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Risk Factors and Resilience in the Offspring of Psychotic Parents

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Abstract

We approach an integrated research-action model of the interactions between the psychosis of the parent, parenting, family relations, the child's development, risk and resilience factors. The research objectives are: identifying the resilience factors, the research of the interaction between the risk and resilience mechanisms, predicting or not the development of psychopathology in children of psychotic parents, the dynamic evaluation of the resilience. The longitudinal study was conducted in the period 2003-2013 on a group of 75 children with a schizophrenic parent and 70 children with a parent with bipolar disorder. We applied the scales: CBCL, Vth Axis ICD 10, PANSS and CD-RISC (Connor-Davidson Resilience Scale). Through PANSS for the psychotic parents, we correlated the scores for specific items with those obtained by the children through CD-RISC. Through MANOVA and the Pearson test we correlated the dependent variables with the predictive influence factors. The high PANSS scores for specific items were correlated negatively with the resilience scores of the children with psychotic parents. The maximum frequency of positive codifications on the Vth Axis, found for: rejection behavior from one parent (76, 4%), family disharmony (73, 52%), distorted family communication (70, 58%), was significantly correlated ($p < 0.001$) with low scores of the child's resilience for personal competency, negative effects tolerance, safe interpersonal relations, high performance. The social, family support and social connectedness proved to be relevant variables. Resilience can be modified and improved through targeted interventions, so that the understanding of the resilience process and of the concurrent factors is needed.

Keywords Abstract Teaser: resilience, research-action, parenting,

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Introduction

Research in the frame of developmental psychopathology, which is focused on children, exposed to high-risk family environments, identified children having parents with severe psychopathology, who develop maladjustment or symptomatology or who adapted well despite the challenges posed to their adjustment (Cohen, 2007; Ionescu, 2013; Luthar, 2006). Children of parents with schizophrenia/affective disorders who avoided a psychopathologic outcome through developing a healthy pattern are considered to be more resilient (Rutter, 1990; Cicchetti & Garmezy, 1993; Cohen, 2007). The “high risk” design of choosing children, offspring of psychotic parents who developed and who didn’t express psychopathology, encourages the examination of gene-environment, risk and protective factors interactions (Bartels & Hudziak, 2007; Hjemdal, 2007). Developmental psychopathology and well-being are a function of the interplay of bio-psychosocial risks and resilience factors in children and their supportive environments (Carrey & Ungar, 2007). Previous research showed the multiplicative effects of cumulative and interactive risks on child adjustments and on the expression of psychopathology (Rutter, 2003). Recent studies converge on the idea that high risk children may acquire cognitive vulnerability by receiving direct inferential feed-back from significant others or as result of negative parenting practice (Pastor *et al.*, 2015). Prevention interventions should target at-risk populations because the goal is to prevent a high risk person from developing psychopathology (Nussbaum, 2000).

Objectives

Our aims were: the quantification of the resilience mechanisms in high risk children; to assess how multiple risk factors during different developmental periods work together and express psychopathology or provide the offspring of a psychotic parent, the opportunity to be resilient; the identification of protective factors in the subgroups that were less prone to develop psychopathology despite exposure to risk; the evaluation of resilience in different timepoints in order to assess the efficacy of targeted interventions. We also targeted the prospective identification of children with a high probability to develop a mental illness in order to prevent through improving the resilience mechanisms or to apply a proper intervention.

Methodology

Our prospective research was performed in the University Hospital of Psychiatry for Children and Adolescents, Timisoara, in the period from 2003-2013, on high risk children, with ages between 10-19 years, who were offspring of psychotic parents: 75 children with a parent suffering of schizophrenia and 70 children of parents with bipolar disorder (Nussbaum, 2000). We identified help-seeking families, with one psychotic parent, having children, who needed care in our clinic in that period (Lazarescu & Ienciu, 2012). We signed the informed consent with the parents and the assent to participate with the children. From the 75 high risk children, being offspring of parents with schizophrenia, 55 developed psychopathology and 20 were without. From the 70 high risk children of parents with bipolar disorder: 40 children were with psychopathology and 30 without. The children without psychopathology in both groups, were siblings of those who developed psychopathology, living in the same environment.

