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The mediating role of resilience and perceived stress in the relationship between childhood traumas and depression in young adults

Emre Ciydem[1], Erdinc Ozturk[2], Osman Usta[3], Gorkem Derin[2]

[1]Bandırma Onyedi Eylul University, Faculty of Health Sciences, Department of Mental Health and Psychiatric Nursing, Balıkesir, Türkiye
[2]İstanbul University-Cerrahpaşa, Institute of Forensic Sciences and Legal Medicine, Department of Social Sciences, Psychotraumatology and Psychohistory Research Unit, İstanbul, Türkiye
[3]Bandırma Onyedi Eylul University, Faculty of Health Sciences, Department Nursing, Balıkesir, Türkiye

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Abstract

It is still unclear whether childhood traumas cause depression by first decreasing the individual's resilience and impairing stress perception or by first increasing the individual's stress perception and impairing resilience. The aim of this study is to investigate the mediating role of resilience and perceived stress in the relationship between childhood trauma and depression in young adults. The convenience sample of the cross-sectional correlational study consisted of 481 young adults with at least one childhood trauma. The data was analysed with structural equation modeling. Childhood traumas may increase perceived stress level by decreasing resilience and both of them may lead to depressive symptoms. At the same time, it has been found that childhood traumas may decrease resilience by increasing the perceived stress level and both may lead to depressive symptoms. The childhood traumas-resilience-perceived stress-depression pathway and childhood traumas-perceived stress-resilience-depression pathway were found to be significant.

Keywords: Childhood trauma, child neglect, resilience, stress, depression, psychotraumatology

Introduction

Worldwide, more than 300 million people are known to suffer from major depressive disorder (MDD) [1]. It is estimated that MDD will rise to first place in the ranking of global disease burden by 2030 [2]. MDD is also a leading cause of lifelong disability, with high rates of suicide attempts, relapse, and significant functional impairment [3-5]. MDD has a multifactorial heterogeneous structure in terms of factors related to onset, progression, and outcome [6]. The most current approach to explaining the aetiology of depression is the diathesis-stress model [7]. It suggests that the combination of an individual's predisposition or vulnerability and environmental stressors determines the likelihood of experiencing a psychiatric disorder. In this model, "*diathesis*" refers to a person's inherent susceptibility or genetic predisposition to developing a particular disorder [7]. "*Stressors*" refer to external factors or life events that can trigger or exacerbate the development of a disorder. These stressors can include traumatic experiences, major life changes, chronic stress, social factors, or environmental challenges. According to the diathesis-stress model, the development of a mental disorder is not solely determined by either the diathesis or the stressors alone. [7,8].

Stress is a physiological and psychological response that occurs when individuals perceive a situation as challenging or

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Corresponding Author: Erdinc Ozturk, İstanbul University-Cerrahpaşa, Institute of Forensic Sciences and Legal Medicine, Department of Social Sciences, İstanbul, Türkiye.
Email: erdincerdinc@hotmail.com

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threatening [9]. Especially early life stress and daily life stress are important factors that increase the risk of depression [10]. It is well known that childhood trauma, as a distal environmental factor associated with stress, contributes significantly to the development of depression [10]. The number of studies attempting to explain this link is increasing by the day [10,11]. In a study conducted by Wang et al., it was found that high levels of physical and emotional neglect and emotional abuse in childhood were associated with high levels of anhedonia [11]. In a meta-analysis conducted by LeMoult et al., it was shown that children exposed to early childhood stress were more likely to later meet diagnostic criteria for depression than children who were not [12].

Similarly, there are many studies showing positive relationships between perceived stress, a proximal environmental factor, and depression [13,14]. Zheng et al. reported that daily life stress mediates the relationship between childhood traumas and depression [13]. In addition, it has been found that individuals at risk of depression need a longer time to overcome daily life stressors [14]. Similarly, MDD episodes are known to often develop following a stressful life event [15]. Even if it is not possible to completely eliminate daily life stressors, it is possible to change the way events are perceived. Therefore, in coping with daily life stressors, the person's perceptions of stress may be a key to changing the responses to stress. Perceived stress is the individual's feeling and thoughts about how much stress he/she feels in a given time period or situation [16]. It has been stated that individuals with high stress perception generally feel themselves more stressed. Similarly, it has been reported that these individuals perceive their likelihood of developing MDD as higher [17]. A recent study show that an increase in perceived stress levels is an important risk factor for the development of depression [18].

