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# VZGOJA IN DRUŽBA / EDUCATION AND SOCIETY

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## RAZVOJNA PSIROPATOLOGIJA IN IZOBRAŽEVANJE

### DEVELOPMENTAL PSYCHOPATHOLOGY AND EDUCATION

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#### **Povzetek**

Članek prikazuje pregled, izpostavlja in opredeljuje načela, koncepte, napredek in prihodnje usmeritve razvojne psihopatologije. Skozi diskurz poudarjamo pomen in znanje ter uporabnost razvojne psihopatologije pri izobraževanju in izhajamo iz stališča, da v novem obdobju razvojne psihopatologije le-ta išče svoj prostor tudi v šolstvu. Podpiramo prodor psihopatologije v šolske kurikule, saj se pojavljajo nove meje v razvoju možganov, raziskuje se njihova plastičnost, dokazuje se gen-okoljske interakcije, raziskuje se vzdržljivost in okrevanje možganov pa tudi večnivojska dinamika in rezultati nakazujejo na uporabnost teh znanj in spoznanj pri učenju. Interdisciplinarno raziskovanje, izobraževanje, metodologije za ocenjevanje in analiziranje sprememb skozi čas znotraj posameznih sistemov in njihovih kontekstov spreminjajo razumevanje narave posameznika in potek njegovega razvoja. Menimo, da so ta spoznanja neločljivo povezana z našim razumevanjem učenja in poučevanja in predlagamo, da naj bi sodobne šole ta spoznanja upoštevale in temu prilagajale učenje. Žal je v Republiki Makedoniji to znanstveno akademsko polje do zdaj skoraj neznano. Upamo, da bo ta članek vzpodbudil zanimanje in bo kot prvi izziv k ozaveščenosti o nujnosti potrebe po tej znanstveni disciplini v šolskem sistemu v prihodnosti. Kot prve korake k temu smo kot pionirji v R. Makedoniji vzpostavili kurikulum razvojne psihopatologije na Fakulteti za izobraževalne vede in Fakulteti za zdravstvene vede, na Univerzi Goce Delčev v Stipu.

**Ključne besede:** razvojna psihopatologija, izobraževanje, koncepti, izzivi, znanstvena disciplina.

#### **Abstract**

This review article highlights the defining principles, concepts, progress and future directions in developmental psychopathology. It emphasizes association between developmental psychopathology and education as well. A new era in developmental psychopathology is dawning, with exciting frontiers in brain development and plasticity, gene-environment

interaction, resilience and recovery, multilevel dynamics, interdisciplinary research and training, and methodologies for assessing and analyzing change over time within and across individual systems and their contexts. Understanding the nature and course of development is inextricably linked with our understanding of adaptation in school and schooling's effects on adaptation. Unfortunately, in R. Macedonia, this scientific academic field is almost unknown up to now. We hope that this article will provide an interest, initial challenge and awareness for compelling need for this scientific discipline in future. As a first pioneers steps in R. Macedonia, we have established curriculum of developmental psychopathology at Faculty of Educational Science and Faculty of Medical Science, at Goce Delcev University, Stip.

**Keywords:** developmental psychopathology; education; concepts; challenges; scientific discipline.

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## 1 INTRODUCTION

The field of developmental psychopathology began to emerge in the 1970s as several researchers began to think about psychopathology in children and adults in new ways (Haugaard 2008). The perspective taken by these researchers was broader than the perspectives of many researchers in the fields of clinical child psychology or psychiatry. Whereas those in clinical child psychology or psychiatry focused primarily on children and adolescents who had been diagnosed with one or more disorders, those in developmental psychopathology were also interested in understanding the connections between normal and disordered behaviours and the development of children and adolescent who showed early signs of psychopathology, but never developed a disorder (Sroufe and Rutter 1984, according to Cicchetti and Cohen 2006).

Developmental psychopathology is an evolving scientific discipline which predominant focus is elucidating the interplay among the biological, psychological, and social contextual aspects of normal and abnormal development across the life span (Cicchetti and Cohen 2006). As such, it is almost unknown discipline in R. Macedonia. From the other hand, it's a huge challenge for developmental and clinical psychologist.

