



Psychological Risk Factors of borderline Pathology in School-age Children

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ABSTRACT:

The purpose of this study was to compare the respective contributions of psychosocial stressors and neuropsychological deficits to the prevalence of borderline pathology in children.

Method: For psychiatric day treatment, 86 school-age adolescents (75 boys and 11 females) were the subjects. 35 of the kids fulfilled the requirements for borderline pathology. Based on parent and child conversations, reports from schools and social service organizations, and information from a questionnaire filled out by members of the child's clinical team, data on psychosocial risk factors were compiled for each child. Computerized versions of the Wisconsin Card Sorting Test and the Continuous Performance Test were used as neuropsychological assessments.

Results: The variation in borderline pathology was significantly and independently influenced by both executive function deficits and psychological stress. A model that included both groups of risk factors and explained 48% of the variance in borderline diagnoses was the result.

Conclusions: To comprehend the etiology of borderline pathology in children, it is important to consider both environmental hazards and neurobiological susceptibility.

Keywords: Borderline pathology, Children, Psychological risk factors

Introduction:

According to the Diagnostic and Statistical Manual of Mental Disorders, borderline personality disorder (BPD) is a severe mental illness characterized by a pervasive pattern of instability in interpersonal interactions, self-image, and affect, as well as noticeable impulsivity. (5th ed.). This disorder causes substantial functional impairment and subjective discomfort, and it usually

first appears in adolescence or early adulthood ^[1]. Stern first used the term "borderline" to describe a group of patients in 1938 who were on the verge of psychosis or neurosis and showed unusual reluctance to psychotherapeutic intervention ^[2]. Later, in 1979, Spitzer and colleagues created the first diagnostic standards for BPD, which included unstable affect, identity disruption, and poor impulse control ^[3]. Later editions of the Diagnostic Manual of Mental Disorders, most recently DSM-5, have added additional criteria, such as a pattern of tumultuous and intense interpersonal relationships, recurrent suicidal behavior, persistent feelings of emptiness, difficulty controlling anger, transient, stress-related paranoid ideation, or severe dissociative symptoms. Due to under diagnosis, the estimated 1.6% median prevalence of BPD in the general community is most likely much higher. In psychiatric inpatients, it can reach up to 20%; in outpatient mental health clinics, it can reach 10%; and in general care environments, it can reach up to 6%.^[1] There is evidence to suggest that as individuals age, this frequency may decrease ^[1]. Similar to all personality disorders (PDs), BPD does not suddenly manifest in adults. Prodromal symptoms and signs can actually be observed early in life, especially during adolescence ^[4-7]. Sadly, there are still few studies [9] that assess the frequency of PDs in kids and teenagers. BPD affects 11% of young psychiatric outpatients and up to 50% of inpatients in mental health settings, respectively, and has cumulative prevalence rates of 1.4% and 3.2% in the general population for 16- and 22-year-olds, respectively ^[6,8-10]. In reality, PDs have an impact on society in a variety of ways, including financial burden, disability, and mental suffering. Particularly in BPD, the suicide incidence can reach 8–10% ^[11]. Children and teenagers with BPD have lower clinical and psychosocial functioning ^[12,13], more severe comorbid pathology ^[14], and higher rates of hospitalization for suicidal thoughts or attempts than adults ^[15]. It is true that borderline pathology diagnosed in its early stages (before the age of 19) predicts long-term functioning impairment and extended symptom duration—for up to 20 years ^[16,17]. Unfortunately, when BPD is not recognized and addressed right away, the outcome is frequently less favorable. This is especially true for BPD patients who first present with the disorder at a young age, as they frequently experience longer delays in receiving a diagnosis and a following therapeutic intervention ^[18]. Early-onset BPD is actually more likely to exhibit the more executive symptoms of BPD, such as recurrent self-harm and suicidal behavior, other impulsive and self-damaging behavior, and inappropriate anger, whereas enduring characteristic symptoms, such as unstable relationships and identity disturbances, are more frequently diagnosed in adults ^[19]. As a result, as psychological development occurs, the clinical manifestation of BPD can alter over time, displaying different individual symptoms. Given the poor categorical stability of BPD in adolescence, this suggests that a dimensional approach might better account for the developmental variability and heterogeneity found during this age period, assisting in the diagnosis process ^[20]. Refusal to diagnose BPD can be very harmful to patients because early diagnosis of BPD is essential for advancing early intervention programs, which should guarantee proper care for children. The average age of the first mental health encounter was actually between 17 and 18 years old, and some retrospective studies in adult subjects found that failure to recognize BPD at the time of presentation prevented the implementation of early interventions