However, not all individuals who were exposed to trauma and/or experienced high levels of stress in childhood developed depression. This suggests that certain factors may counteract the negative effects of childhood trauma and perceived stress. Resilience, as a protective factor that can eliminate or reduce these negative effects, is defined as the ability to effectively cope with stressful life events, recover from adversity, and maintain mental health [19]. There are studies that show that there is a negative relationship between depression and resilience [14,20]. In addition, there are studies that report that resilience has a moderating or mediating role in the relationship between childhood trauma and depression [10,21,22]. Watters et al. emphasised that resilience plays an important role in reducing or preventing depression symptoms that may develop due to childhood trauma [10].

The relationship between childhood traumas and depression in the past and present has already been explained in detail. However, it is important to understand the factors that mediate this relationship. In a nonclinical sample, it is not known whether childhood trauma leads to depression by initially decreasing resilience and impairing stress perception or by initially increasing stress perception and impairing resilience. Therefore, this study focused on the relationships between childhood traumas, resilience, perceived stress, and depression in a sample of young adults with a history of childhood traumas. The purpose of this study was to examine the mediating role of resilience and perceived stress in the relationship between childhood traumas and depression in young adults.

Material and Methods

Study design

In this study, a cross-sectional correlational design was used.

Hypotheses

H0: There is no mediating role of perceived stress and resilience in the relationship between childhood traumas and depression in young adults.

H1: In young adults, childhood traumas cause depression by affecting resilience through perceived stress.

H2: In young adults, childhood traumas cause depression by affecting perceived stress through resilience.

Place and time of the study

The data were collected between 15 December 2022 and 15 May 2023 at the location of the university where the study was to be conducted.

Setting and sample of the study

The setting of the study consisted of 13891 students studying at the university where the research was to be conducted. The sample size was calculated using the formula stated by Fisher et al. to be applicable when the setting is more than (N) 10.000 [23].

Formula: $n=z2pq/d2$

z=The normal standard deviation corresponding to a confidence level of more than 95 per cent is 1.96.

p=Proportion of the trait measured in the target population. As there is no available estimate of the proportion of the target population assumed to have the relevant characteristics, it is recommended that this proportion be assumed to be 0.5 (which is 50 per cent).

$q=1.0-p$,

d=degree of accuracy desired is 0.05.

Since there is no available estimate for the proportion of the target population that is assumed to have the relevant characteristics, the sample size to be reached is 384 people when this proportion is used as 50% as recommended by Fisher et al. [23]. In order to increase generalisability, the study was completed with a total of 481 participants.

Convenience sampling method was used within the scope of

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the study. In this method, the researcher reaches any part of the setting in any non-random way. Students were reached through face-to-face and online announcements. From 481 people, 164 people were reached face-to-face and 317 people via online surveys. The criteria for inclusion in the sample are as follows;

- Being a young adult as between the ages of 18-29
- Being a Turkish citizen
- Being volunteer to participate
- Being a regular student who renewed his/her enrolment during the period in which the research was conducted
- Being a student enrolled in the designated university
- Having at least one childhood trauma

Data collection tools

Information form

The form created by the researchers in line with the literature [14,21] consists of a total of 5 questions.