We applied the standardized research instruments: PANSS-Positive and Negative Syndrome Scale was applied on the psychotic parents; CBCL and the Fifth Axis ICD 10 were applied on all the parents in the study groups; CD-RISC-Connor-Davidson Resilience Scale on the two groups of children; CD-RISC consists of 25-items that measure the ability to cope with stress and adversity. It was designed to quantify self-reports of resilience and to measure response to treatment in a clinical population. Each item is rated on a 5-point scale (0-4), higher scores reflecting greater resilience. The items reflect several aspects of resilience that include: a sense of personal competence, tolerance of negative affect, positive acceptance of change, trust in one's instincts, sense of social support, spiritual faith, and an action-oriented approach to problem solving (Connor & Davidson, 2003; Ionescu, 2013). Through PANSS, we evaluated the positive, negative and general symptoms of the psychotic parents and we correlated the scores for specific items with those obtained by the children through CD-RISC for the resilience. Through the CBCL, we evaluated some symptomatic categories referring to behavioral and social competence problems of the children, perceived by their parents. Through the Fifth Axis we evaluated the abnormal psycho-social conditions. The categories included in this axis, have been chosen, knowing the fact that they can represent significant risk factors (Nussbaum, 2000). We applied the scales in different timepoints in order to evaluate and quantify the efficacy of proper interventions through the resilience scores.

We used: descriptive statistics-average, standard deviation, absolute and relative frequencies, parametric statistical tests-simple ANOVA and simple factorial ANOVA; the Pearson correlation test to check for the presence of statistically significant correlations between the CD-RISC-CBCL results, the CD-RISC-Fifth Axis results and the PANSS-CD-RISC results; We applied the qui square analysis to evaluate if the variation of the resilience scores from CD-RISC, was statistically

significant in different timepoints. We had the support of SPSS and MedCalc statistics. We evaluated the differences between the children with and without psychopathology in both groups concerning their own mechanisms of resilience or their risk factors.

Results

The most frequent diagnostic categories of the offspring with psychopathology are illustrated in *Figure 1*- HR SZ- high risk children with schizophrenic parents and HR BPD-high risk children of parents with bipolar disorder:

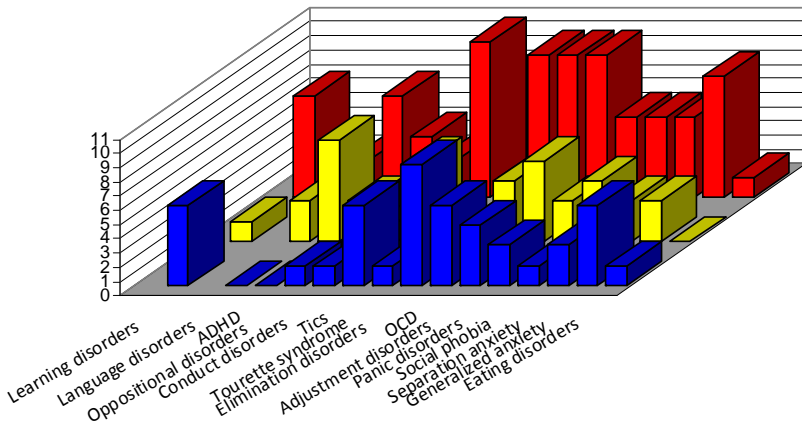


Figure 1. Di ■ HR SZ ■ HR BPD ■ Total diagnoses of HR children

Concerning the diagnoses of the high risk children we found the lowest CD-RISC scores of resilience for the offspring with generalized anxiety disorders, OCD-Obsessive-compulsive disorder and ADHD, as a marker of low self-efficacy and low self-esteem.

