocol could help improve the pain and function in patients with PFPS compared with a control group. Design: Double-blind, randomised, controlled clinical trial. Participants: A total of 43 inactive or irregularly active women aged 18 to 43 years with clinical diagnosis of PFPS (unilateral or bilateral) for at least 3 months. Interventions: The patients were randomised into three groups: mechanical correction using the KT® method for patella medialisation (KT-PM), mechanical correction using the KT® method for lateral rotation of the femur and tibia (KT-LRFT), and control group. All groups had the same protocol for muscular strengthening and motor control for 12 weeks. Outcome measures: Knee pain and function were evaluated at baseline, at 6 weeks, at the end of the treatment (12 weeks), and during the follow-up by the numerical pain rating scale (at rest and during effort), Kujala questionnaire, and single-hop test. Results: After 12 weeks, all groups (within group) showed a significant improvement in pain and function. However, no significant difference between groups in any of the variables studied was found. Conclusions: The KT® technique as part of the treatment protocol by means of exercises had no additional benefit in the treatment of PFPS.

The resting pulmonary function: a comparison between that of male and female modern dancers

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Introduction: The influence of physical activity on the development of the respiratory system is a matter for ongoing debate. The intensity and volume of involvement by athletes in sporting activity would appear to determine the extent of strengthening of the inspiratory muscles, with resultant increase in pulmonary functions. Unquestionably, there are important differences between male and female in the respiratory response to both

short-term and long-term exercise. From the available recorded studies, while such gender differences have been highlighted, many basic questions remain unanswered. For example, within the field of athletic performance, gender differences could impact on training and competition strategies. Modern dancers are considered as athletes at certain times. In general, male and female modern dancers adhere to similar technical training regimes, but measurement of their pulmonary function has not been widely investigated. Therefore, the aim of this study was to compare the resting pulmonary function between male and female modern dancers, based on the same level of training.
Methods: Thirty-eight modern dancers (18 male, 20 female) volunteered to participate in this study. Participants were university level modern dancers (age=23.65±3.12 years). Their exercise level (3 days/week, 3 hours/day) and training history (at least 4 years) were similar. All participants were healthy, non-smokers and had no previous history of cardio-pulmonary disease. Participants with less than 80% forced expired volume in one second (FEV1) to forced vital capacity (FVC) ratio were excluded from this study. All female dancers were tested randomly throughout the menstrual cycle. Basic anthropometric measurements (height and body weight) were obtained from participants. Pulmonary function was assessed by measuring the tidal volume (TV), Maximum Voluntary Ventilation (MVV), Vital Capacity (VC), FVC, FEV1, percent of FEV1 (FEV1%), forced expiratory ratio (FER = FEV1/FVC), peak expiratory flow (PEF), Forced Expiratory Flow between 25% and 75% of Vital Capacity (FEF25–75%) and Expiratory Reserve Volume (ERV). The measurements were taken with a computerized spirometer (MIR, Spirobank, Italy) in a sitting position, based on recommendations of the American Thoracic Society guidelines. The Mann-Whitney U-test was used to assess the significance of the differences between groups. Results were considered significant at $p<0.05$.
Results & Discussion: Mann-Whitney U-test results revealed significant differences ($p<0.05$) for values of MVV, VC, FVC, FEV1, PEF, FEF25–75% and ERV between genders. The values for male dancers were higher than female dancers. There were no significant differences ($p>0.05$) in the other parameters (TV, FEV1%, FER) measured.
Conclusion: Based on this study data, performance of resting pulmonary function of male and female dancers with the same training level were found to be significantly different. This suggests possible benefits could be achieved from the development of a gender-based dance training program. However, results should be considered as only preliminary and confirmation or otherwise is required by way of future studies based on larger sample size. To fully address questions of gender-based differences in pulmonary performance, future such studies involving modern dancers should consider pulmonary structure and function, during resting and dynamic exercise.

Scientific production about soccer in Brazil: a survey of research groups according to the CNPq Group Directory

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Introduction: Previous research was carried out in 2016 aiming to map and establish initial analyses on studies about soccer in Brazil. The Grupo de Estudos sobre Futebol e Torcidas (GEFuT/UFMG) decided to continue their earlier work concluded in 2008-2009. The current research entitled Development of the Production Mapping and Analysis of

Soccer Study 1980 – 2016 intended to revise some criteria and methods, enlarge the set timeline and carry out a deeper analysis of the obtained data. In this project, there are several topics addressed to obtain a scenery that reflects the current moment of soccer studies in Brazil. Then, in this event we will bring thorough analysis of soccer studies produced by Brazilian Soccer Research Groups. Methods/Methodology: Researchers looked for articles, dissertations, thesis, books, and books published in partnership with the Rede CEDES and Research Groups which have soccer as their subject of analysis. The data found was tabulated at the software SPSS. Specifically, the searching for the Research Groups which study soccer occurred in two ways: 1) the Groups should be currently enrolled CNPq Group Directory (DGP/CNPq); 2) we investigate on the databases of the DGP/CNPq, using the plataform's searching tool, and applying the key words "soccer" and "sport" to identify the groups which potentially works with the theme. Subsequently, we refined the search through an online form (Google Forms).It was sent to the leaders of the Groups, so that we could gather more detailed information about their identity. Results & Discussion Firstly, we found that Research Groups were mainly concentrated on major areas of Human and Health Sciences. Most of the Groups were concentrated on the South and Southeast region of the country and in the state's capitals. Secondly, there was very few Soccer Research Groups in the North region. Regarding group research production, we noticed a growing process of internationalization of their production, as well as partnerships with other groups and institutions, both national and international. Finally, the groups theme interests go beyond soccer as a professional activity, such as soccer and clubs history, fans identity, violence, etc. Conclusion: Research Groups are concentrated where soccer is a stronger economic activity and postgraduate courses related to it are available. Therefore, the Research Groups need more public investments, especially those out of the Southeast-South axis, in order to develop their postgraduate courses

Can Phototherapy or NMES improves muscle strength and jumping performance in young volleyball athletes?

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Introduction: Volleyball players usually do jumps training as specific ability. Photobiomodulation (PBM) and Neuromuscular Electrical Stimulation (NMES) have studied as effective resources to improve muscular performance. However, the literature has showed few evidence on the comparison with these both electrical physical agents in jump training. This study aimed to evaluate the effectiveness of PBM and NMES associated to muscle strength and jump training in volleyball athletes. Method: A total of 36 athletes aged 17 to 18 years were recruited and randomized into three groups: Control, Photobiomodulation and NMES. All groups had the same jump training and muscle strengthening associated or not to PBM or NMES during 6 weeks for 3 times a week. The PBM group used the following parameters: 3 diodes 850nm (AsGaAl), CW, 50mW power per diode (150mW total), energy per diode of 2 J (total 6 J), totaling 36 J per limb. The NMES group used the following parameters: 1kHz frequency, 2 minutes Burst duration, modulated at 70Hz, duty cycle 10%, T-on 10 seconds and T-off 30 seconds. The outcome measures were muscle strength, jumping ability, global impression and jump frequency at

the baseline, 6 and 8 weeks (follow-up) after the protocol. Results: After 8 weeks (follow-up), PBM and NMES groups showed significant improvement in muscle strength of the dominant limb (1.7 N/kg to PBM and 2.4 N/Kg to NMES versus 1.1 to Control group). After 8 weeks, the non-dominant showed significant difference to PBM and NMES groups (2.5 N/Kg to PBM and 3.8 N/Kg to NMES versus 0.6 N/Kg to Control group). For the jump ability, after 6 and 8 weeks (follow-up) all groups showed significant improvement when analyzed intra-group. The inter-group analysis, PBM and NMES did not show difference when compared to control group. The global impression assessment showed better results to NMES group when compared to PBM and Control group. Conclusions: PBM and NMES may improve muscular strength when associated to volleyball players training and there were no difference when associated to jump ability. However, the NMES showed better results in global impression assessment.

The Direct and Indirect Relationship Among Physical Activity Intensity, Cardiorespiratory Fitness, and Cardiovascular Risk: a Follow-up Study

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Introduction: Unlike the consistent evidences about moderate-to-vigorous physical activity (MVPA) benefits and sedentary behavior (SB) independent deleterious effects on cardiovascular disease risk (CVDR), little is known about light-intensity physical activity (LIPA) potential. We conducted a prospective study to test if LIPA has any effect on CVDR in adults, free of cardiopulmonary diseases, independent of MVPA and SB. We also evaluated the extent to which cardiorespiratory fitness (CRF) is a mediator between LIPA and CVDR relationship. Methods: 362 adults completed at least two follow-up visits at the Epidemiology and Human Movement Study (45 ± 14 years, 28 ± 5 kg/m2 BMI). We recorded clinical information and anthropometric measurements. The main outcome considered was a modified Framingham 10-year cardiovascular risk score (mCVRS) by excluding the coefficient related to smoking from the equation, since it is the unique factor that cannot be caused by physical activity (PA) low levels. We measured PA using triaxial accelerometers (ActiGraph GT3X) worn for 4 - 7 days. Participants underwent a cardiopulmonar exercise testing to measure peak oxygen uptake (VO2) as an index of CRF. We measured the above-mentioned variables at baseline, second and third visits. Our primary analysis used was a full cross-lagged panel model with three waves (i.e., 2-years of follow-up) in a structural equation-modeling framework to evaluate whether CRF mediates the association between PA strata and mCVRS. Then, we fit a linear regression with compositional data to evaluate the co-dependence of SB, LIPA, and MVPA in predict mCVRS. We used isometric log-ratio data transformations to adjust the models for time spent in other behaviors. Results: The proportion of physically inactive individuals at baseline was 29%. We found a significant indirect effect of MVPA (h/day) at baseline on mCVRS (%) at the end of the follow-up through peak VO2 (% pred.) at the 2nd wave as the mediator variable (B = 0.631: 95% confidence interval, 0.059 – 1.202; p = 0.031). We observed no indirect effect of LIPA or SB on mCVRS. Despite statistically non-significant, our results suggesting direct (-0.602: -1.294 – 0.089; p = 0.088) and total effect (-0.592: -

1.288 – 0.102; p = 0.095) of SB (h/day) on mCVRS. After linear regressions with compositional data, SB time correlated significantly (low co-dependence), with a higher yearly change in CVRS (1 = 1.951; p = 0.048) in relation to LIPA and MVPA. On the other hand, time spent in MVPA presented a significant negative association with yearly change in CVRS (1 = -1.454; p = 0.036). We found no significant association between LIPA time and CVRS, (high co-dependence). When adjusted for peak VO2, only SB remained significantly associated with the yearly CVRS change (1 = 2.003; p = 0.046). Conclusion: The co-dependencies regarding LIPA and MVPA were higher compared to SB and effects of MPVA on CVD risk was significantly mediated by peak VO2 over time. The co-dependence of SB, on the other hand, was lower, indicating an independent role of SB on CVDR reducing. Interrupting SB should be emphasized instead of substituting LIPA with MVPA to reduce CVD risk in adults.

Relationship between the quantity of vigorous physical activity and heart rate variability in adults: a cross-sectional study

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Introduction: The minimum amount of daily physical activity related to cardiovascular health benefits has already been widely determined. On the other hand, little is known about the impact of extreme amounts of vigorous physical activity (VPA) on cardiovascular health. The deleterious effects of VPA, i.e. energy expenditure ≥ 6 metabolic equivalents of task remain controversial. We hypothesized that extremely high amounts of VPA are not associated with additional benefits in heart rate variability (HRV) in adults. Our aim was to evaluate the dose-response relationship between VPA and HRV in adults. Methods: We selected 1,040 participants without chronic diseases (60% women, 42 ± 15 years, 28 ± 6 kg/m2 BMI) from the Epidemiological Study of Human Movement (EPIMOV Study). After acquiring sociodemographic and clinical data, we evaluated the heart rate at rest using a cardiofrequencimeter (POLAR RS800cx). The participants remained in the supine position for 10 minutes and we selected an intermediate 5 minute window for HRV analysis. We measure the standard deviation of the RR intervals (RRs), mean RR intervals (RMSSD) number of RR intervals with difference > 50 ms (NN50) and low (LF) and high (HF) frequencies in ms2. The indices SD1 and SD2 of the Poincaré plot were quantified. Physical activity was assessed using a triaxial accelerometer (Actigraph GT3x+) above the dominant hip for 4 - 7 consecutive days. We also evaluated the pulmonary uptake peak of O2 (VO2) in a treadmill cardiopulmonary exercise test. The participants were divided into five groups according to the VPA quintiles in min / day (group 1, < 0.20, group 2, 0.20 - 0.39, group 3, 0.40 - 0.99; group 4, 1.00 - 3.1, group 5, ≥ 3.2). We evaluated the linear trend of HRV through the quintiles and used the logarithmic transformation to compare the five groups in a multivariate general linear model. The models were adjusted for age, gender, cardiovascular risk and peak VO2. Results: All HRV indices evaluated showed a significant linear trend (p < 0.05), with better HRV with increased VPA. However, group 5 did not present better HRV compared to group 4 (p > 0.05) for any of the indices evaluated (SDRR, RMSSD, NN50, HF, LF, SD1 and SD2). Conclusion: Our results showed

significant benefits of VPA in the autonomic modulation of asymptomatic adults, however, suggesting that extremely high amounts of VPA are not associated with additional HRV benefits.

Effects of sedentary time substitution by light physical activity in the cardiorespiratory fitness of asymptomatic adults

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Introduction: Sedentary time (ST) substitution by light physical activity (LPA), ie., with energy expenditure between 1.5 - 3.0 metabolic equivalents of task (MET), has been suggested as a more realistic strategy for cardiovascular diseases prevention in comparison to moderate-to-vigorous physical activity (MVPA). However, there is a lack of deeper investigation about LPA and its association with greater cardiorespiratory fitness (CRF) that is an important predictor of mortality. Our aim was to evaluate the effect of ST replacement by LPA on the CRF of asymptomatic adults using isotemporal replacement analysis. Methods: We conducted a cross-sectional study with 1,044 participants, 626 men (60%) and 418 women (40%), selected from the Epidemiological Study of Human Movement (EPIMOV Study) (42 ± 15 years, 28 ± 6 kg/m2 BMI) without chronic diseases. Physical activity was assessed objectively through the use of triaxial accelerometers (Actigraph GT9x) positioned above the dominant hip for 4 - 7 consecutive days. To evaluate the CRF, participants were submitted to a treadmill cardiopulmonary exercise test under a ramp protocol and to the six-minute walk test (6MWT). The peak of pulmonary uptake of O2 (VO2 peak) and the traveled distance in the 6MWT (6MWTD) were used as CRF indexes. We evaluated the effect of ST replacement by LPA and MVPA on CRF using the isotemporal replacement technique. ST, CRF and MVPA, as well as the total time of accelerometer use, were calculated in blocks of 10-min. The isotemporal replacement models were also adjusted for age, gender and cardiovascular risk factors. Results: Participants presented normal VO2 peak (100 ± 18% predicted) and 6MWTD (104 ± 13% predicted). Replacement of 10-min ST by 10-min LPA did not correlate significantly with higher VO2 peak (B = 0.021 mL / min / kg, 95% confidence interval, -0.066 to 0.107) and higher 6MWTD (B = -0.311 m, -1.233 to 0.611). Differently, the 10-min replacement of ST by 10-min MVPA correlated significantly with higher VO2 peak (B = 0.530 mL / min / kg, 0.325 to 0.735) and higher 6MWTD (B = 6.210 m; 8,351). Conclusion: Although LPA has been suggested as an effective strategy in reducing cardiovascular risk, our results suggest that ST replacement by LPA is not associated with benefits in CRF and therefore MVPA is required to enhance CRF in asymptomatic adults.