Childhood trauma questionnaire (CTQ-33)

The scale was developed to assess experiences of neglect and abuse before age 20 (in childhood and early adolescence). It was adapted into Turkish by Sar et al. [24]. CTQ-33 has a 7-factor structure that includes physical (items 9/11/12/15/17), emotional (items 3/8/14/18/25) and sexual (items 20/21/23/24/27) abuse, physical (items 1/4/6/26) and emotional (5/7/13/19/28) neglect, overprotection-control (items 29/30/31/32/33), and minimisation (items 10/16/22). The scale consists of a total of 33 items. Reversed items are 1/2/4/5/7/10/13/19/26/28/31, respectively. Minimisation is not used to calculate the total score. The Cronbach's alpha values in the original study and in this study were 0.87 and 0.93, respectively [24].

Perceived stress scale short form (PSS)

PSS Short Form was adapted into Turkish by Eskin et al. [25]. The scale, which consists of a total of 4 items and a 5-point Likert-type, determines the extent to which certain situations in a person's life are perceived as stressful. Items 6 and 7 are reversed. Scores between 4 and 20 are obtained on the scale. The higher the score, the higher the person's perception of stress. In the adaptation study and in this study, a reliability coefficient of 0.87 and 0.67, respectively, was calculated [25].

Brief resilience scale (BRS)

The scale was adapted into Turkish by Doğan [26]. It is used to measure resilience. The Brief Resilience Scale (BRS) is answered on a Likert scale ranging from 1 to 5. It consists of a total of 6 items, with items 2, 4, and 6 being inverse items. As the score on the scale increases, so does the level of resilience. The internal consistency coefficient of the scale was 0.83 in the original study and 0.84 in the present study, and the structure of the scale is single factorial [26].

Beck depression inventory (BDI)

The scale assesses the extent and severity of depressive symptoms that determine the risk of depression in individuals. The scale was adapted into Turkish by Hisli [27]. The self-report scale is answered using the 4-point Likert method and consists of 21 items. The scale has a score range of 0-63. The scale has 4 different levels: normal (0-9 points), mild (10-18 points), moderate (19-29), severe (30-63). The internal consistency coefficient Cronbach's alpha of the scale was determined to be 0.86 in the original study and 0.88 in this study. The cut-off value is 17 [27].

Conduct of the study

As part of the study, students were reached through announcements in face-to-face meetings and online. Students who volunteered to participate and met the inclusion criteria were explained the purpose and method of the study and their written consent was obtained. Data collection instruments prepared using Google forms and the link to the consent form were shared with students via social media applications (WhatsApp, Facebook, Instagram, Telegram), and printed forms were given to students in person.

Ethical issues

Ethical approval was obtained from the Bandirma Onyedi Eylul University Health Sciences Non-Interventional Research Ethics Committee (Date: 13.09.2022/Number: 2022-119). Institutional approval was obtained from the rectorate of the university concerned (Date: 31/10/2022/Number: E-26153647-100-67833). Participants were informed of the provisions of the 1995 Helsinki Declaration (as revised in Brazil 2013). Written and verbal informed consent was obtained from participants. The principle of confidentiality was observed in the collection and storage of all information about participants.

Statistical analysis

Frequencies and descriptive statistics were analysed by using the SPSS 23.00 programme (SPSS, Chicago, IL, USA). Structural equation modelling (SEM) with AMOS 24.0 was used to test the hypotheses. The hypothesis models are shown in Figure 1.

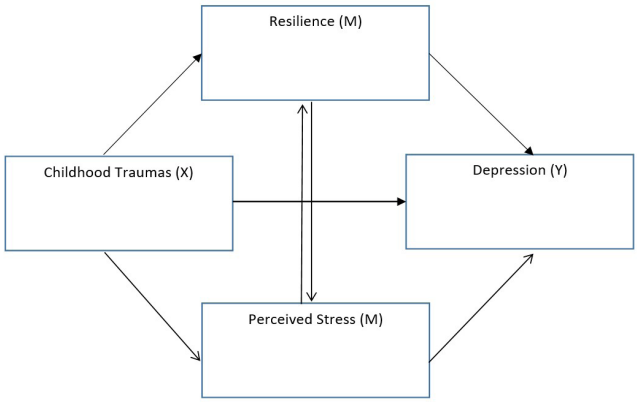

Figure 1. Hypothesis models for the mediating role of resilience and perceived stress in the relationship between childhood traumas and depression in young adults

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Results

The mean age of participants was 20.39±1.97, 81.3% were female, 36.8% attended first grade, 74.6% had a moderate economic status and 80.9% lived in a nuclear family (Table 1).

