

RESEARCH ARTICLE

Impact of Childhood Trauma Subtypes on Depression Severity: A Structural Equation Model Analysis

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ABSTRACT

Background: Childhood trauma is a recognized risk factor for major depressive disorder (MDD); however, fewer studies have examined how specific trauma subtypes relate to the severity of depressive symptoms. This study aimed to investigate both the overall impact of childhood trauma and the differential effects of trauma subtypes on depression severity in individuals diagnosed with MDD.

Methods: Sixty-five participants (64.6% female) diagnosed with MDD according to DSM-5 criteria completed the Childhood Trauma Questionnaire (CTQ) and the Beck Depression Inventory (BDI). Structural equation modeling (SEM) was conducted to examine the predictive relationship between childhood trauma and depression severity.

Results: Emotional neglect was the most prevalent trauma subtype and showed the strongest association with depression severity. SEM analysis revealed a strong predictive relationship between childhood trauma and depressive symptoms (standardized regression coefficient = 0.70). While emotional abuse, physical abuse, and physical neglect were also positively correlated with depression severity, no significant association was found for sexual abuse.

Conclusion: The findings highlight the profound impact of emotional neglect on depression severity in individuals with MDD. Early screening for emotional trauma and trauma-informed interventions are critical for mitigating the long-term psychological consequences of childhood adversity. Future research should further investigate the moderating roles of social support and psychological resilience.

Keywords: Childhood Trauma, Depression Severity, Emotional Neglect, Structural Equation Modeling, Major Depressive Disorder

Introduction

Major Depressive Disorder (MDD) is one of the most prevalent and disabling mental health conditions worldwide. Its global prevalence has increased by nearly 50% over the past three decades, currently affecting more than 264 million individuals across all age groups.¹ According to the World Health Organization,

depression is a leading contributor to global disability and disease burden.²

MDD is a multifactorial and heterogeneous disorder, influenced by a complex interplay of biological, psychological, and environmental factors.³ One environmental factor that has received increasing attention is childhood

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trauma. Evidence suggests that such early adversities can have a profound and long-lasting impact on neurobiological development, psychological resilience, and emotional regulation, thereby increasing vulnerability to mental disorders including depression.⁴⁻⁶

Studies indicate that individuals with a history of childhood trauma exhibit a higher prevalence of depression and face an increased risk of developing early-onset, recurrent, and treatment-resistant forms of the disorder.⁶ Mechanistically, childhood trauma is associated with persistent dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, increased inflammatory responses, and maladaptive cognitive schemas, all of which contribute to the pathophysiology of MDD.^{5,7}

Childhood trauma encompasses a range of adverse experiences, including emotional, physical, and sexual abuse, as well as emotional and physical neglect. These subtypes may exert differential effects on mental health outcomes. While the association between childhood trauma and depression is well-established, fewer studies have examined how specific trauma subtypes relate to the severity of depressive symptoms in clinical populations. Therefore, this study aims to investigate both the overall impact of childhood trauma and the differential effects of specific trauma subtypes on depression severity in individuals diagnosed with MDD. Based on this background, the central hypothesis of this study is that individuals with a history of childhood trauma, particularly those exposed to emotional neglect or abuse, will exhibit significantly greater severity of depressive symptoms compared to those without such a history.

Method

Participants

This study included 65 participants diagnosed with Major Depressive Disorder (MDD)

according to DSM-5 criteria. Participants were recruited from an outpatient psychiatry clinic and were evaluated by a board-certified psychiatrist. Inclusion criteria required participants to be between 18 and 65 years of age and to have adequate literacy to complete self-report inventories. Exclusion criteria included the presence of comorbid psychiatric disorders (e.g., bipolar disorder, psychotic disorders), current substance use, severe neurological or medical conditions requiring hospitalization, or intellectual disability. All participants provided written informed consent prior to participation. The study was approved by the Ethics Committee of Etlik City Hospital (AEŞH-BADEK-2024-0062). Sociodemographic data were collected using a structured Sociodemographic Data Form. Depression severity was assessed using the Beck Depression Inventory (BDI), and childhood trauma exposure was evaluated using the Childhood Trauma Questionnaire (CTQ). All 65 participants included in the analysis were diagnosed with MDD. While the Childhood Trauma Questionnaire (CTQ) was administered to all, not all participants reported high levels of trauma exposure on all subscales; rather, trauma exposure levels varied across the sample. No participant was excluded based on CTQ score.

