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Research Article

The Role of Childhood Trauma in Adolescent Depression: Investigating the Mediating Role of Emotion Regulation

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Abstract

Aim: This study aimed to determine how cognitive emotion regulation mediates the association between the severity of depression and childhood trauma.

Methods: This study was categorized as fundamental in nature and used a cross-sectional and correlational design. In 2025, it investigated the connections among depression, cognitive emotion regulation, and childhood trauma in adolescents between the ages of 12 and 18. A multi-stage cluster random sampling technique was used to gather data from 384 secondary school students in Semnan Province.The Children's Depression Inventory (CDI), the Cognitive Emotion Regulation Questionnaire–Short Form (CERQ-Short), and the Childhood Trauma Questionnaire (CTQ) were among the research tools. SEM (structural equation modeling) was used to analyze the data using SPSS 26 and AMOS 24.

Results: The results of SEM showed that emotion regulation played a significant mediating role in the association between childhood trauma and adolescent depression. Childhood trauma was negatively correlated with adaptive strategies (β = -0.381), and positively correlated with increased use of maladaptive strategies (β = 0.428). Furthermore, adaptive strategies had a negative effect on depression (β = -0.664), whereas maladaptive strategies had a positive effect (β = 0.310). The association between childhood trauma and depression was found to have significant indirect effects via maladaptive (β = 0.132), and adaptive (β = 0.252) strategies, according to bootstrap analysis.

Conclusion: Emotion regulation is a big part of the link between childhood trauma and depression in teens. Improving emotional regulation skills may help keep people in this group from getting depressed or help them get better.

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1. Introduction

Depression is one of the most common mental illnesses in the world and affects millions of people. About 3.8% of the world's population has this disorder, with 5% of adults having it (4% of men and 6% of women) and 5.7% of people over 60 having it (IHME, 2023). Women are about 50% more likely than men to be depressed, (Woody et al., 2017). Depression has effects that go beyond just making you feel bad. It can affect every part of your life, from your relationships to your school and work performance Depression is the most common mental disorder among adolescents and ranks second among the 25 leading causes of disability in this group (Hua et al., 2024). Depression is different from normal mood swings or short-term emotional responses to problems in life. It usually includes long-lasting feelings of sadness, hopelessness, and lack of motivation. It can make you less interested in doing things every day, mess up your sleep, change your appetite, make it harder to concentrate, and even make you think about killing yourself. More than 700,000 people kill themselves every year, making it the fourth leading cause of death for people aged 15 to 29. These numbers show how serious the effects of depression can be and how important it is to get help and treatment as soon as possible.Even though there are good treatments available, many places in the world still don't have access to them. (World Health Organization [WHO], 2023) (World Health Organization [WHO], 2025) According to Evans-Lacko et al. (2018), more than 75% of people with depression in low- and middle-income countries do not get any treatment. This gap is caused by a lack of funding for mental health, a lack of trained professionals, and the stigma that comes with mental illness. To improve the quality of life for people with depression and lower the global burden of the disorder, awareness is needed about it and make it easier for people to get treatment (World Health Organization, 2023). Given the high prevalence and severe consequences of depression, identifying its causes and related risk factors is crucial. Childhood trauma (CT) has been recognized as a major contributing factor. It has been linked to a wide range of mental illnesses, such as depression (Rezaei et al., 2023; Peng et al., 2024; Lei et al., 2024). Childhood is an important time for growth, and what happens to a person during this time can have a big effect on their mental, physical, and social health for the rest of their life (Zemestani et al., 2013). However, many children around the world experience trauma and abuse in various forms, which can have long-lasting and frequently irreversible effects. Global statistics show that 400 million children, or six out of ten children under the age of five, are routinely the victims of physical or psychological abuse at the hands of their parents or other caregivers. Additionally, one in seven men and one in five women say they were sexually abused as children While there are many different types of childhood trauma, the most prevalent ones include neglect, domestic violence, and physical, emotional, and sexual abuse. Lifelong serious mental and physical health issues can result from these experiences (World Health Organization, 2024). Childhood trauma can have a detrimental effect on social relationships, academic performance, and career success in addition to raising the risk of disorders like depression (Watters et al., 2023). Because childhood trauma is so common and has such bad effects, it's important to look at how it relates to depression in order to learn more about how it works. But previous research hasn't looked closely enough at the processes that connect childhood trauma to the development of depressive symptoms. A theoretical framework for comprehending the connection between childhood trauma and depression is provided by the vulnerability-stress model. According