[21,22]. All of the aforementioned data point to the need for careful monitoring of conditions in infancy and adolescence that have a high risk of evolving into BPD [21]. Early psychopathological characteristics, temperamental characteristics of children and adolescents, premature environmental factors, and neurobiological correlates have all been found to be predictors of BPD development early [20]. Therefore, current study aims to evaluate the pathological risk factors of borderline pathology in school-age children. of the evidence that is presently available in the literature regarding early detection of BPD in order to aid in the diagnostic process.

Method:

For the purpose of analyzing borderline pathology and psychological risk factors, 86 school-aged adolescents were recruited for this research. Total of 89 children who underwent a series of neuropsychological tests as part of the study's sample size were included; however, three children were excluded because the results of the Continuous Performance Test (CPT) were not recorded in the study's computer database. The details for the 86 children whose access to this summary number was possible are given. After being suggested for admission to a child psychiatry day treatment program at an urban teaching hospital, the participants received a 24-month evaluation. The Child Version of the Retrospective Diagnostic Interview for Borderlines was used to examine all of the participants. (CDIB-R). Each of the 24 elements in this model, which has 24 total, was evaluated using a scale from 0 to 2. Semi-structured interviews were used to evaluate the psychological and societal risk factors, while the Child Behavior Checklist (CBCL) was used to assess behavioral problems. The semi-structured interview questions were designed to assess psychological trauma, and they covered topics like reporting to youth protection services for any reason, sexual abuse of any kind, physical abuse by parents, verbal abuse by parents, severe neglect (defined as the significant failure of parents to provide adequate supervision, protection, and physical care), foster care, and witnessing violence. Other investigations assessed the level of parental dysfunction, taking into account drug use, criminal behavior, and prior separation and divorce. Data on psychosocial risk factors were compiled for each child based on parent and child discussions, reports from schools and social assistance organizations, and information from a questionnaire filled out by members of the child's clinical team. The Continuous Performance Test and the Wisconsin Card Sorting Test were used as cognitive evaluations.

RESULTS:

All of the school-age children were divided into borderline (n = 39) and nonborderline (n = 50) groups using the child version of the Retrospective Diagnostic Interview for Borderlines. The relative contributions of two categories of risk factors—psychosocial risk factors and neuropsychological vulnerability—in predicting borderline pathology in children were compared using a series of logistic regressions. These two sets were evaluated separately, and the best predictors from each of these studies' regression formulae were then combined to create a final logistic regression equation. The gender variable was initially incorporated as an independent variable in the regression equations; however, it was eliminated from further investigation