Table 1. Profile of the participants

		n	%
Age	mean±sd (min-max)	20.39±1.97	(18-29)
Gender	Male	90	18.7
	Female	391	81.3
Grade	1st grade	177	36.8
	2nd grade	106	22.0
	3rd grade	110	22.9
	4th grade	88	18.3
Economic status of the family	Poor	47	9.8
	Medium	359	74.6
	Good	75	15.6
Family type	Nuclear family	389	80.9
	Extended family	67	13.9
	Fragmented family	25	5.2

The mean score of CTQ-33 was 46.05±16.08, the mean score of BDI was 14.87±9.49, the mean score of PSS was 11.82±3.41 and the mean score of BRS was 17.90±5.22 (Table 2).

Table 2. Mean scores of the scales used in the study

	Average	Std. deviation	Min.	Max.
Childhood traumas questionnaire total score	46.05	16.08	30	122
Physical abuse	6.03	2.71	5	25
Emotional abuse	7.57	3.72	5	25
Sexual abuse	6.13	3.04	5	25
Physical neglect	7.35	3.11	5	23
Emotional neglect	9.38	4.35	5	25
Overprotection-control	9.60	4.20	5	25
Minimisation	10.28	1.66	3	15
Beck depression inventory	14.87	9.49	0	60
Perceived stress scale	11.82	3.41	4	20
Brief resilience scale	17.90	5.22	6	30

Childhood traumas have a positive effect on perceived stress (B=0.16, p<0.001), childhood traumas have a negative effect on resilience (B=-0.53, p<0.001), and childhood traumas have a positive effect on depression (B=0.30, p<0.001). Perceived stress positively affects depression (B=0.40, p<0.001), resilience negatively affects depression (B=-0.20, p<0.001), perceived stress positively affects resilience (B=0.65, p<0.001), and resilience positively affects perceived stress (B=0.83, p<0.001). In addition, resilience and perceived stress were found to have a mediating role in the impact of childhood traumas on depression (B=0.21, p=0.005) (Figure 2).

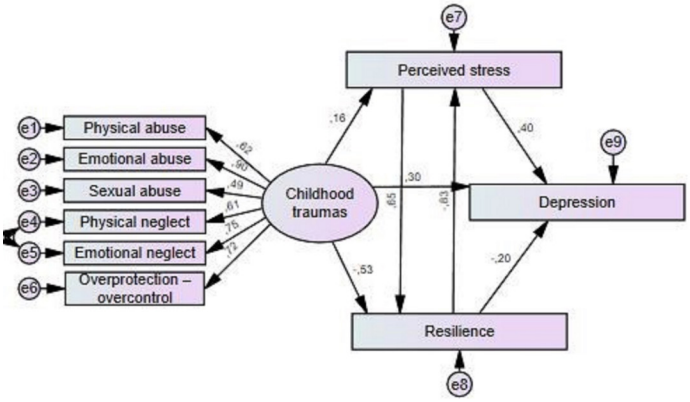

Figure 2. The mediating role of resilience and perceived stress in the relationship between childhood traumas and depression in young adults

The $\chi 2/df$ (3.854), GFI (0.960), AGFI (0.922), CFI (0.963), TLI (0.943), NFI (0.952), RMSEA (0.077), and SRMR (0.042) values of the pathway model tested in the study were acceptable [28].

Discussion

This study not only confirmed the direct negative impact of childhood traumas on depression, but also revealed that childhood traumas can increase perceived stress level by decreasing resilience, and both can lead to depressive symptoms. The results of the current study also revealed that childhood traumas may decrease resilience by increasing the level of perceived stress and both may lead to depressive symptoms. Similar to the results of this study, there are many studies showing the negative effect of childhood traumas on depressive symptoms [10,11].