Regarding the goals of developmental psychopathology, Cicchetti states: "developmental psychopathology should bridge fields of study, span the life cycle, and aid in the discovery of important new truths about the processes underlying adaptation and maladaptation, as well as the best means of preventing or ameliorating psychopathology" (1990, 20, according to Cicchetti and Cohen 2006). It's expected that developmental psychopathology should contribute greatly to reducing the dualisms that exist between the clinical study of and research into childhood and adult disorders, between the behavioral and biological sciences, between developmental

psychology and psychopathology, and between basic and applied science. Theorists and researchers in the field of developmental psychopathology aim to bring together, within a life span framework, the many contributions to the study of individuals at high risk for developing mental disorders and those who have already manifested such disorders (Cicchetti and Cohen 2006; Haugaard 2008).

Developmental psychopathologists do not promote or hold to a particular theory that could account for all developmental phenomena (Cicchetti and Sroufe 2000; Rutter and Sroufe 2000, according to Cicchetti and Cohen 2006). Rather, they seek to integrate knowledge across scientific disciplines at multiple levels of analysis and within and between developmental domains (Cicchetti and Blender 2004).

Developmental psychopathologists strive to engage in a comprehensive evaluation of biological, psychological, social, and cultural processes and to ascertain how the interaction among these multiple levels of analysis may influence individual differences, the continuity or discontinuity of adaptive or maladaptive behavioral patterns, and the pathways by which normal and pathological developmental outcomes may be achieved (Cicchetti and Sroufe 2000; Cicchetti and Dawson 2002, according to Cicchetti and Cohen 2006).

In addition, developmental psychopathologist focused on how disorders developed in children and adolescents over time, including the characteristics and experiences of the children and their environments that seemed to push some toward developing a disorder and pull others away from developing the same disorder.

In practice, this requires comprehension of and appreciation for the developmental transformations and reorganizations that occur over time; an analysis of the risk and protective factors and mechanisms operating within and outside the individual and his or her environment over the course of development.

The knowledge of developmental psychopathology applied in practice include as well, research of how emergent functions, competencies, and developmental tasks modify the expression of a disorder or lead to new symptoms and difficulties; and the recognition that a particular stressor or set of stressful circumstances may eventuate in different biological and psychological difficulties, depending on when in the developmental period the stress occurs (Cicchetti and Walker 2001, 2003, according to Cicchetti and Cohen 2006).

## **2 CONCEPTUAL ISSUES AND PRINCIPLES**

Contributions to the field of developmental psychopathology have come from many areas of the social and biological sciences. Multiple theoretical perspectives and different research strategies and findings have contributed to the emergence of the field of developmental psychopathology. A wide range of content areas, scientific disciplines, and methodologies have been connected (Cicchetti and Hinshaw 2003).

First of all, risk factors and protective factors have been established at multiple levels of analysis and in multiple domains. Various researchers have convincingly demonstrated that risks may be genetic, biochemical, physiological, cognitive, affective, experiential, intrafamilial, socioeconomic, social, or cultural (Cicchetti and Blender 2004). We believe that a multidisciplinary approach to the investigation of the relation between normality and psychopathology offers the most promise for advancing our knowledge of normal and abnormal developmental processes.

At the same time, a core identity for the field can be defined, manifest in a set of issues and perspectives that makes it possible to set research directions. According to Cicchetti and Cohen (2006) central is the emphasis given to discovering processes of development, with the goal of comprehending the emergence, progressive unfolding, and transformation of patterns of adaptation and maladaptation over time. Based on this perspective, it is possible to evaluate our current understanding of psychopathology in general, as well as more particular problems of functioning.

Although there are many features of developmental psychopathology that could be considered important, we suggest that the defining features can be reduced to the approach taken to three key issues: (a) risk and protective factors, (b) contextual influence, (c) the mutual interplay between normality and psychopathology.

## **2.1. Risk and Protective Factors**

In order to answer on etiological questions about the emergence of psychopathology, Masten and Cicchetti (2010) argue that it is useful to consider the role of risk factor research. Depending on the stage of research, an association between a factor or characteristic and a psychopathological outcome will indicate increasing levels of specificity regarding the degree to which the factor suggests or constitutes causal processes contributing to a psychopathological outcome (Pianta 2006).

Establishing that an assumed risk factor operates at the same point in time as a psychopathological outcome allows for the assumed risk factor to be regarded as a correlate of the disorder. Because of the simultaneous assessment of the assumed risk and the outcome, it is not possible to determine if the assumed risk contributed to the negative outcome or whether the negative outcome led to the assumed risk factor. To establish a construct as a risk factor for negative outcome, it is necessary to determine that the assumed risk was present prior to the emergence of the negative outcome.