The CD-RISC, CBCL, DSM IV Fifth Axis, PANSS scores and the Correlations Analysis

Through the CD-RISC application, we noticed in both groups of children who developed psychopathology, low resilience scores in the main domains, coded through the key factors: strong sense of self-efficacy, tenacity, emotional and cognitive control under pressure, adaptability, control and meaning. The lowest

resilience scores were registered for the children of parents with schizophrenia with one exception concerning the domain-aspects of persistence/tenacity, where the offspring of depressive parents had the lowest resilience score. The mean total CD-RISC score for the high risk children who developed psychopathology was 45.5 (standard deviation-sd=8.7) for the offspring of schizophrenic parents and 52.8 (sd =9.4) for the offspring of bipolar parents (Connor & Davidson, 2003). *Figure 2* illustrates the mean scores in CD-RISC on the 5 domains coded through the 25 items of the scale for: HRPBPD-high risk children of parents with bipolar disorder, HRPSZ-high risk children of parents with schizophrenia, T2HRBPD-timepoint2 scores - children of parents with bipolar disorder, T2HRPSZ-timepoint2 scores - high risk children of parents with schizophrenia and for the offspring, who didn't develop any psychopathology.

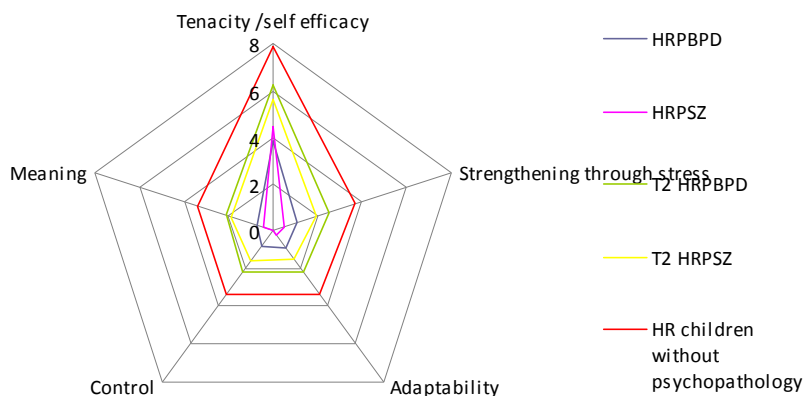


Figure 2. Mean scores in CD-RISC on the 5 domains in timepoint 1 and 2

We evaluated the CD-RISC scores of the high risk children with psychopathology for timepoint1 and after applying proper intervention strategies in timepoint2. We noticed higher mean total resilience scores (improved from 45.5 to 58.2 for the offspring of schizophrenic parents and from 52.8 to 69.7 for HRPBPD) and on the 5 key domains, reflecting greater resilience in both studied groups after the individualized interventions. We noticed that the children without psychopathology in both groups had generally higher mean scores for resilience in CD-RISC, as well as concerning the 5 key factors: tenacity/self-efficacy, strengthening through stress, adaptability, control and meaning. Their mean total resilience scores in timepoint1 were 70.6 for HRPSZ and 74.3 for HRPBPD

(sd=10.4) and their highest mean scores found were for tenacity/self-efficacy. In their case, targeted intervention has not been applied and in timepoint2 we found for HRPSZ-25% and for HRPBPD-30% developed psychopathology and their mean total resilience scores were 57.3.-HRPSZ and 60.1-HRPBPD. Through the CBCL, we found in both offspring groups, who developed psychopathology lower median total competencies scores, high, clinically significant externalizing scores, the high risk children of schizophrenic parents being most affected. These values in high risk children prove the fact that a high percentage of children with psychotic parents show a dysfunctional social functioning. High risk children in both groups, showed high scores for depression, hyperactivity and aggressiveness. The siblings who didn't develop psychopathology had higher median total competencies scores and their CBCL externalizing and internalizing scores were in non-clinical range. They were very close to the healthy parent, finding a meaning even in the disturbed family system. Therefore the availability of a stable attachment person was crucial. Their age was higher than the age of their siblings with psychopathology, when their parents developed psychosis. We found high statistically significant correlations (Spearman's $p = 0.012$) between the CBCL externalizing, total, competencies scores of the children in both groups and the resilience scores on CD-RISC. *Figure 3* represents, through the dispersion diagram, the negative correlation between the Externalizing scores of the children in both high risk groups through CBCL and the resilience scores through the CD-RISC. So that, high Externalizing scores of the high risk children predicted low CD-RISC resilience scores.

In the cases of children without psychopathology from both high risk groups, the more the child exhibited overall competence and skills through the CBCL, the less likely it was that the child showed externalizing behavior problems and his scores for resilience in CD-RISC were higher. The Pearson correlations between the high PANSS scores of the parents and low resilience scores were statistically significant, especially in the case of psychotic mothers and concerning the negative symptoms of the schizophrenic mother and the resilience scores of the offspring ($p < 0,001$).