The results of this study indicate that perceived stress partially mediates the association between childhood traumas and depression. Although it is not clear how childhood trauma affects perceptions of stress later in life, study results suggest a positive association between childhood traumas and perceived stress [29]. The stress multiplication perspective assumes that proximal stressors are the cause of distal adversities such as depressive symptoms [30]. This is because stressful past events, such as traumatic childhood experiences, have a negative impact on a person's emotions and ability to overcome difficulties over the long term. Over time, this leads to an accumulation of stress and an increase in negative emotions [8]. The mediating role of perceived stress in the relationship between childhood traumas and depression in young adults refers to the potential mechanism by which perceived stress may influence the impact of childhood traumas on the development of depression during young adulthood. Childhood traumas, such as abuse, neglect, or household dysfunction, have been associated with an increased risk of developing depression later in life [10,11]. However, not all individuals who experience childhood traumas develop depression, suggesting that other factors may contribute to this relationship. Perceived stress, which refers to an individual's subjective appraisal of stressors and their ability to cope with them, may play a mediating role in this context. Perceived stress reflects an individual's perception of the extent to which they are

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overwhelmed by stressors and their resources to cope with them [16]. The mediating role of perceived stress suggests that the experience of childhood traumas may influence an individual's perception of stress in adulthood. Childhood traumas can contribute to the development of a heightened stress response or a tendency to perceive stressors as more challenging and overwhelming. This, in turn, may increase the likelihood of experiencing high levels of perceived stress in daily life. High levels of perceived stress have been associated with an increased risk of developing depression. Therefore, the mediating role of perceived stress suggests that it may be one of the pathways through which childhood traumas contribute to the development of depression in young adulthood. According to Ozturk, childhood traumas have significant effects on perceived stress and both childhood traumas and perceived stress contribute to the development of depression. In addition to childhood traumas that cause intense stress in children, dysfunctional parenting styles towards children in the family can contribute to the development of various psychopathologies such as depression disorders, dissociative disorders, anxiety disorders and post-traumatic stress disorder in children [31].

In this study, resilience was found to partially mediate the association between childhood traumas and depression. Parallel to the results of the study, there are studies that show that there is a negative relationship between depression and resilience [14,20]. In addition, there are studies that report that resilience has a moderating or mediating role in the relationship between childhood traumas and depression [10,21,22]. Childhood traumas have been associated with the development of depression [10,11]. However, not all individuals who experience childhood traumas go on to develop depression. Resilience, which refers to the ability to adapt and bounce back from adversity, may play a mediating role in this relationship [19]. In this context, resilience acts as a protective factor that can buffer the negative effects of childhood traumas and reduce the likelihood of developing depression. Resilient individuals may possess coping skills, social support systems, and positive adaptive strategies that help them navigate the psychological and emotional consequences of childhood traumas more effectively [19]. The mediating role of resilience suggests that resilience acts as an intermediate factor that influences the relationship between childhood traumas and depression. It implies that the presence of higher levels of resilience may weaken the direct link between childhood traumas and the subsequent development of depression. In other words, resilient individuals may be better equipped in terms of coping skills to manage the psychological impact of childhood traumas, reducing their vulnerability to depression. This result suggests that supporting the resilience of individuals with childhood traumas may prevent the formation of depressive symptoms related to these traumas. In terms of modern psychotraumatology and dissoanalytic psychohistory, chronic childhood traumas have close relationship dynamics with violence-oriented negative parenting styles. These childhood traumas lead to dissociative depression in the future. Empathetic and dysfunctional parenting styles, which have a primitive nature and have been transmitted through generations, have been hidden or imprisoned in childhood traumas as a punishment tool [32,33].