Effects of replacing sedentary behavior by light and moderate-to-vigorous physical activity on lung function in adults

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Introduction: Deleterious effects from not attaining the minimum recommendations for moderate-to-vigorous physical activity (MVPA) for non-communicable diseases are comparable to those attributed to smoking. High levels of MVPA may reduce the rate of pulmonary function decline to a similar extent in smokers and non-smokers. As for light-intensity physical activity (LIPA), it has emerged as a way to interrupt sedentary behavior (SB) and improve cardiometabolic health in patients. To date, studies assessing the impact of LIPA on the pulmonary function are scarce or nonexistent. Therefore, we conducted a cross-sectional study to evaluate whether substituting SB with LIPA and MVPA may be associated with a positive change in lung function in adults. Methods: We used isotemporal substitution modeling to investigate the effects of reallocating SB with LIPA and MVPA on FEV1 and FVC in 1,044 participants free of respiratory diseases (42 ± 15 years, 400 men). We measured physical activity using triaxial accelerometers (ActiGraph GT3X) worn during waking hours for seven days. We reallocated 10-min blocks of SB by LIPA and MVPA and assessed its impact on spirometric indices. We adjusted the substitution model for age, sex, and main cardiovascular risk factors. Results: Substituting 10-min of SB with MVPA was related to significant increases of 2.41% predicted in FVC and 2.39% predicted in FEV1. Replacing 10 min of SB with LIPA produced slightly higher values of the FEV1/FVC ratio (0.12%). Conclusion: We may conclude that MVPA plays an important role in respiratory health in adults. Our results also suggest that LIPA may be a rational strategy for interrupting SB and for improving lung function in adults free of respiratory diseases.

Digital Competencies of São Paulo's Physical Education teachers as an integrating alternative for Sports Sciences

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Introduction: In a context of technological advances, the emergence of the digital world presents itself through new practices, customs and relations between people and Digital Platforms, including the influence on the body and sports practices. In this context, the study proposes the debate on the digital skills and / or competencies of professionals working in the field of Sports Sciences, in this case, Physical Education teachers, suggesting the digital skills / competencies as a way to enhance their professional practice. Methodology With the adoption of multi-methodological protocols such as questionnaires, interviews and the use of content analysis techniques to evaluate the results, the present ethnographic study portrays part of a doctoral research carried out with Physical Education teachers working within the scope of formal education in the city of São Paulo. The research also tried to evaluate the understanding about media and different digital platforms of this public, with emphasis on the digital games, and its practices, taking as a reference the "Media and Information Literacy (MIL) Curriculum for Teachers" proposed by UNESCO. Results and discussion: Although the research identifies, that Physical Education teachers of São Paulo do not use the Digital Games in their classes, among others, it is possible to conclude that this public already considers such platforms as important means of communication, recognizing its influences and coverage in the current daily connected world. Final considerations: Finally, the study proposes that the understanding of the competences suggested by UNESCO's "Media and

Information Literacy (MIL) Curriculum for Teachers" could be used as an integrating alternative to the understanding of the concept of MIL as a possible way to broaden perspectives and strategies of professional activity in the Sports Sciences area, maintaining their critical slant, but also stimulating Physical Education teachers to engage with the possibilities that Digital Platforms, Digital Games and other media can offer not only in their teaching practice but as a training for full civic participation in society as well.

The role of nonprofit incubators in the development of sport

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Introduction: Nonprofit incubators play an important role in the development and growth of nonprofit organizations. In particular, nonprofit incubators enable sharing of government and societal resources and provision of support infrastructure to nonprofit organizations at their early stages. Nonprofit sports organizations that serve as governing bodies for various public sporting events and for individuals and groups to participate in sports activities could also take advantage of nonprofit incubators at an early stage to enhance their capacity. Methods: This study used a case study design. It analyzed the role of nonprofit incubators in the development of two fitness clubs during their early stages, including successes and potential problems. Results: Both fitness clubs faced resource shortages and operational incapacity to put their ideas into place during the early stage. Using a nonprofit incubator model, the two fitness clubs were able to take advantage of various shared resources to support their operations, including government support, local community engagement, professional management, legislative regulations, and general public prosperity. The nonprofit incubators ensured work spaces, sports facilities, capacity building, administrative assistance and small support funds for these two fitness clubs. The whole incubation process took about one year for each fitness club and consisted of the following milestones: application acceptance, model appraisal, getting into "shell", received support, performance evaluation, getting out of "shell", and progress tracking. The nonprofit incubators greatly improved the two fitness clubs' relationships with the government, and enhanced their capacity after completion of incubation. Potential problems identified regarding the current nonprofit incubator model included a single incubation mode, inability to meet diverse needs of sports organizations, lack of expertise, lack of effective communication with the government, and lack of a progress tracking system. Conclusion: Nonprofit incubators have a direct impact on the development of nonprofit sports organizations. While the impact may be diminished as sports organizations grow with more diversified resources, nonprofit incubators are particularly suitable for the early stage development of nonprofit sports organizations.

Fate control and problem lottery playing among Chinese sport lottety players: Maening maintenance perspective.

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While sport lottery developed rapidly in china, problem lottery playing received increasing attention. Previous studies revealed that lottery-specific beliefs, such as lottery attitudes,

risk perception, and irrational belief, played a significant role in the development and maintenance of problem lottery playing which were mostly based on social-cognitive theory or theory of planned behavior. Few studies have investigated the relation between general fate control belief and problem lottery playing, particularly the potential meaning maintenance mechanism. Fate control, as an important general belief, provides an account of our experiences and is also a form of meaning. Drawing on the meaning maintenance model perspective, this study aimed to examine the influence mechanism of fate control on problem lottery playing, and the mediating role of avoidance motivation, illusion of control, and expectancy. MethodsThe present sample comprised 2352 sport lottery players (1626 male, 726 female) recruited from various cities in china. Participations in the study were voluntary and reward was provided after they finished. Problem lottery playing severity index, fate control, avoidance motivation, illusion of control, and expectancy were measured. Data were analyzed using SPSS 17.0 and Mplus 7.0 which was specifically developed for assessing the complex models with the bias-corrected percentile Bootstrap method. Results: Results showed that fate control was positively related to avoidance motivation, illusion of control, and expectancy; avoidance motivation was positively related to illusion of control, expectancy, and problem lottery playing; problem lottery playing was positively related to illusion of control, and expectancy. Avoidance motivation, illusion of control, and expectancy could fully mediated the relation between fate control and problem lottery playing through five path: the mediating role of avoidance motivation, the mediating role of illusion of control, the mediating role of expectancy, the chain mediating role of avoidance motivation and illusion of control, the chain mediating role of avoidance motivation and expectancy. Conclusion: The present study offers following major contributions. First, we investigate the effects of fate control on avoidance motivation, illusion of control, and expectancy, which support the negative side of fate control. Second, the present study explores the meaning maintenance mechanism of fate control on problem lottery playing by identifying the central role of avoidance motivation based on meaning maintenance model, which broadens the research perspectives of problem lottery playing. Third, this study reveals that general fate control belief can indirectly facilitates problem lottery playing through lottery-specific beliefs. Our findings suggest that problem lottery players' prevention and treatment programs should attention the role of emotion managing and general belief.

Dianostic comparison of three anthropometric indices tp predict blood pressure in Nigerian Children: Amultinomial regression analysis.

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Anthropometric indices are widely used to screen children for cardiometabolic disease risk. However, few studies have comparatively evaluated the association between anthropometric indicators and cardiovascular disease risk among children and adolescents. This study examined the extent to which three commonly used anthropometric indices: waist-height-ratio (WtHR), waist-hip-ratio (WHR), and body mass

index (BMI)] could predict blood pressure in Nigerian children. Methods: A cross-sectional survey of 1229 school children (aged 9-13 years), randomly selected from 5 public primary schools in Ado-Ekiti, Ekiti State, Nigeria was undertaken. The children's height, body weight, and skinfolds were assessed using the procedures of International Society for the Advancement of Kinanthropometry (ISAK). Permission to conduct the study was obtained from the children's parents, school authorities and Ekiti State Ministry of Education, consistent with the ethical procedures of Helsinki declaration involving human participants. Spearman's correlations, linear and multinomial regression analyses were undertaken with probability level set at $p \leq 0.05$. Results: In contrast to WHR, BMI and WtHR significantly correlated with systolic ($r = 0.45$, $p < 0.001$: $r = 0.30$; $p < 0.001$) and diastolic ($r = 0.23$, $p < 0.001$; $r = 0.25$, $p < 0.001$) blood pressures, respectively. The regression model indicated that BMI and WtHR, respectively accounted for 11.5% and 2.6% of the total variance in the children's blood pressure measurements. Results of the multinomial logit model showed that BMI was the best predictor of the children's blood pressure (hypotension, $b = -0.38$, Wald $\chi2$ (1) = 73.7, $p < 0.001$; pre-hypertension, $b = 0.086$, Wald $\chi2(1) = 9.49$, $p = 0.002$; hypertension, $b = 0.19$, Wald $\chi2(1) = 12.8$, $p < 0.001$) categories. Conclusion: Body mass index and waist-to-height ratio, but not waist-to-hip ratio were significant predictors of blood pressure in Nigerian children. BMI and WtHR could be used in large scale epidemiological surveys to detect cardiovascular disease risk in Nigerian children and adolescents. However, future studies are needed to elucidate the present findings. Keywords: Cardiovascular disease risk, children, prediction, WtHR, Nigeria.

Echocardiographic Changes in dancers with high intensity interval training.

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Introduction: The influence of physical activity on the development of the respiratory system is a matter for ongoing debate. The intensity and volume of involvement by athletes in sporting activity would appear to determine the extent of strengthening of the inspiratory muscles, with resultant increase in pulmonary functions. Unquestionably, there are important differences between male and female in the respiratory response to both short-term and long-term exercise. From the available recorded studies, while such gender differences have been highlighted, many basic questions remain unanswered. For example, within the field of athletic performance, gender differences could impact on training and competition strategies. Modern dancers are considered as athletes at certain times. In general, male and female modern dancers adhere to similar technical training regimes, but measurement of their pulmonary function has not been widely investigated. Therefore, the aim of this study was to compare the resting pulmonary function between male and female modern dancers, based on the same level of training. Methods: Thirty-eight modern dancers (18 male, 20 female) volunteered to participate in this study. Participants were university level modern dancers (age=23.65±3.12 years). Their exercise level (3 days/week, 3 hours/day) and training history (at least 4 years) were similar. All participants were healthy, non-smokers and had no previous history of cardio-pulmonary disease. Participants with less than 80% forced expired volume in one second (FEV1) to forced vital capacity (FVC) ratio were excluded from this study. All female dancers were tested randomly throughout the menstrual cycle. Basic anthropometric

measurements (height and body weight) were obtained from participants. Pulmonary function was assessed by measuring the tidal volume (TV), Maximum Voluntary Ventilation (MVV), Vital Capacity (VC), FVC, FEV1, percent of FEV1 (FEV1%), forced expiratory ratio (FER = FEV1/FVC), peak expiratory flow (PEF), Forced Expiratory Flow between 25% and 75% of Vital Capacity (FEF25–75%) and Expiratory Reserve Volume (ERV). The measurements were taken with a computerized spirometer (MIR, Spirobank, Italy) in a sitting position, based on recommendations of the American Thoracic Society guidelines. The Mann-Whitney U-test was used to assess the significance of the differences between groups. Results were considered significant at $p<0.05$. Results & Discussion: Mann-Whitney U-test results revealed significant differences ($p<0.05$) for values of MVV, VC, FVC, FEV1, PEF, FEF25–75% and ERV between genders. The values for male dancers were higher than female dancers. There were no significant differences ($p>0.05$) in the other parameters (TV, FEV1%, FER) measured. Conclusion: Based on this study data, performance of resting pulmonary function of male and female dancers with the same training level were found to be significantly different. This suggests possible benefits could be achieved from the development of a gender-based dance training program. However, results should be considered as only preliminary and confirmation or otherwise is required by way of future studies based on larger sample size. To fully address questions of gender-based differences in pulmonary performance, future such studies involving modern dancers should consider pulmonary structure and function, during resting and dynamic exercise.

Is sleep quality of university students related withtheir physical activity level and quality of life.

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Introduction: Sleep is important for maintaining good physical, mental, and emotional health, however, a significant number of people suffer from poor sleep in their daily lives. University students may also be faced with low levels of physical activity and sleep quality due to long hours of studying and preparations. Therefore, we have aimed at studying the sleep quality, the level of physical activity and the quality of the lives of university students to understand if there is any association among them. Method: The study included 65 healthy university students (n=34W, n=31M; Mean age: 22.94±1.15, 23.06 ± 1.26 years). 47.7% (n=31; 41.2%W, 54.8%M) were involved with sports, and 52.3% (n=34; 58.8%W, 45.2%M) had a sedentary lifestyle. Their mean body mass index-BMI was 23.45 ± 3.41kg/m2. None of the participants had any systemic disease. All submitted their (own) written consent to participate voluntarily in the study.The physical activity (PA) levels (International Physical Activity Questionnaire-IPAQ), uality of sleep (Pittsburg Sleep Quality Index-PSQI) and quality of life levels (Short Form-36-SF-36) of the participants were assessed. Results and Discussion: Their age, height and weight were not significant according to gender but their BMI were higher in favor of men ($p<0,01$). Among women 61.8% and among men 61.3% had good; 28.2% and 38.7% had poor sleep quality, respectively. Only 11.8% of the women and 19.4% of the men were having high, and 61.8% and 61.2% were having moderate levels of PA, respectively. The physical and mental component summary of the quality of life of the participants were found to be

positively related with their sleep quality (p<0,05). On the other hand, the mental health concept (p<0,01) and the mental component summary (p<0,05) of the quality of life of the participants were found to be positively related with their total PA score. However, we have not found any significant difference in the PA level and sleep quality of the participants according to gender. Moreover, among all the health concepts of the quality of life, the physical functioning role of the participants was significant in favor of men. Although it is reported that high school students engaging in more than 3.5 hours of physical activity/week had more favorable measures of sleep quality, no correlation was found between sleep quality and the total PA. On the other hand, both sleep quality and total PA level were positively affecting the quality of life of students. In line with the relevant literature, we have not found any difference in sleep quality in relation to gender, but the physical functioning role of the male participants increased their quality of life. Conclusion: The sleep quality of university students was significantly affected by the physical and mental components of their quality of life but not by their physical activity level. Moreover, high physical functioning in males increased their quality of life and mental health. Thus, our results have revealed that sleep is an effective issue regarding the quality of life of university students.