Measures

Sociodemographic Data Form: This structured form was developed by the researchers to collect key sociodemographic and clinical information, including age, gender, marital status, educational background, employment status, substance use, history of suicide attempts, and previous psychiatric hospitalization. The form aimed to provide a comprehensive overview of participants' background and clinical characteristics.

Beck Depression Inventory: The BDI is a 21-item self-report inventory developed by Beck in 1961 to assess the severity of depressive

symptoms.⁸ The Turkish adaptation and validation of the BDI was conducted by Hisli in 1989.⁹

Childhood Trauma Questionnaire: The CTQ is a 28-item retrospective self-report instrument developed by Bernstein et al. in 1998 to evaluate five types of childhood maltreatment: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect.¹⁰ The Turkish adaptation and validation of the CTQ was performed by Şar et al. in 2012.¹¹

Procedure

Data were collected in a clinical outpatient setting. Participants completed Sociodemographic Data Form, BDI and CTQ under supervision to ensure data quality and minimize missing responses.

Statistical Analysis

All statistical analyses were conducted using SPSS version 22.0 (IBM Inc., Chicago, IL, USA) and AMOS version 24.0. Descriptive statistics (means, standard deviations, frequencies, and percentages) were used to summarize sociodemographic and clinical data. Normality of continuous variables was assessed using the Kolmogorov-Smirnov test and by examining skewness and kurtosis values. Pearson correlation coefficients were calculated to evaluate the associations between depression severity (BDI scores) and childhood trauma subtypes (CTQ subscales). Structural Equation Modeling (SEM) was performed using AMOS to examine the predictive relationship between total childhood trauma and depression severity. Model fit was assessed using the chi-square to degrees of freedom ratio (CMIN/DF), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). A p -value < 0.05 was considered statistically significant.

Table 1. Sociodemographic and Clinic Characteristics of Participants

Variable	Mean $\pm$ SD/n (%)
Age (years)	30.53 $\pm$ 9.98
Female (%)	42 (64.6%)
Education (years)	13.2 $\pm$ 4.03
Single	40 (61.5%)
Married	19 (29.2%)
Divorced	6 (9.2%)
Having Children	24 (36.9%)
Employed	30 (46.2%)
Smoking	32 (50.8%)
Alcohol Use	7 (10.8%)
Suicide Attempt	10 (15.4%)
Inpatient Treatment	2 (3.1%)
BDI Score	26.76 $\pm$ 9.22 (min: 6, max: 48)
Emotional Abuse Score	8.60 $\pm$ 3.79 (min: 5, max: 19)
Emotional Neglect Score	14.33 $\pm$ 5.25 (min: 5, max: 24)
Physical Abuse Score	6.44 $\pm$ 2.79 (min: 5, max: 18)
Physical Neglect Score	9.78 $\pm$ 4.15 (min: 5, max: 20)
Sexual Abuse Score	6.18 $\pm$ 3.02 (min: 5, max: 20)

SD: Standart deviation; BDI: Beck Depression Inventory; min: minimum; max: maximum

Results

The study sample consisted of 65 individuals diagnosed with MDD, with a mean age of 30.5 ± 10 years. The majority of participants were female (64.6%), and single (61.5%). Detailed sociodemographic and clinical characteristics are presented in Table 1.

Table 2. Correlation among the Beck Depression Inventory and Childhood Trauma Questionnaire Subscales.