to research, people react differently to adversity; some people experience depression, while others maintain their resilience. Individual vulnerability factors are responsible for these variations (Gladstone et al., 2022). The risk of depression is greatly increased by acute or chronic stress, especially in those who have experienced traumatic childhood events (Mandelli et al., 2015; Huang, Fang et al., 2024). There are two types of contributing factors to this relationship: neurobiological and psychosocial. Personality traits, emotion regulation, and thought patterns are examples of psychosocial factors. Although a broad connection between depression and trauma has been demonstrated, the precise mechanisms are still up for discussion (Yin et al., 2022). Beck's cognitive theory and other research indicate that depression's onset and persistence are significantly influenced by cognition (Remes et al., 2021). By encouraging feelings of helplessness and worthlessness, negative and distorted thought patterns—which frequently result from childhood trauma—can make people more susceptible to depression (Beck, 2008). This viewpoint is expanded by Garnefski's theory, which emphasizes the significance of cognitive emotion regulation in processing negative experiences (Garnefski & Kraaij, 2018). To adjust to individual objectives and situational demands, these strategies entail modifying the timing, intensity, duration, value, and expression of emotions (Kökönyei et al., 2024). These tactics are divided into two groups by Garnefski and associates: adaptive and maladaptive. According to research, more severe depressive symptoms are linked to higher use of maladaptive strategies, like avoidance and rumination, and lower use of adaptive strategies, like positive reappraisal (Melero et al., 2021; Ariapouran et al., 2024). Negative cognitive schemas that affect emotional reactions and behaviors can also be developed as a result of childhood trauma (Arntz et al., 2021). For instance, mistrust schemas are frequently associated with physical abuse. Childhood interpersonal trauma can interfere with the normal development of emotion regulation skills, making it harder to identify and control emotions and leading to a greater dependence on maladaptive coping mechanisms (Burns et al., 2010; Chen & Baram, 2016). This mechanism is especially important during adolescence, which is a time when emotions and moods change more quickly and strongly than they do in childhood (Reitsema et al., 2022; Larson et al., 2002). These changes are closely related to problems that are unique to teenagers, such as the desire for independence, the search for identity, the need for social acceptance, and the emergence of romantic feelings (Alonso-Stuyck et al., 2018; Collins et al., 2009; Somerville, 2013).

Significance of the Study:

Regulating emotions during adolescence is crucial for coping with developmental challenges and reducing mental vulnerability. Although research has linked childhood trauma to depression, many questions remain unanswered, particularly concerning Iranian adolescents. Most studies have focused on the direct effects of trauma on depressive symptoms, with little attention to mediating mechanisms, especially the role of emotion regulation (Huang et al., 2024). Few studies have explicitly examined how emotion regulation mediates the relationship between childhood trauma and adolescent depression, despite its recognized importance in coping with stress. To address this gap, the present study proposes a model based on Garnefski's theory, considering the cultural and social context of Iranian youth and positioning emotion regulation as a key mediating factor between childhood trauma and depression.

2. Objectives

2.1. Main Hypothesis

Given the mediating function of emotion regulation, childhood trauma can predict depression in adolescents.Sub-Hypotheses:

1. Depression in adolescents can be predicted based on childhood trauma.
2. Depression in adolescents can be predicted based on emotion regulation.
3. Emotion regulation in adolescents can be predicted based on childhood trauma.
4. Emotion regulation mediates the relationship between childhood trauma and depression in adolescents

3. Methods

3.1. Sample and Procedure

This study was cross-sectional and used a correlational design with the structural equation modeling (SEM) approach. In 2025, the study is based in Semnan Province where it will explore the relationship between childhood trauma, depression and emotion regulation, focusing on adolescents who are in either the lower secondary (grades 7-9) or upper secondary (grades 10-12) school population from various cities within the province.To determine the sample size, Cochran's formula for estimating proportions was used.

$$n_{\circ} = \frac{Z^2 p(1-p)}{e^2},$$

Where:

- n0n_0n0 = initial sample size
- Z= Z-value corresponding to desired confidence level (1.96 for 95% confidence)
- p = expected proportion of the attribute in the population (0.5 was used for maximum variability)
- e = margin of error (0.05 for ±5%)

Considering a total population of approximately 62,000 adolescents in the target age group, the final adjusted sample size was 384 participants.