Acute efects of kinesiology and biomechanical taping on hip and knee joints during vertical jumping.

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Introduction: Recently, there has been an increasing interest in Kinesiology Tape (KT) and Biomechanical Tape (BT) in clinics and in athletic competitions. Although KT is considered as being effective on muscle strength, there are controversial results regarding the effectiveness of KT in the literature. On the other hand; BT is a new method which has been receiving a fair amount of attention recently. However, there are not enough results to gain a clear understanding of its effectiveness as yet. Moreover, there is an increasing discussion on the effectiveness of KT and BT on healthy muscles that both of them may threaten the concept of fair competition. Therefore, we have aimed at studying the effectiveness of KT and BT on healthy young people. Methods/Methodology: The study was planned in four phases so that each was performed to the each participant's quadriceps femoris (QF) and gastrosoleus (GS) muscles in a random order to eliminate the possibility of learning and fatigue. These were (1) the control phase with no taping, (2) the sham taping phase with rigid tape, (3) the KT phase with muscle activation technique and (4) the BT phase with offload technique. The mean age of the participants(n=10 male; n=10 women), who were physically active according to the International Physical Activity Questionnaire(IPAQ), was 20.5±1.6 years. Their mean body mass index was 21.0±1.9 kg/m2. Their QF and GS muscle powers (MicroFet2® digital hand dynamometer), vertical jump as flight height, flight time, power, and Reactive Strength Index (OptoJump Next®) were measured during each phase. Similarly, the vertical jump tests were recorded with a video camera (Logitech, C920) during each phase to study the hip and knee joint active range of motions (A-ROM) just before the maximum height of jump. The data was analysed with the "Friedman Test(P^f) and Wilcoxon Tests". Results & Discussion: According to the Friedman Test; sham taping, KT and BT showed ignificant changes on

the hip (P^f=0.000<0.05) and the knee (P^f=0.017<0.05) joints flexion A-ROMs and the muscle powers of the right (P^f=0.000) and the left (P^f=0.000) GS, the right (P^f=0.000) and the left (P^f=0.000) (P<0.05) QF. No significant changes were detected in the flight time (P^f<0.05), the flight height (P^f<0.05), the power (P^f<0.05), and the reactive strength index (P^f<0.05) of the vertical jump with sham taping, KT and BT. According to the Wilcoxon test; hip (81.4±18) and knee (85.2±12,6) joints flexion angle is significantly lower in the BT phase than in the other phases (P<0.05). Additionally, the muscle powers of the right (68.7±14.6) and the left (68.3±13.8) GS, the right (81.2±24.5) and the left (74.9±24.6) QF was higher in the BT phase than the other phases (P<0.05). On the other hand, the KT phase showed significantly higher changes on the right (76.0±22.9) and the left (72.9±22.0) QF but there were not any significant changes on the right (63.0±13.2) and the left (61.6±13.19) (P>0.05) GS. According to this study, no significant effect of KT and BT was reported on vertical jump and there were controversial results regarding the effect of KT on muscle power. To the best of our knowledge, since the effects of BT on muscle power and vertical jump have not yet been discussed thoroughly, this study may have an added value in this aspect. Conclusion: KT and BT increased QF power, and BT also increased GS power but decreased the active range of motion when jumping.

The Application of Ethnic Minority Sports in Guangxi China in School Physical Education

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Guangxi Province has one of the largest populations of ethnic minorities in China with the more prominent groups of the Zhuang, the Yao, the Miao, the Dong, the MuLao, the MaoNan, the Hui, the Jing, the Yi, the Shui and the GeLao. Having traditionally lived in isolation among remote mountainous regions, these ethnic minorities have preserved cyclical religious rituals that included dances and sports activities. For example, the “Sparkler-Grabbing” activity, also known as “Oriental Football” of the Zhuang People, sports a history of at least five hundred years. And the “Bamboo Pole Dance” of the Jing People can also be traced back to at least four hundred years. Both are typical ethnic minority sports of Guangxi province. Presently, the ancient rituals of such ethnic minorities are being affected by modernization and globalization, as large numbers of the local population have been moving to modern cities and influenced by their entertainment activities. As a result, traditional religious rituals and their accompanying sports are gradually being displaced by contemporary, global competitive sports. Our project consisted of adapting and adding the Zhuang People’s “Sparkler-Grabbing” sport and the Jing People’s “Bamboo Pole Dance” to a physical education curriculum. Our goal is not only to enrich the content of the curriculum and generate interest in physical education, but also for students to learn more about the cultures of Guangxi’s ethnic minorities and to help protect and preserve these ethnic minority sports. Method: We made minor adaptations and added the Zhuang People’s “Sparkler-Grabbing” sport and the Jing People’s “Bamboo Pole Dance” to the P.E. classes of the Urban Construction School in Guangxi, China. The students were15-16 years of age. Results: The students were able to master these two ethnic minority sports in the P.E. class. In addition, both sports enriched the teaching content of the physical education curriculum, and increased student interest

in P.E. They could also meet the needs of students with different athletic abilities, and help educate the students concerning the cultures of the Guangxi Zhuang and Jing minorities. Conclusion: The application of adapted ethnic minority sports of Guangxi to the physical education curricula is crucial and feasible. Through the platform of physical education classes at schools, we can also help promote the preservation of Guangxi ethnic minority sports. Key word Ethnic Minority Sports Physical Education Guangxi Province in China

The effects of technology supporteed brain breaks on physical activity in student teachers

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Introduction: Physical activity facilitates learning and enhance academic performance and schools have been known as special places for promoting physical activity, as children spend many hours each day of the week in school. Implementing short physical activity breaks in classroom can be a way to improve student physical activity behavior in schools. The role of the teacher is highly important in making sure that physical activity is implemented in their classroom. When teachers are aware of these implementations, they also can have motivation to use classroom activity breaks. Teacher education can be thought of as a process to encourage student teachers to incorporate physical activity during their lessons. Therefore, student teachers should be involved in practices which promote student participation in physical activity during class time in order to integrate when they become teacher. In this context, the aim of the study was to examine the effects of technology supported brain-breaks on attitudes toward, beliefs, self-efficacy, self-confidence and motivation on the physical activity of student teachers in the Cappadocia region of Turkey. Methods: A pre and post test with a quasi-experimental design was used in this quantitative study. The participants for this study was comprised of 135 student teachers from departments of social studies (n=86) and physical education and sports (n=49), consisting of 81 (60%) in experimental groups and 54 (40%) in control groups from Education faculty during the 2017 spring semester. There were approximately 54 (40%) males and 81 (60%) females among the participants. Convenience sampling was used in this study. The “Attitudes toward Physical Activity Scale”, was used. The experimental groups received the Brain Breaks® Physical Activity Solutions as an intervention for the duration of 10 weeks during three school days in three to five minute segments at various intervals. Results & Discussion: The repeated-measures of ANCOVA indicated significant Time x Group interaction effects. The experimental groups gained significantly more than the control groups from the pre-to the post-test. Except Promoting the Holistic Health subscale (F=.932, p=0.336), the Time x Group interaction effect was significant for all the APAS scales, namely, Self-efficacy in Learning with Video Exercises (F=33.030, p=0.000); Exercise Motivation and Enjoyment (F=59.298, p=0.000); Self-confidence on Physical Fitness (F=30.469, p=0.000); Importance of Exercise Habit (F=31.854, p=0.000); Trying to do Personal Best (F=14.902, p=0.000) (p<0.001). The results also showed that Time x Group x Department interaction effect was significant for Trying to do personal best (F=7.808, p=.006) subscale (p<0.05). Based on the partial ή², magnitude of the effect of the Time x Group interaction was the most salient for the scores on Exercise Motivation and Enjoyment (ή²=.315) and Self-efficacy in Learning with Video exercises (ή²=.204).

Conclusion: Overall, technology supported brain breaks had a positive impact on promoting physical activity in student teachers and “Attitudes toward Physical Activity Scale” can be used at university students.

Individual adaptive thermogenesis and body composition changes after weight loss process

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Introduction: A compensatory downregulation in resting energy expenditure (REE) has been noted in weight loss processes induced by exercise and dietary restriction. It has been shown that there is a protection factor working to maintain body energy storage. This process is called adaptive thermogenesis (AT), which means the difference between predicted and measured REE. Researches have noted AT as causing a greater-than-expected change in energy expenditure in response to changes in energy balance. Methods: Forty obese women (body mass index (BMI) = 35.1 ± 2.7 kg/m²)completed 16 weeks clinical intervention. They were divided into 2 groups. 19 subjects participated in an exercise intervention (EX) and 21 were under an interdisciplinary intervention (INT). Body composition, REE and BMI were measured at baseline and post- intervention. Using a regression equation in a reference population with 104 obese women (BMI = 34,81 ± 2.91 kg/m²) based on fat mass (FM) and free fat mass (FFM) we calculated the predicted REE. In addition, the AT was calculated post-intervention. Results & Discussion: The results support the received view that interdisciplinary intervention is more beneficial than exercise alone. We observed a significant decrease in body weight (p=0.011), BMI (p=0.009) and fat free mass (p=0.001) in INT group. The means of EX group remained unchanged. Although there were no significant changes in predicted and measured REE in both groups, 68% of EX group and 58% of INT group experienced a greater-than-expected decline in REE (-153.7 ± 127/ -164,7 ± 65.5 kcal per day, respectively). Pending further research, AT seems to be an individual process that influences energy expenditure and can make a difference in body weight loss. Conclusion: Interdisciplinary intervention showed greater changes in body composition, even though fat free mass was diminished. There were, in both interventions, individual changes and a greater-than-expected decline in REE.

Investigating the anthropometric variables and bio-motoric properties in male and female swimmers

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Introduction: Fast swimming is built on efficiency and effect. Efficiency means faster swimming with less effort, and consuming less energy. On the other side, effect means a force produced to move the body from one side of the pool to another side; in other words, the force that was being used effectively. Both concepts are based on the ability to create

the force. Aerobic and anaerobic endurance, strength, speed, rhythm, coordination, and technical skills play important roles for high performance. Addition to these mentioned determinants; anthropometry is another factor that influence the swimming performance. Hence, the purpose of this study was to investigate the anthropometric features, and some bio-motoric properties in young male and female swimmers. Furthermore, this study aimed to investigate the relationship between anthropometric and bio-motoric variables considering the gender differences. Methods: Eighteen male and seventeen female amateur swimmers (mean age = 13.4 ± 2.9 and 12.7 ± 2.2 years respectively) volunteered to participate in this study. All swimmers were member of the same team who had trained at least for 3 days in a week. The anthropometric features were evaluated by height, weight, skinfold thicknesses (triceps, biceps, pectoral chest, midaxillary, abdominal, subscapular, midthigh, suprailium, supraspinale, and calf skinfold thicknesses), breadth, and girth measurements, and body fat. The bio-motoric variables were limited with flexibility, squat jump (SJ), counter movement jump (CMJ), and handgrip strength. Results & Discussion: The results showed that there was no significant differences between groups for age, height, weight, skinfold thicknesses and ∑8 skinfolds ($p>0.05$). However, there was a significant difference between groups for body fat ($p<0.01$), humerus and femur breadth values ($p<0.01$), and for waist girth values ($p<0.05$). General hypotheses were that swimmers with a higher percentage of body fat would have a better performance than swimmers with lower percentage. On the other hand it has been reported that there was an inverse significant relationship between body weight, height and 50-m to 800-m free style swimming performance. The females were found to have significantly higher body fat quantity than males. In addition males' height and weight values were significantly higher than females. These results are consistent with the results of the current study. There was significant differences between male and female swimmers for investigated bio-motoric properties. The results showed that the SJ and CMJ values were significantly related with height, weight, breadth, and girth measurements ($p<0.01$) in male swimmers. On the other hand, no such relationship was found in female swimmers.Conclusion: The results of the present study indicated that there were significant differences between genders, with favor results for male swimmers. The determination of anthropometric properties may help the trainers to predict and follow the swimmers' performance.

Whey protein supplementation as a strategy to preserve muscle mass and increase protein synthesis in the elderly: a systematic review of the literature.

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Introduction: Aging often coincides with loss of muscle mass, strength and function, know as sarcopenia. Sarcopenia, a geriatric syndrome closely linked to physical frailty, has a substantial impact on the quality of life. Inadequate dietary intake, especially protein intake, has been associated with decreased lean body mass. Dietary protein affects muscle mass by the stimulation of muscle protein synthesis after absorption of amino acids into muscle cells AIMS: Verify the effectiveness of whey protein supplementation in increasing protein synthesis and muscle mass in elderly. Methods: This is a systematic

review conduced in the pubmed database, which sought clinical trials published between 2012 and 2016, with the combination of descriptors: Whey protein, muscle mass, protein synthesis, sarcopenia. Results: We found 30 articles and after exclusion of non-relevant issues and duplicate articles were included 11 articles in this study. Of the total included, 3 studies found no positive results, this negative response may have occurred because of the dose given and / or the timing of supplementation, 1 studie found the same response between whey and Leucina and 7 studies found positive results with whey protein supplementation both in muscle mass synthesis and in the increase of musculature in the elderly. Conclusions: Therefore, we can conclude that supplementation of whey protein shows positive results for increased protein synthesis and muscle mass in the elderly. However, the results differ between the sexes, quantity and timing of consumption, which after the need of new studies for the best understanding of the subject. It seems that elderly respond better to larger amounts of supplement and in more distant periods of the practice of resistance exercise, facts attributed to the process of anabolic resistance present in the study population. In addition, after reviewing the articles it appears that men present better results than women. The results give us another option to maintain the independence and quality of the elderly. Thus, more studies are needed in this specific population so that we can have all the answers about this effect and the safety of the product.

Motor performance and socio-economic level of children and teenagers determined by questionnaire of abep: longitudinal study.

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Introduction: Studies show that an active child with good physical fitness will not necessarily be a more active adult with better physical condition, except for those individuals who engage in intense sports practices and have good health-related physical fitness since childhood. In the State of São Paulo, it was noticed a higher percentage of very active individuals in class A, as well as individuals who did not reach the physical activity recommendation in classes A and E. On the other hand, it is speculated the influence of socioeconomic status and education of parents with the physical activity level of children, but the results are still conflicting. Therefore, the aim of the present study was to analyze the correlation between the socioeconomic status of children and teenagers and motor performance variables over a period of four years. Methods: sample 60 individuals (28 boys and 32 girls), from 8 to 14 years of age. All the participants signed a consent form and the term of free and informed consent (no.234/11).The variables investigated were: body weight (kg), height(m), body mass index (kg/m²), percentage of body fat, flexibility (cm),aerobic fitness (m), speed (m/s), lower limbs strength (cm), upper limbs strength (kg/f) and abdominal (reps). For analysis, the socioeconomic status of ABEP Questionnaire was used (2000). For analysis of the data was used Pearson's correlation test relating to socioeconomic classification with other variables. Results: It was verified moderate and significant correlation (405 **) for the % of fat, but only in the first year of assessment. For the other variables, the other three years did not observe any

significant relation with the socioeconomic classification. Conclusion: Based on the results found for these individuals, the data indicates that there is no relationship between body composition and motor performance of the students with the socioeconomic classification of these individuals.