		BDI	Emotional abuse	Physical abuse	Physical neglect	Emotional neglect	Sexual abuse
Emotional abuse	r	0.397	—				
	p	0.001	—				
Physical abuse	r	0.282	0.462	—			
	p	0.023	<0.001	—			
Physical neglect	r	0.426	0.224	0.412	—		
	p	<0.001	0.073	<0.001	—		
Emotional neglect	r	0.682	0.466	0.380	0.654	—	
	p	<0.001	<0.001	0.002	<0.001	—	
Sexual abuse	r	0.192	0.287	0.415	0.146	0.246	—
	p	0.126	0.020	<0.001	0.245	0.048	—

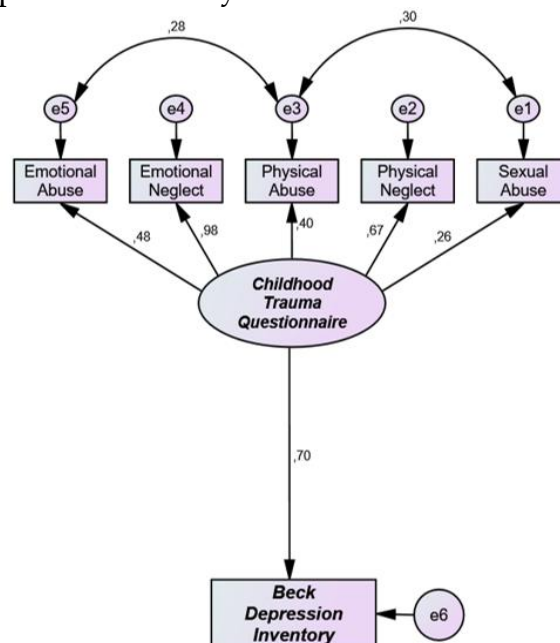
BDI: Beck Depression Inventory

The mean BDI score was 26.8 ± 9.2 , indicating moderate to severe depressive symptoms among participants. Mean CTQ subscale scores were as follows: Emotional Abuse 8.6 ± 3.8 , Emotional Neglect 14.3 ± 5.3 , Physical Abuse 6.4 ± 2.8 , Physical Neglect 9.8 ± 4.2 , and Sexual Abuse 6.2 ± 3.0 . Table 1 presents the sociodemographic and clinical characteristics of participants.

Correlation analysis demonstrated a moderate positive correlation between BDI and emotional abuse ($r = 0.397$, $p = 0.001$), a low positive correlation with physical abuse ($r = 0.282$, $p = 0.023$), a moderate positive correlation with physical neglect ($r = 0.426$, $p < 0.001$), and a high positive correlation with emotional neglect ($r = 0.682$, $p < 0.001$). In contrast, the correlation between BDI and sexual abuse ($r = 0.192$, $p = 0.126$) was not statistically significant (Table 2).

The structural equation modeling results showed a standardized regression coefficient of 0.70 between BDI and CTQ, confirming a strong predictive relationship between childhood trauma and depression severity. The

model fit indices were $CMIN/DF = 1.565$, $CFI = 0.966$, $RMSEA = 0.094$, suggesting that the model achieved an acceptable fit. Figure 1 illustrates the SEM demonstrating the relationship between childhood trauma and depression severity.



CMIN/DF	P	CMIN	DF	CFI	RMSEA
1.565	0.141	10.952	7	0.966	0.094

Figure 1. Hypothesized structural equation model.

Discussion

The findings of this study reinforce existing literature emphasizing the substantial influence of childhood trauma on depression severity among individuals with Major Depressive Disorder (MDD).^{5,6,12} SEM revealed a strong directional association between overall childhood trauma and depressive symptom severity, with a standardized regression coefficient of 0.70. This result underscores the impact of early adverse experiences on the severity of depressive symptoms among individuals with MDD.

Consistent with prior research, emotional neglect emerged as the most prevalent trauma subtype and showed the strongest association with depressive symptom severity in our sample. This finding aligns with meta-analytic evidence suggesting that emotional neglect and emotional abuse are more strongly linked to persistent depressive symptoms than physical or sexual abuse.^{13,14} The subtle, chronic nature of emotional trauma may impair the development of core regulatory capacities such as self-worth, emotional regulation, and resilience. These disruptions likely contribute to the particularly strong association between emotional neglect and depression severity observed in this study. Given its pervasive impact, emotional neglect warrants special attention in clinical assessments—even in the absence of overt physical or sexual abuse—as it may influence mood regulation mechanisms essential to psychological stability. Moreover, this underscores the critical role of early emotional care in shaping mental health trajectories and highlights the importance of early intervention and trauma-informed therapies tailored to the needs of individuals with a history of emotional trauma.