The maximum frequency of positive codifications on the Fifth Axis in both study groups of high risk children of schizophrenic and bipolar parents, was significantly correlated ($p < 0.001$) with low scores of the child's resilience for personal competency, negative effects tolerance, safe interpersonal relations, adaptability. We found through the Pearson correlations between CD-RISC - Fifth Axis, high negative correlations, meaning that higher scores for the abnormal family relations and distorted communication predicted low resilience scores.

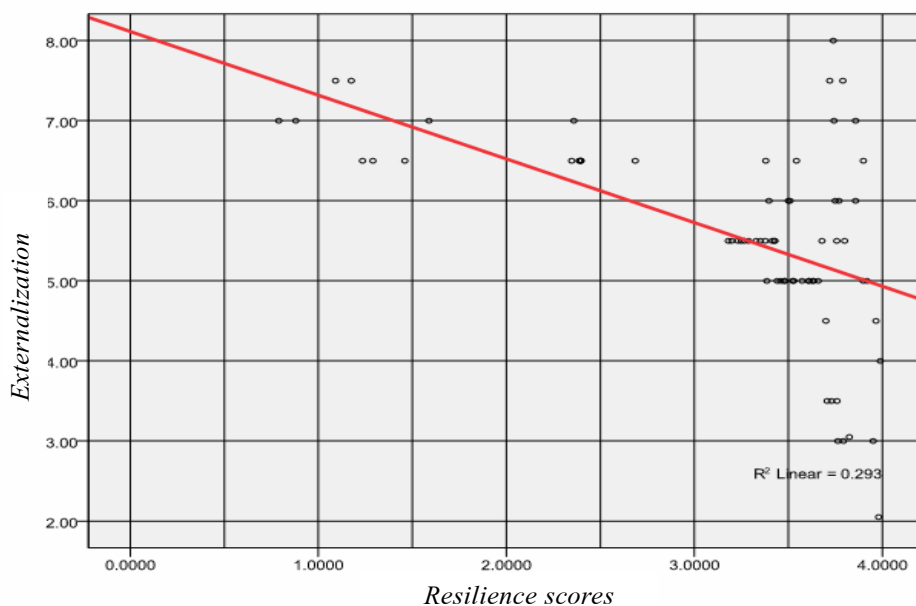


Figure 3. The Negative Correlation between Externalization (CBCL) and Resilience scores (CD-RISC)

Discussions

The fact that the resilience of the high risk children improved in time after targeted interventions, gives hope that the outcome and the onset of psychopathology can be influenced. Our research-action model of systemic, family-centered evaluation and intervention, proved to be a successful way to enhance the empowerment, the positive aspects of individual and family functioning even under high risk conditions. Through the whole research, the needs of the parents as well as of the children were approached concomitantly creating an interface between the mental health services for children with those of the adult services (Nussbaum, 2000; Lazarescu & Ienciu, 2012). Our study of resilience, including children with and without psychopathology, assessing genetic and environmental factors, is likely to lead to improvements in the ability to design effective interventions (Bartels & Hudziak, 2007). The vulnerable child has some characteristics, which put him in a risk position. If proper intervention strategies are applied, the vulnerability can be balanced through protective factors. So, that we have to work on the rehabilitation of the child and of the parental capacities. Through the resources and quantification of resilience, we achieved new perspectives of implementing a complex and individualized model of interventional strategies.

Conclusions

Resilience is modifiable and can improve after targeted interventions. The presence of seemingly healthy adaptation of high risk children at one developmental stage may change in time, positive adaptation never being permanent, so they need early intervention and support, too. The quantification of resilience remained a significant predictor of outcome, proving to be a target for early detection and prevention of psychopathology.

Concerning, the risk/protective factors, non-shared environmental influences are important for age-specific behavioral problems, in our case the age of the sibling at the onset of the parent's psychosis was crucial. The abnormal psychosocial conditions for the children are higher in the families with a schizophrenic parent, especially the mother, this fact becoming a burden for the psychological development and the prognosis.

Acknowledgements

These authors contributed equally to this work and thus share first authorship.

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