The Evolution and Insertion of Orthoses, Prosthetics and Sports Equipment in the Brazilian Paralympic Sport

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Background: The Paralympic Sports provide a platform in which athletes with impairments are able to achieve remarkable levels of performance and create many athlete's challenges and who require prostheses, specialized wheelchairs, and other sporting equipment. In this context, the term Cyborg has been used to describe the current ideal condition for the Paralympic athlete that, using highly sophisticated equipment made from their individual needs, get better marks. For this evolution in sports performance to happen, investments were required in research into equipment technology and in the Paralympic sport itself. Objetives: To identify the evolution of the orthoses, prostheses and sports equipment in the period of the Brazilian Paralympic Sport implantation and the relation with evolution of the improvement of the national paralympics athletes results. Methods: A survey with 7 Physical Education professionals (4 men and 3 women), who have been practicing for 22 years, on average, in the Paralympic Sport of Brazil. A semi-structured interview was used to collect data. The data were processed qualitatively through interpretations and statements, respecting the interlocutors and detected relevant points of the trajectory of the evolution of orthoses, prostheses and sports equipment in the Brazilian Paralympic sport at the vision of these professionals. Results: According to the volunteers, in the beginning, the sport was kind of leisure for the practitioner and was confused with activities of his day by day. The pieces of equipment were made in a homely, precarious way in inappropriate material, for example, gutters made of PVC pipe and throwing seat configuration of athletics pitches made of scrap metal. In some cases the athletes were harmed by their own equipment and could not get the performance they wanted. The interviewed indicated low financial investments to justify such archaic equipment. However, from the Brazilian participation in international competitions, the Brazilian Paralympic Committee (CPB) began to implement modifications in attempt to organize and streamline Paralympic program. From the Paralympic Games in Athens in 2004, Brazilian equipment began to receive investments and with this, a significant improvement of the results was observed, going from 24th of the ranking to 14th. Since then, the Brazilian Paralympic sports have only improved its results, presenting itself as 7th place in the medal ranking in the Rio 2016 Games, but according to the interviewees, this evolution is not already accessible for athletes in general, facing problems as the high cost of such equipment. Conclusions: we can conclude that there have been changes and advances in orthoses, prostheses and sports equipment, with a significant progress in the athletes' performance. But for the real requirements, we need to make them more accessible and compatible with the functional needs of each athlete, in constant chase to the best performance.

Diversity and Inclusion Strategy as a Social Legacy of the Rio 2016 Olympic and Paralympic Games

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Background: Rio 2016 Games were a unique opportunity to inspire people worldwide, as one of its social intangible legacies. Rio 2016 needs to manage a complex and heterogeneous of more than 150,000 workforce and to deliver that, is required to develop a challenging organizational culture. One of its pillars should be Diversity and Inclusion (D&I) Strategy, responsible for building a culture to reach an inclusive environment to all clients during Olympic and Paralympic Games. Diversity and Equal Opportunities were values that were present in the routine of Rio 2016 Committee. Purpose: The purpose of this study was to verify the Olympic and Paralympic events and social legacy creation motivations about employability into two specific programs according to D&I strategy. Methods: A research building upon the knowledge report for Workforce representatives of Rio 2016 Committee functional areas filed to International Olympic Committee. A internal survey was used to measure a this program acceptance with managers of the work áreas. This survey used scale Likert. Results: Athletes with Impairment Program: employed athletes with impairments in positions that could support their future careers, their ongoing higher education commitments and sports training and competition schedules, without restriction. The Rio 2016 Committee created this program to have a more inclusive work team aligned with the Committee´s Diversity and Inclusion strategy. In a survey of managers working in this area, 93% said they were satisfied with the program and every manager believed it would be a social legacy of the Rio 2016 Olympic and Paralympic Games. Externally, the program was reported on more than 12 times in various media formats, including the primetime news with the largest television audience in Brazil. “Incluir” Program: this program was designed to provide job opportunities for people with intellectual impairments in administrative areas in the Committee with support and daily supervision an employees, as well as weekly psychological assessment for members of the program through meetings and guidelines for their work routines. This monitoring was done by a consultancy specializing in the inclusion of people with intellectual impairments in the work place. Conclusion: Diversity and Inclusion was a core value for an Organizing Committee that intended to create a positive social impact. Rio 2016 Olympic and Paralympic Games have the power to engage society in many aspects, including social transformations. As a legacy, D&I management provided an opportunity of different people living in an inclusive environment, valuing their differences and providing positive attitudinal changes together with creating equal opportunities, not only in sports, but also in their own lives. Key-Words: Diversity and Inclusion, Legacy, People with Impairment, Employability

Brain Break Research with High School Students in Brazil, Analyzing attitudes towards PE, Attention and School Grades

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Cinapsi

Introduction: The aim of this study is to examine the effects of technology supported brain-break on high school students in regards to attitudes, beliefs, self-efficacy, self-confidence, motivation as well as the results of average grades per semester and the results of an attention test called Shulte test. We have now the initial results of the pre-test of this study; emphasizing it is the first of it's kind in Brazil. Methods/Methodology: The participants for this study included 66 high school students from grade 10 from a private school in the state of São Paulo, consisting of 32 students in an experimental group (48%) and 34 in a control group (52%). The average age of the group was 15.21. There are 33 males (50%) and 33 females (50%). The "Attitudes toward Physical Activity Scale" (APAS) (Mok et al., 2015) was used at pretest to measure the attitudes, beliefs, self-efficacy, self-confidence and motivation toward physical activity, with seven different categories. We also used the Shulte Test (Anauate & Glozman, 2017) as well as the average of every grade of the quarter and Brain Break Research with High School Students in Brazil, Analyzing attitudes towards PE, Attention and School Grades. Results & Discussion: This study is still ongoing; therefore these are all the initial findings of this study that consists of a questionnaire for control and experimental group, the average grade for experimental group and the categories of attention type in the Shulte Test. Conclusion: All data will be collected by November 2017. The hypothesis is that Brain Breaks will improve the scores of the questionnaire, Shulte Test and student's grades

Investigation and Analysis on the Distribution and Fairness of Sports Resources in Urban and Rural Schools in Central China

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Research Purposes: This research conducts field data collections of sports resources in the urban and rural schools from six provinces of central China, and then quantifies the level and fairness of the allocation of sports resources in urban and rural schools of China by means of calculating the fairness coefficient. It expects to provide references for the country to formulate relevant plans and take measures. Research Methods: literature method, stratified cluster sampling field survey method, and distribution fairness-oriented index calculation method, including Gini coefficient, Thiel coefficient, Lorenz curve and so on. Comprehensive and systematic investigations and surveys were conducted from the four aspects, involving human resources, financial resources, physical resources and information resources, which include four indexes of level I, eight indexes of level II and sixteen indexes of level III. A total of 226 schools in Wuhan, Zhengzhou, Changsha, Nanchang, Hefei and Taiyuan were surveyed in 22 cities and 17 counties and cities, involving 267614 students, 4920 classes and 1006 physical education teachers, totaling 26,000 data. Research Results: (1) The comprehensive Gini coefficient (G comprehensive) is0.21, based on the educational resources allocation in the urban and rural schools from the six central cities of China; (2) Human Resources: the fairness coefficient is only 0.09 in terms of the quantity of sports teachers from urban and rural schools; (3) Physical resources: in terms of the average proportion of sports field per student, there exists the optimal fairness between urban and rural schools (G = 0.15); in terms of the average standard and non-standard sports field, the Gini coefficient amounts to 0.45among the urban and rural schools from the six provincial capitals ;in terms of the

allocation fairness of the sports facilities, the Gini coefficient does not exceed 0.10 between the urban and rural schools. (4) Information resources: There is an adequate supply of computers to support urban and rural sports, but in general a lack of adequate sports books. The urban areas, however, are slightly better than the rural areas. The allocation fairness coefficient both has reached the optimal condition (G <0.10). Conclusion: (1) The comprehensiveGini coefficient (G comprehensive) with regard to the allocation of sports resources in urban and rural schools from central China is 0.21, which is in a fair state. (2) In terms of the proportion of the indoor sports field, the Gini coefficient between urban and rural areas, between urban areas and rural areas, between townships and rural areas, has reached 0.66, 0.58 and 0.59respectively, which exceeds or approaches highly unfair level of 0.6.In terms of the standard sports field, the Gini coefficient among the urban and rural schools from the six central provinces has reached 0.45, which has exceeded the fair level of 0.4. The obvious differences, therefore, exist between urban and rural areas from the six provincial capitals.

Physical Inactivity and Tobacco use in Latin college students: A Systematic Review

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Introduction: Physical inactivity and tobacco use along with harmful use of alcohol and an unhealthy diet are considered by the World Health Organization as behavioral risk factors that increase the risk of suffering noncommunicable diseases. Scientific evidence around the world has identified college students as a vulnerable population because they show higher prevalences of behavioral risk factors than those found in the general population. The objective of this study was to describe the prevalence of behavioral risk factors in college students according to the scientific database analyzed. Methods: A systematic review was carried out with 381 articles analyzed through electronic search in an academic database. After the analysis, 61 studies that fulfilled the inclusion criteria were selected. Inclusion criteria included: year of publication (2005 – 2015), country of study (any country in Latin America), population (college students), and thematic (articles with data about prevalences of behavioral risk factors). Results and Discussion: A total of 61 articles about physical inactivity (n=47) and tobacco use (n=33) from 10 countries in Latin America were included in this study. In the case of physical inactivity, the final mean of the prevalences found in the articles analyzed was of 52. 57% ±22. 53% and the range of prevalences found was from 9.2% to 91.5%.70% of articles analyzed report prevalences greater than 40% (n=34 articles). The International Physical Activity Questionnaire (IPAQ) was the most-utilized instrument to assess this factor in the studies analyzed. Women report higher prevalences of physical inactivity than men. In relation to tobacco use, 33 articles were analyzed. Men showed higher prevalences of this factor than women in 9 of 13 articles that classified tobacco use by gender. The range of prevalences found in this factor was from 1.2% to 47.5% and the final mean of the 33 articles analyzed was 22.61% ± 12.91. Conclusions: the results show the existence of an unhealthy lifestyle in Latin-American college students. Keywords: physical activity, tobacco use, college students, prevalence.

Exploratory Analysis of Chinese Preservice PE Teacher Professional Identity Structure

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Background/Purpose: Teacher identity has become an important research topic in teacher preparation. Previous research has suggested that preservice teachers with weak teacher identity are more likely to drop out of the program and will be less likely to be effective teachers even if they become in-service teachers. It is essential to assess preservice teacher identity to foster high-quality teachers. To date, however, no valid and reliable scales are available for measuring professional identity of Chinese preservice physical education (PE) teacher. Thus, this study aims to develop a questionnaire measuring preservice PE teachers' identity in China. Method: Domains and items in each domain were generated based on a literature review on previous researches on the topic and interview results with 4 preservice PE teachers in China. Overall, 41 items were developed with 11 negatively worded items. Then the items were randomly listed in a survey using a 7-point Likert scale with 1 representing “strongly disagree” and 7 representing “strongly agree.” Common demographic information such as age, gender, year in the program, and previous sport participation experience were also measured at the end of the survey. The survey was then created online without individual identification information using Qualtrics. The link of the survey was sent to preservice PE teachers at 3 normal universities in China. In total, 718 participants provided useable data. Negatively worded items were reversely coded. Then exploratory factor analysis (EFA) was conducted to examine the structure of the questionnaire using the Statistical Package for the Social Sciences Version 21. Factor loading greater than .40 was set as the minimum loading for keeping an item. Analysis/Results: The EFA results revealed that 9 items were loaded on more than 1 factor, and they were deleted. There were 32 items remaining. Four factors emerged: effects of the profession, self-efficacy of teaching PE, dedication to the profession, and value of the profession, respectively. The 32-item scale also demonstrated acceptable reliability. Cronbach’s alpha for the entire scale was .92, while the alphas for the 4 domains ranged from .77 to .92—within the acceptable range. Conclusion: The 32-item Chinese Preservice PE Teacher Professional Identity Scale consisted of 4 domains. Future studies using a larger sample size of preservice PE teachers are needed to revalidate the scale.

POSTER PRESENTATION - ABSTRACTS

The relationship between isokinetic knee strenghth, yoyo-1 test, jumping and sprint performance parameters of amateur soccer players

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Aim and Significance: The purpose of this study was to investigate the relationship between isokinetic knee strength, Yoyo-1 test, jumping andsprint performance of amateur soccer players.Method: Totally 19 male (age: 20.4±3.8 years, heigth: 175.9±4.9 cm, weigth: 67.7±6.0 kg, BMI: 21.9 ±1,3) soccer players from Anadolu University Soccer Club voluntarily participated in this study. Bilateral concentric isokinetic strength of the knee extensors and flexors was measured via Cybex CSMI isokinetic dynamometer at different angular velocities (60°.sec- 1, 180°.sec- 1 and 300°.sec-1). Three submaximal repetition of the trial at each speed were performed before each testing procedure. Countermovement ,squat jumping performance and sprint test was measured via Sport Expert MPS501 system. Each player performed three vertical jump conditions for each movement. Yo-yo intermittent recovery test evaluate the players individual's ability to repeatedly perform intense exercise. The motor coordination of the players was determined by Illionis agility run performance test. The realitionships were tested with Spearman Correlation. Discussion and Conclusion: The average peak torque of right knee extensor strength for 60°.sec-1 was 206± 2 4 , 180°.sec-1 was 138±20,300°.sec-1 was 96±18 respectively. The average peak torque of right knee flexor strength for 60°.sec-1 was 152± 2 6 , 180°.sec-1 was 104±21, 300°.sec-1 was 75±16 respectively. The average peak torque of left knee extensor strength for 60°.sec-1 was 209±27, 180°.sec-1 was 128±19, 300°.sec-1 was 95±20 respectively. The average peak torque of left knee flexor strength for 60°.sec-1 was 155±24, 180°.sec-1 was 101±23, 300°.sec-1 was 80±18 respectively. 10m, 20m, and 30m sprint time of the soccer players was 1.601±0.008 sec, 2.880±0.082 sec, and 4.080±0.170 sec respectively. Average countermovement jump heigth was 36.1±5.5 cm and average squat jump heigth was 33.2±4.4 cm. Average Illıonis agility run test time was 15.52±0.32. The average Yo-yo test speed of the players was 16.2±0.8 km.h, the average accumulated distance of the players was 1717.9±499.2 m. There was significantly positive relationships between counter-movement jump and 180°.sec-1 rigth knee strength (r=0.575*). There was significantly positive relationships between counter-movement jump and 300°.sec- 1 left knee strength (r=0.528*). There was significantly positive relationships between ounter-movement jump and squat jump (r=0.794**). There was significantly positive relationships between 10m sprint time and Yo-yo1 test (r=-0.632**). There was significantly positive relationships between 30m sprint time and Yo-yo1 test (r=-0.607**). There was significantly negative relationships between body fat percent and Yo-yo1 test (r=-0.600**). In our results, it is concluded that isokinetic knee strength test, Yo-yo1 test, jumping and sprint tests can analyzed in male soccer players. In this way, the speciality of male soccer training parameters can be identified. In conclusion, there are no significant relationship between training age, body mass index and Illionis test performance neither knee strength nor Sprint performance.