3.1.1. Sampling method:

The study employed a multi-stage cluster random sampling approach to identify the study participants. First, four of the eight urban districts were randomly selected to form the basis of the sampling frame. Next, schools were randomly selected within each of the four districts (four per larger district and two per smaller district). Finally, 2-3 classes were randomly chosen from each school. All children from the selected classrooms were included as potential subjects for the study.

3.1.2. Study Procedure:

After determining the sample, and obtaining the necessary approvals, informed consent was collected from all participants, and for adolescents under 18 years, parental consent was obtained.

The research instruments, consisting of validated questionnaires assessing depression, emotion regulation, and childhood trauma, were prepared, and administered to the participants.

Upon the completion of questionnaires, the data quality was checked, and incomplete or ineligible responses were excluded. The final dataset was then coded and entered into statistical software for analysis and structural equation modeling (SEM).

3.1.3. Inclusion criteria:

1. Enrollment in grades 7–12 (lower and upper secondary school) in the selected urban areas of Semnan Province.
2. Age between 12 and 18 years.
3. Provision of informed consent; for participants under 18 years, parental consent was also obtained.
4. Willingness and ability to complete the questionnaires independently.

3.1.4. Exclusion criteria:

1. The presence of serious and persistent physical or mental conditions that would prevent independent completion of questionnaires or compromise data reliability.
2. Refusal to participate or withdrawal from the study at any stage.
3. Incomplete or inconsistent responses on the questionnaires that would reduce data quality.

3.2. Research Tools

3.2.1. Childhood Trauma Questionnaire (CTQ):

Bernstein et al. (2003) created the Childhood Trauma Questionnaire (CTQ), which evaluates childhood experiences of abuse and neglect. This screening tool, which can be given to both adults and adolescents, is used to find people who had negative childhood experiences. Sexual abuse, physical abuse, emotional abuse, emotional neglect, and physical neglect are the five categories of maltreatment covered by the CTQ. It has 28 items total, with 3 items to identify denial or minimization responses and 25 items measuring these components. Cronbach's alpha coefficients were reported by Bernstein et al. (2003) to be $\alpha = 0.87$ for emotional abuse, $\alpha = 0.86$ for physical abuse, $\alpha = 0.95$ for sexual abuse, $\alpha = 0.89$ for emotional neglect, and $\alpha = 0.78$ for physical neglect. The range of concurrent validity with therapist ratings of childhood trauma was 0.59 to 0.78. The Persian version of the Childhood Trauma Questionnaire (CTQ) has been evaluated for face, convergent, and construct validity. Face validity was confirmed through qualitative feedback from 20 individuals with a history of childhood abuse. The CTQ and GHQ-12 have a Pearson correlation of 0.42 which shows that the two tests have an acceptable level of relatedness according to the results which proved convergent validity. The exploratory factor analysis found a four-factor solution which explained 59 percent of the overall variance. The confirmatory factor analysis proved that the model suffered from poor performance because the CFI value reached 0.33 and the χ^2/df ratio equaled 7.8. The Persian CTQ shows sufficient validity according to the study results, but its factor structure needs additional work according to the research by Garrusi and Nakhaee 2009. The CTQ proved reliable in Iran as its Cronbach's alpha coefficients for subscales ranged from 0.81 to 0.98 (Ebrahimi and Dezhkam and Seghatoleslam 2013). The study found that CTQ achieved acceptable internal consistency with a Cronbach's alpha score of 0.96 which previous research confirmed for validity in the current study sample.

3.2.2. Cognitive Emotion Regulation Questionnaire – Short Form (CERQ-Short):

CERQ-Short is a multidimensional self-report tool created by Garnefski et al. (1999) and released in 2001. The study aimed to determine which cognitive coping strategies people use after they experience negative events. The short form assessment evaluates nine