The risk factor implies greater potential; it is probabilistic risk, and not all individuals who exhibit the risk factor will develop the negative outcome (Luthar, Cicchetti, and Becker 2000; Masten, and Cicchetti 2010). The next phase of risk research should be move toward an etiological understanding of maladaptive psychopathological outcomes in order to differentiate between risk indicators and risk mechanisms. Risk mechanisms specify the processes through which risk factors operate to generate an outcome.

According to Cicchetti and Cohen (2006), Kraemer and colleagues (2001) strove to further define risk factors as either markers or causal risk factors. They defined markers as risk factors that are not causally involved in determining outcomes. Markers are either fixed (factors that cannot be changed, such as sex or premature birth) or variable (features that spontaneously change, such as age, or that may be modified, such as through some intervention). If a variable marker has been changed in the potential for a negative outcome, then the variable marker is implicated as a causal risk factor.

Mental disorders are likely to be caused by multiple processes rather than singular causes. Thus, the identification of a causal risk factor will contribute to explaining only one aspect of a more complex matrix of causes. Within individuals, there are likely to be multiple component processes rather than unitary causes that contribute to psychopathological outcomes (Cicchetti and Blender 2004).

Moreover, different individuals are likely to develop the same mental disorder through different constellations of processes. Thus, attention to identification of multiple risk mechanisms is important.

The operation of risk processes must further be considered in the context of protective factors that the developing individual also may experience. Protective processes function to promote competent development and reduce the negative impact of risk processes (Luthar, Cicchetti and Becker 2000; Masten and Cicchetti 2010).

Cicchetti and colleagues (Cicchetti and Blender 2004; Cicchetti and Cohen 2006) have emphasized the importance of conceptualizing risk and protective factors in an ecological-transactional developmental model. At each level of the ecology, risk and protective factors may operate in tandem, transacting with features of the individual, such as the current organization of biological, emotional, cognitive, representational, and interpersonal development. Not only do external factors influence the development of the individual, but also the individual put forth influence on the external levels of the ecology, including family members, peers, and the school environment. Patterns of influence are thus mutual, as development proceeds with ongoing transactions between the individual and the external world.

Additionally, transactions occur among the different internal domains for the individual (biological, cognitive, affective, representational, and interpersonal).

Biological processes (genetic predispositions, neurodevelopmental anomalies) influence domains of psychological functioning, but also psychological experience, in turn, influences biological structure and function (Cicchetti and Cohen 2006). The quality of the transactions of mutual influence within the individual and between the individual and the external world shapes the character of individual development, and different developmental pathways. Dynamic balance of risk and protective processes that operate over the course of development structures the developmental pathways in which individuals engage. Accordingly, understanding the roots of vulnerability to mental disorder requires moving beyond features of the current context when these problems emerge to articulating the course of development that individuals have experienced and how risk and protective processes have structured the organization of the individual (Cicchetti and Cohen 2006).

## **2.2 Contextual Influences**

Developmental psychopathologists have been aware of the importance of contextual influences in defining what constitutes abnormality. Further, chronological age and developmental stage or level of biological and psychological organization are important defining features of context for clinicians and researchers interested in exploring development of mental disorders from chronological perspective.

Although there is a growing awareness that contextual factors play an important role in defining phenomena as psychopathological (Cicchetti and Dawson 2002; Cicchetti



and Blender 2004), there are huge differences in how the contexts for human development are conceptualized. Bronfenbrenner's system theory (Bronfenbrenner 2006) and articulation of nested levels in the ecology of human development marked a great tread forward to conceptualizing contexts. The macro-, exo-, meso-, and microsystems delimited by Bronfenbrenner (Santrock 2011a, b) clearly and powerfully alert the developmental psychopathologist to important and vastly different sources of contextual influence on individual development.

Situational and interpersonal influences operate at the microsystem level in Bronfenbrenner's system and have been the traditional focus of psychological study. However, it has been more difficult to conceptualize specific macro-, exo-, and mesosystem influences on development. Part of the difficulty in identifying the effects of these more distal contexts is that documenting their impact on individual development requires multidisciplinary approach with the disciplines that study these macro phenomena: anthropology, demography, sociology and epidemiology.