Indicators and selection criteria for the hosts of sport mega-events taking place in BRICS countries

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Introduction: The countries of the BRICS group, which are emerging and developing economies, have approached the so-called sports mega-events. Such an attraction can be explained as these events have become valuable opportunities for the promotion of these countries to the world. This can be observed from the perspective that such nations have three preponderant factors for these events to occur: in the economic sphere, there is the availability of resources; in the political sphere, the ambition to strengthen the image of emerging power before the world; and in the environmental aspect, the relative weakness of institutions that protect the environment and human rights.Methods/Methodology: In view of recent and upcoming sport mega-events in BRICS countries, this qualitative and exploratory study identifies and analyses, through the analysis of documentary sources, the indicators and selection criteria that have been used to choose the host the Summer and Winter Olympics, the FIFA Men's World Cup and the Commonwealth Games. Results & Discussion: The governing bodies of these events, IOC, FIFA and CGF, require candidates to provide a vast repertoire of information, leading countries and cities to submit to the requirements of sporting entities to become the sports mega-events hosts. In common, the three entities determine that applicants complete a rich and detailed questionnaire containing information on several topics about the situation of the city/country. The themes that seem to converge as fundamental to the choice of the Evaluation Commission are: infrastructure, which shows that it is vital for entities to positively evaluate candidates, especially in relation to sports facilities since they are key pieces for the accomplishment of the competitions according to sports guidelines; Security, a subject of great importance, alerts to the concern about issues with terrorism and attacks is increasingly evident, especially for events such as these have the ability to draw great attention from the public; Government support, which proved to be the common link among all evaluations. In this way, this theme seems to converge with what the specialized literature discusses about the idea that hosting such events can serve as a tool to strengthen the image of power before the world, as well as enhance its power as national or regional leadership. Recently, sports mega-events have been great economic stimulators. The host can observe it in certain points, such as: improvements in infrastructure, job creation and attraction of tourists. To host these events also has a symbolic effect, announcing the status of cities and countries as important sites in global networks of political and economic powers.Conclusion: Thus, in such a narrow world order, one of the indicators in the changes of global powers can be represented by the act of countries of the South and the East to host the sport mega-events. The present study opens possibilities for future research to analyse other aspects, such as political and economic, as well as their impacts, that affect the accomplishment of these events by the emerging countries.

Environmental impacts in sports mega-events hosted by BRICS countries
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Introduction: Due to the importance that sport mega-events have gained in the world recently, a greater focus has been given to the environmental issue. The BRICS countries (Brazil, Russia, India, China and South Africa) are characterized by having large populations and being in full development and rapid economic growth. Thus, decisions taken by BRICS have a fundamental role around the world, with the issue of preservation of the environment and sustainable development as one of the most relevant. Methods/Methodology: In view of the recent sporting events taken place in BRICS countries, this qualitative and exploratory study aimed to identify and analyse, from documentary sources, the environmental impacts in sport mega-events. The events studied were those held in the BRICS countries, until 2014: 2008 Summer Olympics in China, 2010 FIFA World Cup in South Africa, the 2010 Commonwealth Games in India, 2014 Winter Olympics in Russia and 2014 FIFA World Cup in Brazil. The analysis of the information obtained on the environmental impacts of these events was carried out by comparing them with the aspects pointed out in the literature review. Results & Discussion: The host countries have created prevention measures and mitigation actions, but environmental protection and defence organizations are critical in pointing out the negative points. In Beijing 2008 the central issue was air quality, which despite many successful actions and the assurance that there were significant improvements, there are studies showing that quality has not improved instead. South Africa 2010 although with many initiatives, but with bad planning, managed to achieve success points. The reduction of the "carbon footprint" became the main concern, having had reduced much of what had been estimated. Delhi 2010 also showed concern about air quality and energy efficiency. However, convincing evidence has shown great degradation of biodiversity, for example, with the demolition of forests to build sports facilities. Sochi 2014 had a broad strategy of developing sustainable facilities, achieving success in most projects. However, there was extensive degradation of the biodiversity of Sochi National Park, where the Games took place, a UNESCO World Heritage Site, as well as cases of toxic waste dumping in rivers and territories of the Caucasus. Brazil 2014 was considered the most polluting Cup in history, with carbon emissions twice as high as the 2010 edition. On the other hand, success was achieved in waste management strategies and sustainable stadiums. Conclusion: The increasing incidence of developing countries hosting these events underlies the importance of giving due attention to the environmental aspect and that this can not be neglected in the planning of the organization of the events and they must have the same importance as the other impacts, such as political, social and economics ones. In this way, being aware of the impacts that the cities and countries have suffered is of extreme importance so that the organizers of future events can think and plan the best way to invest their efforts, thus directing the best conditions so that they have a positive return to the society.

Teaching adventure sports on physical education classes focusing on education for leisure – thoughts about an experience
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In the last fifteen years, adventure sports have undergone a process of popularization in Brazil. However, the practice of this type of leisure is still restricted to a small portion of the economically advantaged population. There has been a popularization of these sports (mainly through the media and marketing), but that does not mean that access to them has been democratized. Considering adventure sports as part of a culture of body movements, where all people are entitled to their practice, they can also be practiced in schools during physical education classes. Thus, the objective of this study was to present a lesson program on adventure sports, as well as to create an explanatory analysis about its execution, while considering its limitations and possibilities. Method: the nature of the research is qualitative. An exploratory and literature review was conducted to deepen the theme and its relationships with Leisure, Environmental Education and Physical Education. This was reflected in the planning of a program of classes with the purpose of discussing adventure sports from the perspective of "leisure education". The planning was carried out by one of the authors, at the school where he works, in the city of Cerquilho / SP, with two high school classes during the first semester of 2017. The work follows as a result of some notes and reflections about limitations and possibilities of work with the theme "Sports Adventures" in Physical Education classes, aiming at a "leisure education". Results: we consider that the main results found surround the knowledge obtained regarding adventure sports for the students, under a critical perspective of leisure education, that is, the knowledge and importance of working on the theme "Sports Adventures" in society and the development of motor skills, under a global motricity, namely posture, body awareness and palmar apprehension that were not targeted or stimulated in physical education classes. Conclusion: Despite the difficulties, mainly related to the practice of these sports modalities, the approach of studies on Adventure and Leisure classes in Physical Education is feasible. In addition, this activity can expand the possibility of performing an interdisciplinary / transversal work, where other topics are considered, such as the environment and sustainability.

Observations from a half-marathon: the street race from the leisure and culture studies point of views

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This work is aimed at analyzing a half-marathon, focusing mainly on the meanings and values present in the runners' behavior. Street racing is both a professional and a leisure activity for people of different ages, standards of living and genders. For some people, leisure is an element of culture not taken very seriously in comparison with activities involving social obligations, such as work. However, starting with leisure activities, we may identify peculiarities of a group or society. Method: the nature of this research is qualitative. Both a literature review and field research were carried out. The literature review consisted of selecting texts related to leisure and cultural topics based on a sociocultural reference. The selected texts were discussed from March to May 2017, during the meetings of an academic research group, and notes were taken for the main points raised by the debates. The field research was held at the street race called “Pague

Menos Half-Marathon" that took place in the city of Campinas / SP, on June 11, 2017. One of the researchers ran the half-marathon and used the participant observation technique during the race. The following aspects were observed: the subjects participating in the race, their gender and how they were dressed, what they were talking about, and noticeable facts that happened involving them. After the end of the half-marathon, the researcher wrote down observations with an initial interpretation, trying to identify their meanings. The interpretations followed the logic of intellectual effort of anthropologists like Clifford Geertz such as the use of thick description. The notes were shared with the research group, who compared the interpretation of the notes with the literature review and the discussions carried out before the first stage of the investigation. Results and discussion: based on the observations made and analyzed, the values and aspects of the participants' actions were identified as competition, manliness and social interaction. Classic leisure studies point to increasing competitiveness and seriousness in all levels of sports is the way people get involved because they are result oriented. Although there is a classification of amateur runners, it is possible for them to embody competitiveness during the race, be it about their own limitations or in favor of their beliefs. From the studies of leisure and culture, it is also possible to have access to elements that lead people to interact with one another, due to their interest in social aspects, as well as the interest in their own sport or body practice, represented here by street racing. Conclusion: this research is in accordance with the findings in the literature, and the novelty lies in the fact that competitiveness and social interaction are also related to the runners' assertion of manliness.

Relationship between Organizational Stressor and Athlete Burnout: Regulatory Effect of Mental Toughness

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Organizational stress is an ongoing transaction between an individual and the environmental demands associated primarily and directly with the organization within which he or she is operating. Organizational stressors are environmental demands associated primarily and directly with the organization within which an individual is operating,such as leadership, culture, team, logistics and operation, interpersonal relationship and sports career and so on. This social and organizational environment imposes numerous demands on athletes,which will affect their performance and well-being. When the athletes fail to cope with the environmental demands within their abilities and resources, they probably be burnout, even drop out from the sports event. In present, organizational stress has become an important research area. Methods: The meta model suggests that the organizational stress process is influenced by situational and personal characteristics, thus individuals behave in different response model facing the same stressor. In the cognitive evaluation stage, some individuals tend to take it as a threat or as a challenge facing the same environment demand. The study discussed the relationship between organizational stressors and athlete burnout and the regulatory effect of mental toughness. 692 Chinese professional athletes were investigated by OSI-IP, SMTQ and ABQ questionnaires and analyzed data by SPSS 18.0 and AMOS18.0. Results: The result shows that there is significant positive correlation between

organizational stressor and athlete burnout. Mental toughness can negatively predict athlete burnout. In regulating the relationship between the goals and development stressors and athlete burnout, the regulatory effect of control, constancy and confidence is significant; In regulating the relationship between logistics and operation stressors and athlete burnout, the regulatory effect of confidence is significant. In regulating the relationship between team and cultural stressors and athlete burnout, the regulatory effect of constancy and confidence is significant. In regulating the relationship between coaching stressors and athlete burnout, the regulation effect of the three dimensions is not significant. In regulating the relationship between the selection stressors and the athlete burnout, only the regulatory effect of the control is significant. Conclusion: Mental toughness plays a buffer role facing organizational stressors. Athletes with high mental toughness can better cope with organization stressors and prevent burnout experience.Various dimension of mental toughness has different regulatory effect on various organizational stressors. It suggests that we need to strengthen mental toughness training and cultivation for different organizational stressors in order to have better buffering effect.

Coupling Mechanism and Implementing Approach in Financial Support fort sports Industry

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In recent years, the rapid development of sports industry has received much attention. Research on coupling mechanism in finances and sports industry can help to ease the financing problems of sports enterprises and enhance its competitiveness of sports industry, but also help to enhance brand value and and social influence of financial institutions.For its own development advantages and market competitiveness, sports industry has become a new force to promote China's national economic growth. The study of the interrelationship between financial industry and sports industry will help financial industry to better serve the real economy of the sports industry, and the vigorous development of the sports industry also promotes the continuous innovation and perfection of the financial industry. Methods: Firstly, this paper defined the core concept and analyzed the relationship between financial industry and sports industry, and then clarified the coupling mechanism between financial industry and sports industry from enterprise, industry and policy aspects, and then analyzed the coupling path between the two industries, finally it comes up with the conclusion and policy implications. Results: The results show that: sports industry can not be separated from the financial industry for better and faster development ,and the development of the sports industry also has pulling effect on the development of the financial industry. It can be examined coupling mechanism of financial support for sports industry development from the enterprise level, industrial level and policy level. In this paper, four typical optional paths are listed: the fiscal policy leverages the financial capital, guide private capital to support the sports industry development, sports industry financial service platform construction and "Internet Finance +" sports industry, these four paths build a bridge between the financial industry and the sports industry. Conclusion: This paper argues that there are enterprise-level, industrial and institutional-level coupling mechanisms in financial and sports industries

development. Specifically, for coupling mechanism at the enterprise level, it mainly reflected in the bank-based indirect financing for credit support of sports-related enterprises, and capital markets as the main financing through the issuance of bonds, funds and guide the listing of enterprises and other equity support. For coupling mechanism at the industrial level, it cited the necessity of the two industries integration development. which shows that it is a win-win strategy. For coupling mechanism of the system level,it shows the importance of the top design for the development of two industries from relevant policy making, government function and legal guarantee.

Analysis of the acute effects of Yoga on the mood of adult women

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Social Service of Commerce (Sesc) is a private, institution, operating throughout Brazil, with the purpose of promoting social welfare, improvement in quality of life and cultural development of workers in the trade of goods and services, and tourism. Physical activities, including sports and recreation, are among those that make up the action field of the institution. The concern for human well-being has been the subject of many studies which indicate that physical exercise can improve aspects such as mood, well-being perception, self-concept, self-esteem and self-image. In addition, literature shows that yoga can improve psychosomatic functioning and emotional control. Yoga is one of the modalities that are part of the Body Practices program of Sesc São Paulo (SescSP). This program is composed of activities that value self-care, self-knowledge, awareness of one's body limitations and mental concentration. The aim of this study was to verify the short term effects of two different yoga classes on adult women's mood. The sample consisted of 21 adult women (52.3±5.5 years old). The protocol consisted of two different yoga classes, the first focused on musculoskeletal stimulus (MSS) and the second on meditative stimulus (MS). All the participants attended both classes on separate days. Both classes were given by the same teacher, in the same place, where the subjects normally attended yoga classes in Sesc. Participants completed the Brunel Mood Scale (BRUMS) questionnaire immediately before and right after each class. Data were analyzed with t-test from pre- to post-test for MSS and MS separately. Significance level was set at $p \leq 0.05$. The results showed significant decreases in stress, depression, fatigue and mental confusion for MSS, as well as significant increases in vigor. Significant decreases in stress, fatigue and mental confusion for the MS class were observed, as well as a significant increase in vigor. Levels of anger did not change significantly after any of the classes. It is concluded that both yoga classes, despite presenting distinct and even opposing contents, benefited the women's states of humor. The analysis of the mood state using BRUMS is an effective method of understanding the emotional changes that yoga practice can promote. This research suggests that yoga, through activities of strength and meditation, contributes to the physical and psychological health of its practitioners and is consistent with the proposal of the Body Practices program of SescSP, for positive health and the integral development of individuals.