different coping strategies through 18 items which include self-blame, acceptance, rumination, positive refocusing, and multiple other coping strategies. Garnefski and Kraaij updated the short form in 2006.Total scores range from 18 to 90. Responses are scored on a 5-point Likert scale, with 1 denoting "almost never" and 5 denoting "almost always." Greater use of cognitive emotion regulation techniques is reflected in higher scores. The CERQ focuses on cognitive reactions to unpleasant experiences, in contrast to general coping tools. Hasani (2010) reported test-retest reliability of 0.77 and Cronbach's alpha coefficients ranging from 0.76 to 0.92 in Iran. In a study by Jafarpoor Mamagani et al. (2017), the subscales' Cronbach's alpha ranged from 0.67 to 0.76, while the overall scale's was 0.85. Cronbach's alphas were 0.91 for adaptive strategies, 0.87 for maladaptive strategies, and 0.93 for the entire scale, according to Garnefski and Kraaij (2001). Hasani (2010) used factor analysis to confirm validity, finding that KMO = 0.91 and Bartlett's test was significant at $p < 0.0001$. The results show that the CERQ-Short had good criterion validity, as indicated by convergence between the CERQ-Short subscales and the BDI. Subscales of positive reinterpretation ($r = -0.32^{***}$), positive refocus ($r = -0.27^{***}$), acceptance ($r = -0.25^{***}$), planning to refocus ($r = -0.29^{***}$), and putting things into perspective ($r = -0.25^{***}$) all had significant negative correlations to the BDI. Subscales such as self-blame ($r = 0.38^{***}$), rumination ($r = 0.36^{***}$), catastrophizing ($r = 0.48^{***}$), and other-blame($r = 0.42^{***}$) all had significant positive correlations with the BDI. Additionally, the internal consistency reliability of the CERQ-Short was adequate (Cronbach alpha = 0.80) in the current study, as supported by findings from prior research.

3.2.3. Children's Depression Inventory (CDI):

CDI is a 27-item self-report survey used to evaluate children's and adolescents' depressive symptoms. Its five subscales, negative mood, interpersonal issues, ineffectiveness, anhedonia, and low self-esteem, are based on the Beck Depression Inventory (BDI). Higher scores indicate more severe depressive symptoms. The items are rated from 0 (absence of symptoms) to 2 (definite symptoms), yielding a total score range of 0 to 54 (Kovacs, 1985; Smucker, Craighead, Craighead, & Green, 1986).A number of studies have shown that the CDI has psychometric properties. It has a high level of internal consistency, with a Cronbach's alpha of 0.86. Furthermore, its concurrent and discriminant validity have been rated as good (Logan et al., 2013). The CDI has shown robust validity - it has been found to be highly correlated with the other instruments used to measure depression (BDI r = 0.87; CDS r = 0.79) demonstrating convergent validity. Construct validity has also been shown through the five-factor solution obtained with exploratory factor analyses (RMSEA = 0.04; GFI = 0.91). Discriminant validity was shown through significant mean score differences between boys and girls, and the age group comparisons provide evidence of this as well. Thus, the CDI can be adequately used as a screening measure and/or research measure for childhood depression. (Dehshiri et al., 2009) (Rajabi, 2007) Within the present study, the CDI had acceptable internal consistency and a Cronbach’s alpha of 0.79, and the current study supports its validity based on prior studies.

3.3. Ethical Considerations

All ethical guidelines for psychological research were closely adhered through the course of the study. Parents or legal guardians gave their informed consent after participants were

fully informed about the study's objectives. All information was kept private, and no personal information was revealed when the results were presented in aggregate form.

3.4 Structural Equation Modeling (SEM)

Using the maximum likelihood estimation method, the SEM analysis evaluated the relationship between depression and childhood trauma, with emotion regulation serving as a mediator.

4. Results

4.1. Descriptive Statistics of Demographic Variables

Based on frequency and percentage distributions, the sample consisted of 384 secondary school students. The mean age of participants was 15.82 years (SD = 1.63), ranging from 13 to 18 years. Regarding gender, 162 students (42.2%) were male, and 222 students (57.8%) were female. Regarding the grade level, 151 students (39.3%) were in lower secondary, while 233 students (60.7%) were in upper secondary. Most students were aged 17–18 years (42.2%), followed by 15–16 years (31.3%), and 13–14 years (26.6%).

4.2. Statistics of the Main Research Variables

Below are the descriptive statistics for the main research variables: depression, emotion regulation, and childhood trauma. These include the mean, standard deviation, skewness, and kurtosis for the main variables and their subscales.