Parental workplace, school transitions, violent communities, persistent poverty, and unsupportive stress-laden ecologies are all examples of contexts that exert influence on the development of psychopathology in children and adults (Cicchetti and Blender 2004). Consequently, societal-, community-, and institutional-level influences on individual development are now beginning to be examined in systematic, rigorous, empirical fashion. Now that the field of developmental psychopathology has begun to incorporate a multiple-levels-of-analysis perspective (Cicchetti and Dawson 2002; Cicchetti and Blender 2004), it will become more common for scientists investigating contextual aspects of problem behaviors and mental disorders to include assessments of higher levels of contexts into their research.

### **2.3 The Mutual Interplay between Normality and Psychopathology**

A focus on the boundary between normal and abnormal development is central to a developmental psychopathology perspective. Such a viewpoint emphasizes not only how knowledge from the study of normal development can inform the study of high-risk conditions and mental disorders, but also how the investigation of risk and pathology can enhance our comprehension of normal development (Cicchetti and Cohen, 2006).

Before the field of developmental psychopathology could emerge as a distinct discipline, the science of normal development needed to mature, and a broader basis

of firm results had to be acquired. According to Cicchetti and Cohen (2006), as dramatic gains in developmental neurobiology, neuroimaging, and molecular genetics have occurred, together with an increased comprehension of hormonal, emotional, social, social-cognitive, and representational processes, we now possess a much stronger ability to utilize knowledge of normative development as a benchmark against which to measure psychopathology. The central concern for developmental psychopathology is delineation of what is involved in the continuities and discontinuities between normality and pathology. Two points are crucial in this connection. First, the key issue concerns continuities and discontinuities in mechanisms, and not just in measures. Second, even with the same feature it is often the case that both continuities and discontinuities are present.

The central focus of developmental psychopathology involves the explanation of developmental processes and how they function, as indicated and elaborated by the examinations of extremes in the distribution (such as individuals with psychopathology). Developmental psychopathologists have long argued that one gains valuable information about an organism's normal functioning through studying its abnormal condition.

Despite the fact that developmental psychopathologists emphasize the mutual interplay between normal and atypical development, most contemporary theory and research have focused on the contributions that normal development can make to advancing our knowledge of psychopathological processes. Developmental psychopathologists have asserted that theories of normal development can be affirmed, challenged, and augmented by incorporating knowledge about atypical development.

Understanding how psychopathological conditions evolve and how aberrations of component developmental systems that exist among disordered individuals eventuate may be informative for elucidating critical components of development that are not typically evident (Cicchetti 2003; Haugaard 2008). Thus, the interest of developmental psychopathologists in the convergences and divergences between normality and psychopathology can be mutually beneficial for understanding development across the range of variation (Cicchetti and Cohen 1995; Sroufe 1990, according to Pianta 2006). The examination of individuals with high-risk conditions and mental disorders can provide a natural insight into the study of system organization, disorganization, and reorganization that is otherwise not possible due to the constraints associated with research involving human participants.

Through investigating a variety of high-risk and mentally disordered conditions, it is possible to gain significant insight into processes of development not generally achieved through sole reliance on investigations of relatively homogeneous nondisordered populations. Research conducted with atypical populations also can explain the behavioral and biological consequences of alternative pathways of development, provide important information about the range and variability of individual response to challenge and adversity, and help to specify the limits of behavioral and biological plasticity (Cicchetti, Rogosch, Maughan, Toth and Bruce 2003; Fries and Pollak 2004). Finally, findings proffered by experiments of nature also hold considerable promise for informing prevention and intervention strategies (Cicchetti and Hinshaw 2003).

A further point is that, regardless of whether or not the underlying liability to psychopathology is dimensional, with a continuum spanning normality and disorder, categorical decisions will often be required for practical purposes. It is important to distinguish between some practical requirements for having diagnostic, or severity, categories and an understanding of the underlying patterning of behavior.

### **3 DEVELOPMENTAL PSYCHOPATHOLOGY AND EDUCATION**

Developmental psychopathology and education science have many points of mutual interest for strategic exploration (Haugaard 2008). For developmental psychopathologists, challenges in understanding the mechanisms of and responses to clinical trial interventions, implementing mental health programs in schools, discovery of contextual effects and moderating influences on behavioral and mental health outcomes, and a more sophisticated interpretation of informant-based outcome assessments can be at least partially accomplished through integrative research designs and conceptual models that openly include school contexts in full form. For educators, research on important questions about the relative weight of schooling and the home environment, the value-added quality of schooling, or policy-related concerns about program effectiveness and development can be greatly enhanced by developmentally informed studies.