A Study on the Patent Trends and Technical Competitiveness for the Sports Industry

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1. Introduction: This study conducted a patent analysis of the sports industry on the basis of the technology classification system used for the sports industry. The analysis focused on patents filed over the last twelve years (1995-2016), taking into consideration the period of patent rights. Disclosed or registered patents in four countries (the US, Europe, Korea, Japan) were searched on the WINTELIPS DB of Korea. This research screened currently valid patents that can match the corresponding element technologies largely through core keywords, and obtained a total of 46,145 patents to be analyzed. 2. Methodology: The patents filed from 2011 to 2016 are defined as the latest patents among the total number of effective patents. Patent Family Size (PFS) refers to a patent application intended to protect one invention from various exploitation by other countries. Applying for patents in various countries on the basis of their national applications is used as an index to judge the economic value of patents. Cites per Patent (CPP) refers to the number of citations from other patents. Thus, the higher the frequency of quotation, the stronger the technology is; and the lower the frequency, the weaker the technology is. Technology Strength (TS) is a value weighted by the frequency of citations, which is considered the qualitative evaluation of the number of patents that is equivalent to the quantitative evaluation. 3. Results: In terms of patent share, the US is the leader followed by Japan, Korea, and Europe. It is notable that the sports goods and materials sector has the largest number of patents among the five major categories, registering repetitive fluctuations since 1995. In this sector, Japan has the highest patent share, followed by the US, Korea, and Europe. Patents in the field of sports engineering and services have continued to show an increasing upward tendency. The US has the highest patent share, followed by Korea, Japan, and Europe. The number of patents in the field of sports facilities and environment has increased relatively steadily, except in 2010. Korea has the highest patent share, followed by the US, Japan, and Europe. Patents in the field of sports welfare and convergence have also been increasing gradually. Korea is the leader in terms of patent share, followed by the US, Japan, and Europe. 4. Conclusion: The results of the analysis of patents in the sports industry suggest the following implications in terms of trends, principal agents and technologies. In terms of patent trends, patents related to the sports industry show a very active tendency due to significant fluctuations in market shares. Sporting goods still have a high patent share but the number of patent applications is on the decline. Although their overall patent share is not so high, patent applications in ICT related fields such as wearable devices and simulations are on the rise.

The evaluation of playing-related musculoskeletal disorders of conservatory students playing violin

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A significant number of musicians encounter musculoskeletal problems during their profession. While practicing with musical instruments, the shoulders, elbows, wrists,

hands, finger joints and the spine are exposed to repetitive traumas, which may result in pain, restricted bodily movements and negatively affect the function of the body parts. Thus, these conditions affect their performance adversely. In literature, it is reported that music students experience five times more upper limb pain syndrome than their peers. It is also stated that 50% of the musicians experience pain or injury in their upper extremities. Therefore, we aimed at studying the playing-related musculoskeletal disorders and musculoskeletal pain among the conservatory students playing the violin as compared to their peers. Methods: The mean ages of the musicians (n=20) and the control group (n=23) were 19.65±3.37 and 21.21±1.12 years, their weights were 54.7±10.31kg and 64.60±11.00kg, their heights were 1.65±0.06m. and 1.68±0.08m. and their body mass indexes were 20.09±2.86kg/m2 and 21.58±2.42kg/m2, respectively. The musicians were from conservatory schools and the subjects in the control group were from the physiotherapy department of a university located in Istanbul. All the subjects submitted their (own) written consent to participate voluntarily in the study. Their pain (Turkish Version of Cornell Musculoskeletal and Hand Discomfort Questionnaire- CMDQ), posture (New York State Posture Rating Test), quality of life (SF-36), were assessed. The physical features of their upper limbs: muscle strength (manual muscle test), range of motion (Universal Goniometer), flexibility (flexibility tests) and pinch grip power (JTech pinch power meter) were also evaluated.All the data were analysed statistically and ($p \leq 0,05$) was used for the significance. Student T- test, Mann-Whitney-U-Test and Chi- Square tests and Spearman Correlation were used. Results & Discussion: We found that 60% of the musicians and 48% of the subjects in the control group suffered from pain in their upper limbs and trunk. The pain that the musicians felt in their left shoulder and hand; in both their forearms and neck were significantly higher than the pain that the subjects in the control group felt ($p \leq 0,05$). This may be due to the violin hold that is between left hand and the chin in external shoulder rotation position and supination of the left forearm. The duration of playing the violin (hours, days and years) and the neck-shoulder pain have a positive correlation ($p \leq 0,05$) because working the same muscle groups over a long period of time causes chronic injuries in muscle-tendon units, joints and peripheral nerves. Additionally, a negative significant correlation was found between the pain and quality of life of violin students ($p \leq 0,05$). Conclusion: Violin students may encounter the musculoskeletal problems like all other musicians. Holding the violin at their left upper limb may cause pain on their left side even if they play the violin in correct technique. These decrease their quality of life as the duration of practices increase. Therefore, the breaks between practices in order to rest the musculoskeletal structures, as well as the preventive physiotherapy exercises are important to decrease the playing-related musculoskeletal discomfort among the students playing the violin. Key words: Violin, students, pain, arm, prevention.

Correlations among Estimators of Heart-Rate Variability and Complexity in the Transition from Rest to Low Intensity Physical Activity

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Introduction: Estimators of heart rate variability and complexity (HRV/C) are important indexes of cardiac control and cardiovascular system well-being. Usually, at the beginning of an exercise bout, low values of HRV/C are found and this is considered to occur due to a withdrawal of the parasympathetic and an increase in the sympathetic tone. The transition between rest and low intensity exercises is seldom studied, and the importance of this transition is that it combines two concomitant physiological responses: orthostatic positioning and increased demand. Methods. 15 healthy volunteers (mean age: 27.5y) participated in the experimental protocol, which was composed of two conditions: 30 minutes of rest in the supine position (r) followed by 30 minutes of treadmill walking (e). Electrocardiogram was continuously recorded during the two conditions and R-R intervals were obtained. The R-R series were linearly detrended and checked for stationarity. Windows of 150 non-overlapping R-R intervals were sequentially extracted from each series and the following estimators were obtained in each window: mean heart rate (fc), standard deviation (SDNN), root mean square of the difference between adjacent R-R intervals (RMSSD), power of frequency bands (below 0.04 Hz – VLF; between 0.04 Hz and 0.15 Hz – LF; between 0.15 and 0.40 Hz – HF; above 0.40 Hz – VHF), normalized power (nu – i.e., the power divided by total variance), area of approximate entropy (a1ApEn). Correlations were studied at three levels: (1) intra-individual intra-condition (Pearson correlation followed by binomial test); (2) intra-individual between conditions (paired t-test of mean values); (3) intra-population (Pearson correlation for grouped mean values). Results & Discussion. Only significant correlations will be mentioned. Level 1 (r): RMSSD/HF, SDNN/VLF; (e): RMSSD/LF, RMSSD/VHF, SDNN/VLF, SDNN/LF. Level 2: increase in fc, nuLF and nuVHF. Level 3: all but VHF were strongly negatively correlated with fc, and positively correlated to each other as a consequence. Level 1 results indicate two important points. In general, small fluctuations in heart rate do not interfere with the HRV/C estimators. However, there may be some relevant overlap in the information brought by the SDNN and the RMS with that brought by the frequency bands. Level 2 indicates that the transition to low intensity exercises does not follow the general rule of HRV/C estimators decrease found in moderate and intense physical activity. Moreover, it shows the orchestrated control of orthostatic position combined with a small increase in demand: there is an increase in both sympathetic and parasympathetic tones, evidenced by the concomitant increase of nuLF and nuVHF (the latter due to an increase in fc and ventilatory rate). Finally, Level 3 results supposedly explain why moderate and intense exercise, which causes wide changes in heart rate, leads to an initial decrease in HRV/C estimators. In addition, it emphasizes that the strong correlation between the estimators and the heart rate will compromise interpretations of changes in HRV/C if this is not taken into account. Conclusion. Changes in HRV/C in the transition between rest and low-intensity physical activity follow a different pattern than in more intense exercises.

Heart-rate variability changes associated with age in fitness-matched subjects under high intensity exercise.

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Introduction. Many studies approached the relationship between age and heart rate variability (HRV) at rest. Under such conditions, a decrease in HRV indexes have been reported in older subjects, reflecting a reduction in vagal modulation of heart rate as age progresses. However, a complicating factor is that a decline in physical fitness/activity, as usually found in aging, is also known to be associated with lower values of HRV. Moreover, since most of the data was obtained in resting conditions, less is known about the effects of age on cardiovascular control during exercise bouts. Therefore, we aim to investigate the relationship between HRV and age in individuals of similar physical fitness under high intensity exercise. Methods. A total of 20 healthy active males were recruited (body mass 73 ± 7.4 Kg, height 1.76 ± 5.6), ages ranging from 25 to 59 years (mean 42 ± 11 years). The experimental protocol consisted of running on a treadmill at constant speed (between 10 and 12 km/h, mean = 10.4 ± 0.6 km/h) adjusted to attain 80-90% of the estimated maximum heart rate. Surface electrocardiogram records were obtained and processed into segments of 300 consecutive normal R-R intervals. Stationarity of R-R intervals was verified and linearly detrended if necessary. HRV was quantified through SDNN, RMSSD, a1ApEn and power spectrum frequencies (absolute and normalized – frequency bands: VHF (0.15-1Hz), HF (0.4-0.15Hz), LF (0.15-0.04 Hz) and VLF (below 0.04Hz)), and HF/LF ratio. Normality of indexes was tested using the Shapiro-Wilks test and, if necessary, variables were analyzed in logarithmic scale. Analysis of covariance was performed for each estimator versus age. Results & Discussion. A significant negative correlation was found between age and LF band (p-value < 0.05). Other estimators were not correlated to age. A previous study of fitness-matched subjects reported higher variability in younger individuals at moderate exercise intensity, quantified through Poincare plots and HF band. However, at higher exercise intensities, the age-related differences in HRV were no longer observed. Our results agree with the aforementioned study regarding the absence of age-associated changes in HF during vigorous exercise. Nevertheless, we found a negative correlation between LF and age. Such a relationship might indicate a differentiated cardiac control response to high intensity exercise in older subjects. Possibly, such pattern is related to a decrease in sympathetic response and/or a lower gain in baroreceptor reflex. Conclusion: We observed an age-associated decline in LF band, without concomitant changes in HF, suggesting that cardiac control during vigorous exercise is influenced by age in active men, probably due to a diminished sympathetic tone.

Effects of Speed and Slope on Muscle Activation Variability During Treadmill Running

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Introduction. Studies have associated increased constraints of the locomotor system with reduced variability during running and walking. Under physiological conditions, this often has been studied through changes in speed, and little attention has been given to the effects of external power in muscle activation variability. Although changes in speed do incur in changes in external power, such an effect goes along an inescapable change in stride variables and, thus, are unable to distinguish the effects of speed and of external power on gait variability. In this context, variations of slope offer an alternative way of

impose power changes. Here, we employed different combinations of speed and incline in order to access muscle activation variability during treadmill running. Methods. Eight healthy male runners (35±6.4 years old) took part in the study. For each volunteer, we determined the speed U that, at 0% incline, caused an increase in heart rate (HR) to 64-76% of estimated maximum HR. Then, for the combination of 2 inclines (0%i and 4%i), and 2 speeds (100%U and 125%U), the volunteers performed a total of four 6-minute runs on a motorized treadmill: A (0%i / 100%U), B (4%i / 100%U), C (0%i / 125%U) and D (4%i / 125%U). Muscle activity was recorded by surface electromyography (EMG) of the vastus lateralis and gastrocnemius. The time intervals (A-A) between successive activation episodes were extracted from the EMG recording and the A-A series were linearly detrended and checked for stationarity. Variability of A-A was assessed through the following estimators: standard deviation (SD), root mean square of the difference between successive intervals (RMS), and information entropy. Since HR increased linearly with external power, we took the former as an estimator of the latter. Comparisons between runs AxB, AxC, AxD and BxC were made for each estimator using paired Student T-test with Holm-Bonferroni correction. Results & Discussion. HR was lower at run A and higher at run D, with no significant difference between runs B and C. Stride frequency increased with speed and slope in the same way. For both vastus lateralis and gastrocnemius, SD and RMS showed a tendency to decrease with speed and HR, often attaining the lowest values at D. However, there was statistical significance only for the gastrocnemius (SD: A[0.027±0.018] > D[0.019±0.008], RMS: A[0.034±0.010] > D[0.025±0.008]). This is in agreement with previous studies of articular displacement that reported loss of variability with increasing constraints on the locomotor system. On the other hand, unlike previous studies, we did not find a clear pattern of change between information entropy and speed, slope or % of maximum HR. Conclusion. Our results point to a negative correlation between muscle activation variability and external power, regardless on whether slope or speed are causing the changes in demand.

The incentive law of sport in Santos city, its aplication and raise funds in 2016.
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The “Municipal Program of Fiscal Incentive and Support for Sports” (acronym in Portuguese: PROMIFAE), created by County Law in the city of Santos, aims to raise and channel resources to Sports, by means of offering tax exemption for private individuals and legal entities. This study´s goal was to verify the contribution of the Law/the Program to the development of local Sports initiatives, considering the following criterias during the year of 2016: a) number of submitted, approved and financed projects; b) raised capital within each sports category; c) number of projects related to sporting events per sports category; d) number of proponents who submitted projects, who had their projects approved and who had their projects financed; e) number of sponsors and total raised funds; f) number of people who have benefited from program per sports category; g) number of, and raised capital per, benefited sport categories. This study was conducted by a quantitative and descriptive approach, based on primary documentary sources registered by the “Santos Municipal Sports Department” (acronym in Portuguese: SEMES), to be examined in 2016. It was verified that 83 projects had been submitted, of

which 67% had been approved and 20% had been financed and executed. Of these, 7 to educational category, 5 to social participation and 1to high performance, for a total amount of R$880.443,68 intended for sports through the Incentive to Sports Law. The conclusion is that the Program attained its objective, increasing the financial resources for Sports initiatives and the number of Sports enthusiasts. The continuos analysis of the Program's is recommended, checking the effects of the “Municipal Program of Fiscal Incentive and Support for Sports” into the development of sports initiatives in the city of Santos.

The Pampulha’s Lake border qualification and the bicycle use: a possible legacy for the citizens of Belo Horizonte/MG.