Interestingly, the absence of a significant association between sexual abuse and depression severity in our study, while initially unexpected, is consistent with findings from

previous systematic reviews.^{14,15} Several factors may account for this result, including underreporting due to stigma, variability in disclosure practices, and the distinct psychological processing of different trauma types. Emotional consequences such as shame, betrayal, or dissociation may mediate the impact of sexual abuse in more indirect or complex ways that were not fully captured by the instruments used in this study. Moreover, although childhood sexual abuse is a well-established risk factor for various psychiatric disorders, its specific link to depression appears to be weaker compared to emotional forms of trauma.¹⁶ Maniglio (2010) also emphasized that while childhood sexual abuse increases the risk of depression, its effects are not disorder-specific, further reinforcing the notion that emotional trauma may play a more central role in the onset and severity of depressive symptoms.¹⁴

Although the present study did not directly assess psychological resilience or perceived social support directly, prior research has consistently demonstrated their potential moderating effects. Individuals with a history of childhood trauma often report lower levels of perceived support and coping efficacy, which may exacerbate vulnerability to depression and increase the risk of suicidal ideation.¹⁷ Conversely, higher levels of resilience have been associated with reduced depressive symptoms, even in the presence of significant trauma exposure.¹⁸ Incorporating these psychosocial variables into future models could provide a more nuanced understanding of individual differences in trauma responses and inform the development of interventions aimed at strengthening resilience and social support systems.

This study also carries important implications for clinical practice. Given the strong association between childhood trauma, particularly emotional neglect, and depression

severity, routine screening for trauma history should be integrated into psychiatric evaluations. Furthermore, trauma-informed therapeutic approaches, such as trauma-focused cognitive behavioral therapy (TF-CBT), Eye Movement Desensitization and Reprocessing (EMDR), and interpersonal psychotherapy should be prioritized to directly address the emotional and functional sequelae of early adversity, while also enhancing psychological resilience.¹⁹⁻²¹

This study has several limitations that should be considered when interpreting the findings. Its cross-sectional design precludes causal conclusions about the relationship between childhood trauma and depression severity. The relatively modest sample size may limit the generalizability of the results to broader clinical populations. The reliance on self-report measures for assessing both trauma exposure and depressive symptoms introduces potential recall bias and social desirability effects. Moreover, the study did not evaluate key moderating variables such as psychological resilience or perceived social support, limiting the ability to account for individual differences in trauma response. Finally, clinical course indicators—including illness duration, number of depressive episodes, and treatment resistance—were not assessed, potentially contributing to heterogeneity in depression severity that is unrelated to childhood trauma. Future studies should consider incorporating these clinical variables to improve the interpretability and specificity of findings. Despite these limitations, this study has several notable strengths. It is among the relatively few to employ SEM to elucidate the predictive relationship between childhood trauma and depression severity in a clinically diagnosed MDD sample. The use of validated measurement tools, such as the CTQ and BDI, enhances the reliability of the findings. Additionally, the focus on specific trauma

subtypes, rather than cumulative trauma scores alone, provides a more detailed understanding of how different forms of early adversity impact depression outcomes.

Future research should adopt longitudinal designs to clarify the causal pathways linking childhood trauma to depression severity. Additionally, examining psychological resilience, coping strategies, and social support as potential moderating or mediating factors could refine intervention targets. Expanding studies to include larger and more diverse clinical populations would also enhance the generalizability and applicability of findings.

Conclusion

In conclusion, this study underscores the profound and specific impact of childhood trauma, particularly emotional neglect, on the severity of depressive symptoms. These findings highlight the urgent need for early detection, trauma-informed care, targeted interventions, and resilience-enhancing strategies to address the lasting psychological effects of early emotional adversity. Addressing the enduring consequences of emotional trauma is essential not only for mitigating depressive symptoms but also for promoting long-term psychological resilience and overall mental well-being.

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