Finally, the results of this study revealed that childhood traumas in young adults may increase the perceived stress level by decreasing resilience and this may lead to depressive symptoms. At the same time, in this study, it was determined that childhood traumas may decrease resilience by increasing the perceived stress level in young adults, which may lead to depressive symptoms. Previous studies have shown that childhood traumas are associated with depressive symptoms in individuals with low resilience and high stress [20,29]. Similarly, a study conducted by Zheng et al. on a sample of individuals with psychiatric disorders found that childhood trauma may increase the level of perceived stress by decreasing resilience, which can lead to depressive symptoms. In the same study, it was found that the association between childhood traumas, perceived stress, resilience, and depressive symptoms was not significant [14]. In other words, individuals with childhood traumas may have lower resilience, which increases vulnerability to stress and leads to the onset of depressive symptoms [18,21]. Alternatively, the perceived stress level of individuals with childhood traumas may increase, which may decrease the individual's resilience and lead to the onset of depressive symptoms [20,29]. Although it is not possible to say which model is more valid through statistical analyses, it is noteworthy that the coefficients of childhood traumas, resilience, perceived stress and depression pathways are relatively higher than the coefficients of childhood traumas, perceived stress, resilience and depression pathways. However, the path coefficients between resilience-perceived stress (0.63) and perceived stress-resilience (0.65) are quite close to each other. This shows that the relationship between resilience and perceived stress is reciprocal. From a positive psychology perspective, resilience may reduce the negative effects of childhood traumas in young adults. It may help reduce perceived stress levels and depressive symptoms [34]. This finding of the study supports the diathesis-stress approach used to explain the etiology of depression. According to this approach, stress can activate a predisposition and transform this predisposition into actual psychopathology [35]. The occurrence of psychiatric symptoms depends on whether a person's susceptibility to the disorder exceeds a certain threshold. Crossing this threshold depends on the severity of the stressor, the diathesis, and the interaction of stress and diathesis [7]. Latent diathesis can be activated by stress before mental disorders occur. Childhood traumas, which are extremely stressful events, impair the child's psychological development and resilience while increasing the individual's psychological vulnerability to future stressful events and depression [7]. As a modern approach to the prevention of childhood traumas, dissoanalytic psychohistory presents proven and easily applicable prevention strategies, different from the recommendations of psychology, psychiatry, anthropology and sociology. Dissoanalytic psychohistory, which focuses on the dissoanalysis of individual and social traumatic experiences as

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well as the individual and social evaluation of past experiences, focuses on both short and long-term applicable and effective prevention strategies for the prevention of childhood traumas [33,36,37].

Limitations

This study has some limitations. The generalizability of the study's findings is limited to students at the university where the study was conducted. In addition, students may have given socially acceptable responses.

Conclusion

The results of the present study reconfirmed the negative influence of childhood trauma on depression in young adults. In addition, childhood trauma was shown to increase perceived stress levels and decrease resilience, and both can lead to depressive symptoms. Childhood trauma has also been shown to decrease resilience by increasing levels of perceived stress, and both can lead to depressive symptoms.

To reduce the impact of childhood trauma on depression in young adults, it is recommended that stressors from daily life be reduced as much as possible to lower perceived stress levels. To this end, it is recommended that young people be trained on stress management at the university level. Strengthening young people's ability to cope with stress can also promote their resilience. To break the chain of childhood, perceived stress, resilience, and depression, it is also recommended that resilience-building programmes be implemented for young adults in universities. Policy makers are recommended to incorporate practises that support resilience as a protective factor in preventing negative psychological outcomes, such as depression and perceived stress, that may develop due to childhood trauma in young adults when formulating young adult mental health strategies. In addition, it is recommended that therapeutic interventions to strengthen resilience and reduce perceived stress levels be implemented by relevant official institutions in order to prevent depression in young adults with childhood trauma. It is recommended that the results be retested on similar and different samples and that the relationships between the concepts be re-evaluated.

Conflict of Interests
The authors declare that there is no conflict of interest in the study.

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Ethical Approval
Ethical approval was obtained from the Bandırma Onyedi Eylül University Health Sciences Non-Interventional Research Ethics Committee (Date: 13.09.2022/ Number: 2022-119). Institutional approval was obtained from the rectorate of the university concerned (date: 31/10/2022 / number: E-26153647-100-67833).

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