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Introduction: In the context of the 2014 World Cup and the pursuit of the World Heritage of Humanity, the Pampulha Arquitectural and Landscape Complex – an iconic touristic site in Belo Horizonte – was requalified. Among the various interventions performed in the complex are those related to the lake’s depollution and the requalification of the margin. Therefore, the present study focused on the reforms that can be seen as a stimulus for the complex appropriation through leisure and physical activities practices. Thus, the aim was to describe and problematize these changes in order to raise discussions regarding mega events effects on leisure and physical activity patterns in the local population. Methodology: As a qualitative research, a documental and a bibliography study were made. Official governments documents regarding the event interventions were investigated. In addition, the study collected and evaluated some media reports from the local press. To contrast these data, the study examination also included on-site observations. For this purpose, an observation form was used in order to analyze some aspects of the structure implemented and some appropriation patterns. Results & Discussion: One of the documents analyzed, the “Strategic Integrated Cup Plan”, organized by the government of Belo Horizonte and Minas Gerais, shows a special concern regarding the quality of the lake’s water. It is evident that most of the intervention plans turned around the necessities related to tourism, the word tourist is central in the (re)creation of the city for the mega event. On the other hand, it is hard to find direct mentions to the residents needs and possible benefits that the changes could bring for the local population. The data from the observation and the media reports brings attention for the structure addressed for cycling: six stations of bike sharing system installed, 7 km of cycleways recovered and 11 km implemented in the lake’s margins. The investigation indicates that this structure represented a considerable impact on the local appropriation by cyclists. However, since the implementation, the structure is surrounded by conflicts due to the lack of space and the amount of people cycling, walking and running around the lake. The observation also shows problems related to the discontinuity, signalizations and obstacles presence in the cycle structure.Conclusion: More interventions in the site are required in order to adequate the structure for the amount of users and the different physical activity practices. However, in a way or another, more space was made available for cycling - once parts of the cycleways were built in the street -, which was a clear stimulus for the complex appropriation through the bicycle. Although the interventions headed in Pampulha focused expressively on tourism, the margins requalification can be

seen as a legacy for the local population, since it has improved the environmental conditions for the practice of physical activities - specially for bicycle users.

Applicability of an interactive MATLAB graphic interface code on the identification of electrical muscle activity during dynamic Biceps Brachii contractions

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Introduction: The analysis of muscle electrical activity can be relevant to several fields, such as medical and sports science. In these contexts, the technique known as Electromyography (EMG) has been extensively used in both research and clinical situations. The capacity of pinpointing the beginning and the end of electrical activity in EMG recordings is crucial for several protocols. Considering this, our group developed an open source MATLAB code with an interactive graphic interface focusing on the automation of this task. The purpose of the current work was to investigate the reliability of the code for the identification of dynamic biceps brachii contractions. Methodology: Ten healthy and physically active men volunteered to this project (age: 27 ± 2.71 y; weight: 73.58 ± 3.69 kg; height: 177.4 ± 3.07 cm – mean ± SE). Resisted biceps curls were performed until exhaustion with simultaneous video recording and biceps brachii EMG. The load was an 8 kg dumbbell. Firstly, contraction events were identified based on the video recordings. After that, contractions were identified with the use of our code and the results were compared between both methods. Results & Discussion: All the contractions of the volunteers identified by video were also detected by the graphic interface. At the same time, none of the contractions detected by the code were absent on the video recording. A qualitative visual comparison between both identification methods pointed out a strong similarity in the detection of beginnings and ends of the contraction events. These results demonstrate that the code can be successfully applied to automation of the identification of muscle electrical activity in dynamic tasks. Conclusion: The comparison between the video based method and the graphic interface method showed that the latter is reliable, at least in the context of the present protocol. That said, our code adds to the literature a trustable and automated alternative for muscle electrical activity identification.

The Impact of Perceived Lottery Knowledge on Lottery Addiction: A Moderated Mediation Model

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Introduction: The total amount of money of sporting betting was ￥143 billion and has been the second largest lottery types in China. Perceived knowledge is a major motivating factor in choosing to participate in in a fantasy game. Few studies have investigated the relation between general perceived lottery knowledge and problem sport betting, and mediating and moderating mechanisms underlying this relation. The present study examined whether perceived lottery knowledge would be indirectly related to problem sport betting through overconfidence, and whether this indirect association would be moderated by perceived risk. Methods: Using stratified sampling method, 9 provinces (municipalities directly under the central government) representing different regions and lottery development levels were

selected throughout the country. A total of 3785 sport bettors (mean age = 37.65 years) participated in this study. Problem sport betting severity index, perceived lottery knowledge, overconfidence and perceived risk. Data were analysed using SPSS. Results: Results showed that the money spending on sport betting and problem problem sport betting index were higher for sport bettors comparing with other types of sport lottery players. Multiple regression analysis showed that: (1) After controlling for gender and age, the perceived lottery knowledge has a positive effect on Problem sport betting. (2) The positive association between perceived lottery knowledge and Problem sport betting was mediated by overconfidence. (3) The mediating effect of overconfidence was moderated by perceived risk. The indirect effect was stronger for sport bettors with low perceived risk than for those with high perceived risk. Conclusion: The overconfidence of the guessing sports lottery plays a partial mediating role between perceived lottery knowledge and problem sport betting. This mediating effect were stronger for sport bettors who perceived less risk. Key words: sport bettors; problem sport betting; perceived lottery knowledge; overconfidence; risk perception

An interdisciplinary food and health program for adolescent athletes: design and activities

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Introduction: Inadequate food intake, body image awareness, peers and other external pressures are situations commonly found in sport, particularly in adolescent athletes. The objective of this study was to describe a Food and Health Education program designed for adolescent figure skating athletes, aiming to address these issues. Methodology: The Maguerez's Arch method was used as a framework. It is composed of five stages: "observation of reality", "identification of key points", "problem theorization", "solution hypotheses" and "application to reality". Activities were applied using participatory and ludic strategies, and were focused on horizontal dialogue, stimulating the athletes to think about solutions based on new knowledge and exchanges of experiences. Each activity was defined as follows: educational objectives, content, materials, strategies and the evaluation process. An interdisciplinary group of undergraduate students from the health area of the Federal University of São Paulo, who were members of the project "Integrated Actions for Athletes' Health", led the activities with 20 adolescent athletes. Results and Discussion: To achieve the first two steps of the Maguerez's Arch, participants were invited to think about their daily dietary behaviors, to describe their food intake for different meals, and to elucidate their knowledge and food beliefs. From this diagnostic activity, six themes emerged, to be developed in subsequent activities: food groups and food substitution; the role of teamwork on athletes' performance and self-confidence; the importance of breakfast for health and performance; body image; personal aspects involved in being an athlete; and fruit acceptability. In the first activity, skaters played a game (tic-tac-toe) to classify food according to food groups, sharing their knowledge and observing decisions by their peers, about food exchange. They were also asked to reflect on teamwork, by playing a cooperative game in which they took decisions together to

achieve a goal. A discussion about companionship and trust within the team was held. Two meetings focused on breakfast. In the first, different healthy breakfast images were presented to the skaters, who played a game to identify a missing food that complemented the meal. In the second meeting, in order to evaluate athletes' knowledge and to identify the occurrence of changes in eating habits, skaters reported their typical breakfast and teammates suggested healthy substitutions. Body image was approached with skaters wearing glasses of various color lenses, and leading them to discuss the different views of the same object, focusing on their physical self-image. Reflections on being an athlete occurred in small discussion groups, in which the skaters revealed positive and negative aspects of being an athlete in adolescence. An activity focused on fruit recognition using the five senses, to encourage them to increase this food group intake. Considerations: The objective of health and nutrition education programs should go beyond the transmission of information, and should include the consideration of inherent perceptions, cultural and social issues, to enable athletes to be autonomous in making appropriate food choices. Lucidity is an important strategy in this process of internalization, motivating and facilitating the learning processes of socialization, communication, expression and knowledge construction.

Women and sport in the press coverage of the 2016 Olympic Games

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Introduction: Women have gained space and increased their visibility within the sports world. Some recent studies have shown that the media have an important role in the visibility of female athletes. On the other hand, the media are also responsible for creating and maintaining stereotypes regarding gender roles, and one of the ways that sports media encourage patriarchal sovereignty is by highlighting the femininity and heterosexuality of female athletes, which undervalues their sporting achievements. Thus, the media perpetuate gender stereotypes, already impregnated in society, by reinforcing the categorization of sports according to the traditional views on gender appropriations. The aim of this study was to comprehend how female athletes were treated by the online media of the newspaper Folha de São Paulo - one of the main communication media in Brazil - during the coverage of the 2016 Olympic Games. Methods: A documental analysis of the Folha de São Paulo newspaper (online version) was conducted. The data collection covered the period between August 3rd and 22nd 2016 and the inclusion criteria was the presence in a report, of all the terms "woman", "athlete" and "female". Reports were excluded if they were not related to Olympic sports, did not have the Olympics as the main subject and articles that concerned only men's sports. Content analysis used to examine the data and this was done in a non-aprioristic way. Results & Discussion: We found 445 reports of which 120 were selected for this study. After data analysis, we identified 3 categories of how female athletes were reported: a) in an inferior way (9 reports); b) in a stereotypical way (16 reports), and c) simply as a common athlete (105 reports). Ten of the 120 reports fitted into any two of the categories. The 25 results found in categories (a) and (b) were expected, as historically female sports and/or female athletes have been devalued. Regarding the 105 reports in which there was no gender differentiation, we understand that during Olympic Games and other major international competitions, this

treatment is common, with stories of an individual's effort and dedication being emphasized. Conclusion: Although most of the analyzed newspaper reports fitted into a category in which the woman was treated as a common athlete, is worth noting that there is a typical depreciation of the women in the sport context.

Effects of physical training and interdisciplinary therapy on leptin and adiponectin levels in obese women: a comparative study

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Background: The adipose tissue has an important endocrine function with the synthesis and secretion of adipokines. Amongst 50 types of adipokines known, leptin and adiponectin are notable. Leptin, when elevated, indicates a bigger relationship with abdominal fat, inflammatory and atherogenic profile. Conversely, adiponectin is known for anti-inflammatory actions. Obese individuals usually present an unbalanced profile of adipokine synthesis and release, favoring a chronic subclinical inflammation. In these subjects, physical training and interdisciplinary interventions are recommended to promote improvement in this situation, but few studies have compared the two types of intervention. Objective: Compare the implications of 32 weeks of combined physical training and interdisciplinary therapy on leptin and adiponectin levels in obese women. Methods: 76 volunteers were randomized into two groups: Physical Training Group (TG) (BMI: 34.4kg / m²) and Interdisciplinary Group (IG) (BMI: 34.4kg / m²) being evaluated at baseline (n = 76) and after 32 weeks of intervention (n = 30). The TG group underwent a combined training program (5 'heating + 25' aerobic exercise + 25' strength exercise + 5' relaxing) with frequency of 3x / week. The IG group, in addition to similar training, was submitted to interdisciplinary therapy, covering the areas of nutrition (1x / week), psychology (1x / week) and physiotherapy (1x / week). The statistical analysis of the effects of the intervention programs to compare these variables, according to the group (interdisciplinary and exercise), in the two evaluations, used mixed models 2 x 2 (Group and Time), Bonferroni multiple comparison method and effect size for clinical follow-up. Results and discussion: Both interventions (IG and TG) were effective in decreasing circulating levels of leptin, but did not alter adiponectin (P = 0.27-time factor). There was also group and time interaction for the leptin variable and the post-hoc bonferroni test indicated that there was a significant decrease for both groups between pre and post moments, however with a different level of significance being P = 0.039 for IG and P = 0.001 for TG. Conclusion: In general, adipokines leptin and adiponectin responded similarly to TG and IG interventions in the 32-week period. In addition, the data confirm a relevant role of TG, or IG, on the normalization of leptin reference values in obese women.

Comparison of the pendulum throw in Boccia with and without use of orthoses

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Background: Boccia is a sport that has been growing and presenting adherence since its implantation in Brazil. This is a sport to require tests muscle control and accuracy as it consists of a series of rounds in which players throw a colored ball as close as possible to the target white ball, known as Jack. BC4 class players have severe motor dysfunction at the four extremities, of non-cerebral origin or of degenerative brain origin. Tetraplegic players who play Boccia may not have the control to throw the ball with the necessary fitness. Some layers could use an orthosis to make them on equal terms with other players. Often, those who need the use a device are segregated within the group. Rules regulating Paralympic and Boccia do not prohibit bracing, but are subject to approval before each competition. There are no studies that demonstrate the improvement of motor skills with the use of upper limb orthoses in this sport modality. Objective: To compare the pendulum throw movement of a tetraplegic athlete of the boccia without and with using bracing. Methods: A case study was performed with a 32 years old quadriplegic athlete, male, and eight years of practice at the sport. In order to perform the study, the athlete was instructed to make throws without and with an orthosis usually used in his training, this orthosis made of leather, which has only one support in the fingers and is fixed in the wrist. The protocol consisted in carrying out six medium-distance pitches, to a point marked by a cross in the middle of the court, in order to evaluate the pendulum throws. Results: As the goal of the game is to have the balls placed as close as possible to the target ball, in the non-bracing test, the throws did not succeed since they were far from the target. In the second part of the test, the athlete made use of the assistive device used to train and play. The results of the throwing balls showed an excellent performance of the volunteer, because 5 of the 6 balls thrown hit the target ball, reaching the goal of the game. Conclusion: [LY1] : With the test, it was possible to verify that the orthosis is fundamental for the athlete's performance once it provides to throw balls and approach them of the target with accurance. It is suggested to carry out new studies that correlate the use of orthosis with possible impacts on other impairments that practice the modality. Key-words: Assistive Device, Paralympic Sports, Sports Performance

Breastfeeding and the body image of children

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Introduction: Several studies have set out to investigate the motives that cause bodily dissatisfaction in people. However, there are still few studies that investigate body image in infancy and early childhood among Brazilians. Breastfeeding, especially in the first years of life, has many benefits for the mother and the baby, such as aspects related to the formation of bone and muscular structures of the face, the strengthening of the immune system and the socio-affective relationship of those involved. In this study we emphasized socialization and affectivity, and their contributions to corporal satisfaction in early childhood. It is based on the hypothesis that children who have family support since birth have potential for greater self-esteem. With these propositions it is understood that the relationship established between the mother and the baby provides emotional stability to the child, favoring an increase in self-esteem at an older age. This way, we aimed to investigate if there is an association between the period of breastfeeding and the use of

the baby bottle with the corporal satisfaction of children in early childhood. Methodology: We performed a qualitative cross-sectional study among n = 80 children of both genders with average age of 7.5 years of age. These findings are a summary of a broader postgraduate (doctorate) study that investigates the body image of children throughout the early childhood. The Bracco multivariate questionnaire (2006) and the silhouettes scale validated by Kakeshita (2008) were used. For the interpretation of the results, we performed a descriptive analysis as well as the chi-square statistical test, considering a level of significance of P <0.05 (SPSS statistical software, version 19.0). Results and Discussion: The dissatisfaction with body image was evidenced in 90% of the investigated subjects, demonstrating great body dissatisfaction already in early childhood. We divided the children into two groups: 1) satisfied and 2) dissatisfied. When comparing the behavior of the groups and their associations it is observed that parents, mothers or legal guardians stated in 98.75% of the responses that the children were breastfed from birth. This shows that there is a concern of the mothers in breastfeeding their children, however we did not observe a significant difference between the satisfied and dissatisfied children and the breastfeeding soon after the birth, X2 = 0.113 GL = 1 P <0.737. Breastfeeding time was a hypothesis that might have been associated with body dissatisfaction, but we also did not statistically identify any association between children satisfied and breastfeeding time X2 = 4.820 GL = 4 P = 0.306. Regarding the time of baby bottle use, we found that there was an association of body dissatisfaction with children who had used the baby bottle for a longer period, X2 = 9,603 GL = 4 P <0.048. It is demonstrate that those who used the bottle for a longer period show greater body dissatisfaction in early childhood. Conclusion: We have observed that there is no association of breastfeeding and dissatisfaction in early childhood, as well as the period in which the child was breastfed. However, we observed that children who use the baby bottle for an extended period of time present greater body dissatisfaction in the early childhood.