because it had no discernible effects on any of the equations. Findings revealed that parental crime and sexual abuse are significant risk factors for developing a borderline personality disorder. These factors were added to a logistic regression on group assignment, along with the measure of witnessing violence, which was considerably more prevalent in the borderline group (79%) than in the non-borderline group (41%) in this study. ($\chi^2 = 10.9$, $p < 0.001$). The model, which also accounts for 25% of the variation in group assignment, considers the three psychosocial risk variables. Comparing the two models, one with just the constant (2 2 log likelihood for the former = 98.3, and for the latter, 106.2; $p < 0.001$) matches the data better than the one with the three psychosocial risk factors. The regression equation contained only two significant contributions: sexual assault and observing violence. Children who had been sexually abused were nearly four times more likely to be classified as borderline than those who had not, and those who had observed violence were nearly five times more likely. However, it should be mentioned that only 29% of the borderline children were correctly classified, giving the model an overall classification rate of 29%. This model correctly classified 94% of the non-borderline children. With a 22 log likelihood reduction from 114.2 to 91.9, this model outperforms the model that only contains a constant and accounts for 43% of the variance in group assignment. The WCST "Learning to Learn" index, the CPT index score, and the CBCL Thinking Problems score were three independent variables that were used into the logistic regression equation. An aberrant WCST result was linked to a 6:1 odds ratio for being placed in the borderline group. The CPT and CBCL scores' corresponding odds ratios are useless since they represent continuous variables. This model correctly recognised 80% of the non-borderline and 56% of the borderline, for an overall classification rate of 77%. In a logistic regression on group assignment, the five significant variables from the first two models—sexual abuse, witnessing violence, WCST score, CPT index, and CBCL Thinking Issues score—were combined. By combining the two models, the 22 log likelihood is decreased from 118.2 to 75.3 ($p < 0.0001$), accounting for 48% of the variation in group assignment. Of the five variables, only CBCL Thinking Issues was no longer significant; the other four independently contributed to the regression equation. Even in this combined model, the odds ratios for the three categorical variables (sexual abuse, seeing violence, and WCST score) remain similar to those found in the regression equations on each distinct set of risk factors. Actually, the odds ratio for WCST score in the combined model is considerably greater (7:1). This model correctly recognised 86% of the non-borderline children and 77% of the borderline children, with an overall classification rate of 83%.

Table 1: Risk factors of Borderline pathology (Logistic Analysis)²³

Parameter	Partial correlation	Regression Coefficient (β)	Odds ratio	Confidence Interval	p-value
Psychosocial risk factors					
Sexual abuse	0.14	1.28	3.98	1.06–14.71	0.04
Parental criminality	0.0001	0.12	1.13	0.38–3.72	0.84

Witnessing violence	0.17	1.59	4.92	1.22–16.29	0.02
Neuropsychological Risk Factors					
Continuous Performance Test index	0.14	0.08	1.09	1.02–1.12	0.05
Wisconsin Card Sorting Test“Learning to Learn” score	0.24	1.82	6.17	1.79–15.11	0.002
Child Behaviour checklist thought problem score	0.25	0.07	1.05	1.03–1.15	0.004

Table 2: Combined model for risk factors²³

Combined Model	Regression Coefficient (β)	Partial correlation	Odd ratios	Confidence interval 95%	p-value
Wisconsin Card Sorting Test “Learning to Learn” score	1.96	0.28	7.08	1.98–25.35	0.001
Sexual abuse	1.62	0.18	5.05	1.21–21.10	0.03
Child Behavior Checklist thought Problems Score	0.05	0.17	1.05	0.99–1.11	0.07
Continuous Performance Test index	0.11	0.15	1.12	1.01–1.23	0.002
Witnessing violence	1.57	0.18	4.82	1.28–18.11	0.02

Discussion:

Diagnostic and Statistical Manual of Mental Disorders defines borderline personality disorder (BPD) as a severe mental illness characterized by a pervasive pattern of instability in interpersonal interactions, self-image, and affect, as well as noticeable impulsivity. This disorder causes substantial functional impairment and subjective discomfort, and it usually first appears in adolescence or early adulthood ^[1]. Data from earlier decades seemed to point to a greater prevalence of BPD in women, which is still reflected in the DSM-5, which displays a M:F ratio of 1:3^[1]. These differences, it was subsequently observed in the NESARC study conducted by Tomko and colleagues in 2014, appear to be brought on by diagnostic or sampling errors, as well as biological or sociocultural factors. In this study, there was only a marginal variation in prevalence (2.4% vs. 3.05%) between genders ^[24]. Similar to all personality disorders (PDs), BPD does not suddenly manifest in adults. In reality, there has been a significant rise in empirical studies on this subject over the past 20 years ^[25,26]. A recent study by Sharp, however, made clear how national practice guidelines and scientific data still don't permeate standard clinical care ^[27]. In fact, because symptoms are frequently underestimated and this condition is frequently reluctantly diagnosed in younger people, the diagnosis of BPD—and consequently, its treatment—is frequently delayed in normal clinical practice ^[18,20]. Recent studies have found five key factors as the root causes of this resistance: (1) the persistent belief that personality disorder (PD) in adolescence cannot be diagnosed; (2) that some PD characteristics are normative and not particularly indicative of personality disorder (this is especially true when attempting to distinguish between physiological adolescent upheaval and BPD symptoms ^[16]); and (3) that other psychiatric conditions can explain the symptoms of PD more effectively; The inability to identify BPD during adolescence in particular is due to the fact that it presents differently in teens and adults.

The findings of this research confirm that executive functioning deficiencies and psychological trauma are both risk factors for borderline pathology in children. The variance in borderline diagnosis is significantly and independently influenced by these two groups of variables. The theoretical ramifications of the part played by sexual abuse in separating the two groups in our sample are significant.

Childhood sexual abuse has been linked to adult BPD in retrospective studies of adults²⁸⁻³⁰, but a recent meta-analysis of all of these study³¹ suggests that it is actually only a weak predictor of this type of pathology. The likelihood is high that a variety of neglectful and traumatic experiences, which frequently co-occur in the same patients, can be readily measured as a marker for sexual abuse.³² However, it is intriguing that sexual abuse also contributes to children's chance of developing borderline personality disorder. Compared to children who had not, children who had suffered sexual abuse were four times more likely to display borderline pathology. Our methodology, in contrast to studies of adults, did not rely on the frequently unreliable memories of severely mentally ill patients, and our data on trauma were up-to-date and gathered from a variety of data sources. Children also had a higher chance for borderline

pathology if they witnessed violence. According to research³³, children who have observed violence are more likely to experience emotional distress and behavioral issues. They are also more likely to experience abuse themselves or to engage in violent behavior themselves. It is interesting to note that when violence was taken into consideration, parental criminality did not significantly contribute to variance. It's conceivable that having an antisocial parent will have the biggest effects when the antisocial behavior manifests as domestic violence; In addition to feeling anxious and depressed, a victimized parent may be less able to defend her kids and attend to their requirements. However, it should be emphasized that many false negatives in the classification of children as having borderline pathology were generated by the logistic regression results using only these psychosocial risk factors. This implies that the existence of childhood trauma may be a risk factor for borderline pathology in children, but it is not a necessary condition. Borderline pathology appears to be significantly influenced by neuropsychological susceptibility. Aspects of executive function like cognitive flexibility, planning prowess, attention and arousal are all measured by the tests used in this research. Adults with BPD have been shown to have deficiencies in these areas, which are reflected in the strict, categorical thought patterns frequently seen in borderline patients. The capacity of children to comprehend and integrate their traumatic events may be hampered by these cognitive limitations. The model that results from including both neuropsychological and psychosocial risk variables accounts for nearly half of the variation in borderline diagnosis. We can speculate that the etiology of borderline disorder in children and BPD in adults includes both environmental risks and neurobiological susceptibility. This way, we could interpret the findings as indicating that, despite their limitations, the neuropsychological measures used in this research reflect diatheses to childhood borderline pathology. We assume that multiple vulnerabilities affecting the impulsive, affective, and cognitive domains make borderline children more vulnerable to stress when we apply this model to them. In other words, these vulnerabilities prevent many, if not most, children from developing the resilience mechanisms necessary to deal with being exposed to a traumatic setting.^{35,36}

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