The challenges facing integrative linkages between developmental psychopathology and education have roots in the historical, conceptual, and political forces that shape how disciplines grow up in different traditions of inquiry and institutionalization. The end result of these forces is a contemporary situation in which a variety of phenomena that ought to be of common interest and encourage common dialogue and discussion among developmentalists and educators are often viewed through different conceptual, analytic, and theoretical lenses.

According to Pianta (2006), schools are as complex ecologies for development as are families or child care settings or communities. Structural features such as finances and policies related to staffing and size; process features such as classroom qualities and supports, child-teacher relationships, and peer relations; and transitional points and shifts all intersect with the trajectories of children's social and behavioral adaptation both directly and indirectly as they affect academic and cognitive functioning. The growing research literature and methodological advances in studying school effects and school adaptation afford developmental psychopathologists the conceptual and assessment tools requisite to establish the type of interdisciplinary initiatives that truly integrate schooling within developmental frameworks (Pianta 2006).

The complexity and organization of schools reflect a range of contextual parameters that allow developmentalists access to phenomena that would be more difficult to study in settings that are more stable or more uniform. Pianta (2006) agree that if the mutual interests of developmental psychopathologists and education researchers are

to be exploited fruitfully, advances in the next several years will depend on careful attention to conceptual and methodological details and interdisciplinary links at multiple levels.

Developmental psychopathology needs to move beyond viewing schools as a locus of outcome assessments, or schools as sites for implementation of developmentally oriented interventions, or schools as sites for recruiting large samples, and instead look at schools as full partners in a program of developmental psychopathology research and training.

One concrete and achievable objective going forward would be increased assessment of observed, child-or teacher-reported assessment of the school context in studies of social development, problem behavior, mental health, and peer relations. Without these assessments, the extant literature on development in these domains is not sufficiently comprehensive or informed, given the available tools and evidence for school effects.

#### **4 CONCLUSIONS**

In a very short period of time, developmental psychopathology has contributed significantly to our understanding of risk, disorder, and adaptation across the life course (Butcher, Mineka and Hooley 2013). Developmental psychopathology perspectives have already provided many useful leads and lessons for the understanding of both normal development and disorder. The integration of concepts and methods derived from areas of endeavour that are too often isolated from each other has resulted in knowledge advances that might have been missed in the absence of cross-disciplinary dialogue (Butcher, Mineka and Hooley 2013). Future investigations must strive to attain enhanced loyalty between the sophistication and complexity of the theoretical models and definitional parameters inherent to a developmental psychopathology perspective and the design, measurement, and data analytic strategies employed in our investigations (Granic and Hollenstein 2003; Haugaard 2008). The impressive array of findings in the more recent psychological developmental literature mentioned earlier, together with the progress made in the neurosciences, genetics, and related disciplines, has led to increasing acknowledgment of the need to conduct collaborative, multidisciplinary, multi domain studies on normal, high-risk, and psychopathological populations. As progress in ontogenetic approaches to various subdisciplines of developmental psychopathology continues, the common theoretical and empirical threads running through this article will join

together to establish a foundation on which an increasingly sophisticated developmental psychopathology discipline can grow. Concepts of risk and protective mechanisms, of resilience, of nature-nurture and person-environment interplay, of the cognitive and affective processing of experiences, of dimensional risk and protective processes and psychopathological outcomes, and of the interplay between different domains of development have all proved informative (Haugaard 2008). Two very simple suggestions for fruitful and productive intersections are offered here: one focuses on what developmental psychopathology can offer to education and the second turns the arrow in the other direction.

Unfortunately, in R. Macedonia, this field is almost unknown and much underexplored up to now. We hope that this article will provide an interest, initial challenge and awareness for compelling need for developing this scientific discipline in future. As a first pioneers steps in R. Macedonia, we have established curriculum of developmental psychopathology at Faculty of Educational Science and Faculty of Medical Science, at Goce Delcev University, Stip. Moreover, we believe that the continuation and elaboration of the mutually enriching interchanges that have occurred within and across disciplines interested in normal and abnormal development will enhance not only the science of developmental psychopathology, but also the benefits to be derived for society as a whole. The power embodied by cross-disciplinary collaborations that utilize multiple-levels-of-analysis methodologies promises to significantly strengthen our capacity to decrease the burden of mental illness for society.

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