Variations of control of performance during successive short-duration running by college students

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Introduction: Different variations of performance control in running should be applied to allow for a clearer identification of the necessary adjustments in performance and motivation of the participants, as well as specific loads for effort quantification during the training sessions. The objective of this study is to evaluate the performance behavior of college students during short-duration races at maximum intensity. Methodology: Fifteen - five female and 10 male - college students performed four consecutive 250-meter sprints at maximum speed. The experiment took place after a low-intensity run of 1.5 kilometers, followed by 10 minutes of active, dynamic stretching exercises for the lower limbs. The performance was measured by registering the total times for the 4 series in 20-minute running at maximum speed, with 5-minute intervals. Next, the mean velocities and accelerations at each moment were calculated, as well as stamina, which was the minimum/maximum variation between tests. Based on the acceleration and weight of the

volunteers, the minimum, average and maximum power were calculated, from which fatigue index was also derived. After confirming the normality of the data, the ANOVA test for repeated measures with post hoc with Bonferroni was used in order to evaluate the different measures of performance. Pearson's correlation was used to evaluate the magnitude of the relation between the total time, stamina, mean power, and fatigue index variables. Results & Discussion: A difference was found between the time performance between 1st and 3rd and 4th series ($p < 0.008$, $p < 0.05$), and strength performance between 1st and 3rd and 4th ($p < 0.01$), $p < 0.05$), and between the 3rd and 4th series ($p < 0.03$). As for the minimum, average and maximum power levels, a significant statistical difference was found between the three conditions ($p < 0.000$). Regarding the magnitudes of correlation between total time and variables such as stamina, mean power and fatigue index, the following results were found (r=,57 p=0,02; r=,-0,83 p=0,00; r=- 0,71 p=0,00). Conclusion: In this study, there is evidence that the college students who had the best overall performance were the ones who better controlled the speed variation between the 4 series (stamina) and, therefore, showed a lower fatigue index. Derived measures such as strength, power, stamina and fatigue index might allow in future experiments for a clearer observation on the effects of training interventions.

Performance of amateur running athletes on course with ascending and descending slopes of terrain

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Introduction: Different variations of performance control in running should be applied to allow for a clearer identification of the necessary adjustments in performance and motivation of the participants, as well as specific loads for effort quantification during the training sessions. The objective of this study is to evaluate the performance behavior of college students during short-duration races at maximum intensity. Methodology: Fifteen - five female and 10 male - college students performed four consecutive 250-meter sprints at maximum speed. The experiment took place after a low-intensity run of 1.5 kilometers, followed by 10 minutes of active, dynamic stretching exercises for the lower limbs. The performance was measured by registering the total times for the 4 series in 20-minute running at maximum speed, with 5-minute intervals. Next, the mean velocities and accelerations at each moment were calculated, as well as stamina, which was the minimum/maximum variation between tests. Based on the acceleration and weight of the volunteers, the minimum, average and maximum power were calculated, from which fatigue index was also derived. After confirming the normality of the data, the ANOVA test for repeated measures with post hoc with Bonferroni was used in order to evaluate the different measures of performance. Pearson's correlation was used to evaluate the magnitude of the relation between the total time, stamina, mean power, and fatigue index variables. Results & Discussion: A difference was found between the time performance between 1st and 3rd and 4th series ($p < 0.008$, $p < 0.05$), and strength performance between 1st and 3rd and 4th ($p < 0.01$), $p < 0.05$), and between the 3rd and 4th series ($p < 0.03$). As for the minimum, average and maximum power levels, a significant statistical difference was found between the three conditions ($p < 0.000$). Regarding the magnitudes of correlation between total time and variables such as stamina, mean power and fatigue

index, the following results were found (r=,57 p=0,02; r=,-0,83 p=0,00; r=- 0,71 p=0,00). Conclusion: In this study, there is evidence that the college students who had the best overall performance were the ones who better controlled the speed variation between the 4 series (stamina) and, therefore, showed a lower fatigue index. Derived measures such as strength, power, stamina and fatigue index might allow in future experiments for a clearer observation on the effects of training interventions.

Relationship between strength symmetry and unilateral performance in swimming
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Introduction: Swimming is considered a highly complex skill because it occurs in an environment 800 times denser than air and involves the realization of several components (arms, legs, trunk and breath) which must be synchronized in a specific way at certain speeds, distances or places of swimming (pool, river, lake and sea). Therefore, the actions of swimmers must be accurate and symmetric, which allow the swimmer to minimize the passive drags while potentiating the active drag. The objective of the study was to investigate the relationship between unilateral strength symmetry in amateur swimmers. Methodology: Twelve volunteers, swimmers of open water competitions, with more than 5 years of experience in the sport, with a mean age of 35,5 (14,2), participated in this experiment. It consisted of two phases. In the first one, composed by the recording of manual gripping force with Jamar® hydraulic dynamometer, three attempts were made, in which they had to apply the maximum force progressively in 5 seconds and with a 30 second interval between each of them. All volunteers started the experiment by the dominant hand. In the second phase, which occurred on the same day, the swimmers performed the distance of 25m crawl at maximum speed, swimming with only one arm. After 5 minutes, the experiment was repeated with the other arm. For analysis purposes, we used stroke frequency to measure distance. After confirming the normality of the data, Student's t test of repeated measures was used for the comparison between the arms in the measures of force and frequency of strokes. The Pearson correlation test allowed the analysis of the magnitudes of the relationship among the performance variables. Results & Discussion: Despite the significant difference in manual grip produced by each arm (p=0,05), no difference in unilateral stroke frequency was detected (p=0,65). Correlation analysis did not show significant magnitudes between performances in the two conditions (earth and water) for the same arm. However, the correlation identification was identified only between arms (right and left) on specific tasks. Conclusion: The results allow us to state that, despite presenting asymmetries of strength out of the water, the evaluated amateur swimmers, were able to maintain the same stroke frequency for distance, which indicated symmetry of specific forces for swimming.

Pre-competitive anxiety in elderly athletes from the city of Santos, Brazil
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Introduction: Since 1995, the Regional Games of the Elderly in Brazil, have been held as part of public policies focused on the health and quality of life of the elderly. This sports event involves different modalities and counts on the average participation of 2,210 elderly in the 1st region and capital, representing 30 cities. Competitive anxiety is a variable that has gained the attention of researchers in the context of investigations in the field of sports Psychology. However, there are few researches on the subject involving elderly athletes who compete regularly. In this perspective, it is relevant to investigate this variable with this population. The objective of this study was to investigate the pre-competitive anxiety on elderly athletes from the city of Santos, Brazil, at the XXI Regional Games of Elderly of the State of São Paulo 2,017, in the adapted volleyball modality. Methodology: This is a field study of quantitative prospective character, with intentional sampling. The project was approved by the Research Ethics Committee of the Federal University of São Paulo. The sample consisted of 20 elderly athletes of the adapted volleyball modality of both sexes, with average of 65 years of age, participants of the Regional Games that are disputed by the municipal representatives of the State of São Paulo. The instrument used was the State Inventory of Reduced Competitive Anxiety - II (CSAI-2r), applied two weeks before the competition. Results: The cognitive anxiety domain had an average of 1.9 (dp = 0.66), average somatic anxiety 1.52 (dp = 0.62) and average self-confidence domain of 3.45 (dp = 0 , 49). The women obtained a average of 1.8 in the competitive anxiety domain (dp = 0.56), the somatic anxiety domain reached the average of 1.64 (dp = 0.9) and the self-confidence domain obtained an average of 3, 6 (dp = 0.28). The men obtained an average of 1.85 in the competitive anxiety domain (dp = 0.68), the somatic anxiety domain reached the average of 1.43 (dp = 0.58) and the self-confidence domain obtained an average of 3, 27 (dp = 0.95). We observed low scores for somatic and cognitive anxiety and a good score for the self-confidence domain. This result shows us that the lower the anxiety, the greater the chance of the athlete feeling self-confident. Conclusion: Physical activities for the elderly population play a positive role, as they contribute to a more active and healthy aging process, favoring the improvement of the quality of life in biological, psychological and social contexts. However, when we analyze the practice of a sport in the competitive context, the elderly athlete may face anxieties, tensions and stress. Nonetheless it is imperative that the technical team observes the conditions offered to these elderly people and it is able to handle these variables.

Description of Elder volleyball and athletics athletes from the city of Santos, Brazil.
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Federal University of Sao Paulo

Introduction: The present study has had the goal of describing the profile of the elderly volleyball and athletics athletes belonging to the city of Santos in the XXI Regional Games for the elderly. The Regional Games for the elderly are disputed by the municipal representation of the State of São Paulo and are held by the solidarity of the State of São Paulo in partnership with the Youth, Sport and Leisure Secretary, together with the counties that will host the events. To take part in the games, the elder must have at least 60 years of age completed in the year of the games and take part at least in two of the 14 offered modalities. Methods/Methodology:This is a study of quantitative and qualitative character field, with intentional sample. The project was approved by the Research Ethics

Committee of the Federal University of São Paulo and the sample was composed by 34 elderly athletes, being composed of 18 women and 16 men. The methods of volleyball and athletics members of the delegation from the city of Santos in São Paulo State, and it was a form prepared by the researcher with questions about the socio-demographic profile, competitive history and self-perception with respect to anxiety. Results & Discussion The average age was of 67 years (65,2 to women and 65,5 for men).The amplitude of the sample was of 30 years, the maximum age of 90 years and the minimum of 60 years. Of the 34 athletes, 53% are female and 47% male. With respect to the distribution by sport 59% practiced volleyball adapted with 10 men and 10 women and 41% practiced athletics being 8 women and 6 men. Regarding schooling 47% of the sample has the achieved the full degree, 3% top level incomplete, 41% the high school degree, 3% high school incomplete and 6% just junior high degree. As regards the marital status of 64% are married, 18% are single, 12% are widowed, and 6% other. As for the 97% are Brazilian, 3% Spanish, Portuguese and Venezuelans. Regarding the prior history of being an athlete before the games, 59% say they were athletes before participating in the Regional Games of the elderly, while 41% reported that they were inserted into competitive context as athletes at some point in life. Finally concerning self-perception about 58% of the athletes reported not to be anxious and 41% reported being anxious. Conclusion: It is concluded that the largest portion of the athletes of the delegation of Santos are married and have their university degree completed. Although the majority have not been athletes before attending the Regional games of the elderly, they do not consider themselves anxious. Meanwhile the majority has not been an athlete before the 60 years, sports have grown in the third age. The Regional Games seem to be a good alternative for the elderly, because they promote socialization, reintegration in the community, in addition to improving the quality of life and leisure, through trainings, competitions, travel and recreation that this event provides.

Modern changes in Tujia Dance: a study of Waving Dancing in Laifeng

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Tujia waving dance is called "shebaa" or "shebaa chi" in Tujia language. Its meaning is worship god or jumping motioning with his hand. Waving dance is one of Tujia's national collective activity and is generally regarded as the most traditional representative culture in Tujia. With rich expression and profound cultural meaning, Tujia waving dance works becomes rare treasures and beautiful flowers of traditional culture in Tujia. Tujia waving dance has its unique and long culture tradition and is widespread in Yuanshui Valley and Youshui Valley of border region of four provinces as Hubei, Hunan, Chongqing, Guizhou. Waving dance has become the symbolic name card in Laifeng Tujia. In the modern process of Tujia culture, there are significant differences between waving dance and other traditional ceremonies. Changes of Tujia waving dance were obtained by its own debugging. Human factors and the national policy played a significant role in this process. Waving dance has spread in broader community and was being accepted be more people than ever after a serious of changes. Reasons for modern changes of Waving dance may include social economic structure, life style transformation, vigorously support from

government, and strengthen of the experts. Waving dance has become the representative and culture card of traditional culture of ethnic minorities.

A Study on the Technology Level and Strategic Importance for the Sports Industry

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Introduction: This paper analyzed the technology gap and the strategic importance of sports in five countries – Korea, China, Japan, the US, and Europe – for the purposes of exploring the directions of technology policies and planning and identifying new R&D tasks in the sports industry. We selected the technologies to be analyzed in this paper from among the five major categories (sports science, sports equipment and materials, sports engineering and services, sports facilities and environment, and sports welfare and convergence) and fourteen subcategories used in the technology classification system of the sports industry. 2. Methodology: The specific items to be analyzed in this paper include the gaps in sports technology levels, relative strengths and weaknesses of each technology, factors causing the technology gaps, ways of improving the technology levels, and selection of element technologies in strategic areas. Twelve major technology level survey items were chosen from the following areas: technology level measurement in sports (3 items), relative strengths/weaknesses by technology (2 items), causes of technological gaps and improvement ideas (4 items), and strategic importance (3 items). With regard to the strategic significance analysis to be used for investment prioritization and strategic investment portfolio by element technology, the following four strategic areas were selected: technology level index, technology importance, development urgency, and industrial ripple effect. 3. Results: According to the results of the survey on the technology level of the sports industry, the US has the highest technology level (100%); on the other hand, the technology level of Europe, Japan, Korea and China stands at 91.1%, 88.3%, 70.5%, and 61.2%, respectively. Overall, in terms of the five major sports technologies of the sports industry, the US, Europe, and Japan rank high on the list, with Korea and China placing 4th and 5th, respectively. The analysis of strategic R&D investment priorities for the element technologies in the sports industry shows that the following three technologies should be accorded the highest investment priority: (1) design and manufacturing technology of sports and game equipment; (2) sports and game equipment/device material technology; and (3) sports industry certification and integrated information systems. 4. Conclusion: The sports industry is expected to continue its convergence efforts with ICT, science, welfare and entertainment. In this context, it is important to deepen the exchanges and cooperation with experts in each of the fields. The mid to long-term sports industry cultivation and technology development plans should include representative convergence areas. Athletes, coaches, and managers should join forces with sporting goods manufacturers and sports service providers to increase exchanges to be able to create synergistic effects in the development of new products. Finally, innovative SMEs need to be supported so that they can play a leading role in improving the effects of sports and creating new markets.

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