Table 1. Descriptive Statistics of Main Research Variables

Variable		Subscale	Min	Max	Mean	SD	Skew	Kurtosis
Depression		Depressed mood	1	11	6.01	1.75	0.024	0.137
		Feelings of worthlessness	2	8	4.93	1.06	0.104	0.193
		Interpersonal problems	1	8	4.07	1.22	0.185	-0.128
		Anhedonia	4	16	9.61	1.93	0.021	0.284
		Low self-esteem	0	10	4.99	1.68	0.163	0.040
		Total depression	10	50	29.63	7.07	0.027	-0.155
Emotion Regulation	Maladaptive Strategies	Self-blame	2	9	5.46	1.34	-0.062	-0.239
		Rumination	2	10	5.54	1.35	0.197	0.174
		Catastrophizing	2	9	5.52	1.39	0.098	-0.107
		Blaming others	2	10	5.45	1.47	0.120	-0.047
		Total maladaptive strategies	8	36	21.92	5.02	0.039	-0.169
	Adaptive Strategies	Acceptance	2	10	6.48	1.40	-0.135	-0.286
		Positive refocusing	3	10	6.53	1.32	-0.217	-0.185
		Refocus on planning	2	10	6.45	1.59	-0.168	-0.176
		Positive reappraisal	3	10	6.45	1.20	-0.113	-0.035
		Putting into perspective	3	10	6.35	1.23	-0.052	-0.128
		Total adaptive strategies	16	50	32.30	6.16	-0.012	-0.215
Childhood Trauma		Emotional abuse	5	25	14.66	3.10	0.242	0.277
		Physical abuse	5	25	14.70	3.16	0.164	0.040
		Sexual abuse	5	14	8.99	1.53	0.321	0.006
		Emotional neglect	6	25	14.39	3.29	0.290	-0.145
			5	23	14.45	3.00	0.078	0.218
		Total childhood trauma	31	103	67.17	12.69	0.003	-0.181

the average scores were: depression = 29.63, childhood trauma = 67.17, maladaptive emotion regulation = 21.92, and adaptive emotion regulation = 32.30. These results show

that students used more flexible strategies. Also, all of the skewness and kurtosis values were within the acceptable range (±2), which means that the data distribution was close to normal. (Table 1)

4.3. Statistical Assumptions for Structural Equation Modeling (SEM)

Prior to testing and analyzing the research hypotheses using structural equation modeling, it is essential to examine the underlying statistical assumptions of the model. These assumptions include the normality of the variables, correlations among endogenous and exogenous variables, absence of multicollinearity among predictors, and linearity of relationships. Once these assumptions are confirmed, SEM can be appropriately applied to test the hypotheses.

1. Normality of the Variables (Kolmogorov–Smirnov Test) The normality of the research variables was assessed using the Kolmogorov–Smirnov test.

Table 2. Normality of the Variables

	K-S Statistic	Sig.
Depression	0.050	0.023
Maladaptive Emotion Regulation	0.050	0.024
Adaptive Emotion Regulation	0.054	0.011
Childhood Trauma	0.037	0.200

As shown in Table 2, the significance values for all main variables were higher than the 1% error threshold (α = 0.01), indicating that the variables follow a normal distribution.

2. Correlations Among Variables (Pearson Correlation)

Table 3. Pearson correlation coefficients among the study variables:

Variable	Depression	Maladaptive ER	Adaptive ER	Childhood Trauma
Depression	1			
Maladaptive ER	0.492**	1		
Adaptive ER	-0.769**	-0.155**	1	
Childhood Trauma	0.609**	0.377**	-0.353**	1

$p < 0.01$.

The results indicate that maladaptive emotion regulation (r = 0.492), adaptive emotion regulation (r = -0.769), and childhood trauma (r = 0.609) are significantly correlated with depression among adolescents at the 1% level. Childhood trauma also shows significant correlations with maladaptive emotion regulation (r = 0.377) and adaptive emotion regulation (r = -0.353), suggesting that higher childhood trauma is associated with increased maladaptive strategies and decreased adaptive strategies.

4.4. Multicollinearity Check

Multicollinearity among predictor variables was examined using tolerance and VIF values (Table 4).

Table 4. Multicollinearity Check

Variable	Tolerance	VIF
Maladaptive ER	0.861	1.161
Adaptive ER	0.875	1.143
Childhood Trauma	0.769	1.301

All tolerance values are above 0.1 and all VIF values are below 10, indicating that multicollinearity is not a concern in this model.

4.5. Linearity (Scatterplots)

Scatterplots were used to visually examine linear relationships among emotion regulation strategies (adaptive and maladaptive), childhood trauma, and depression, confirming the assumption of linearity

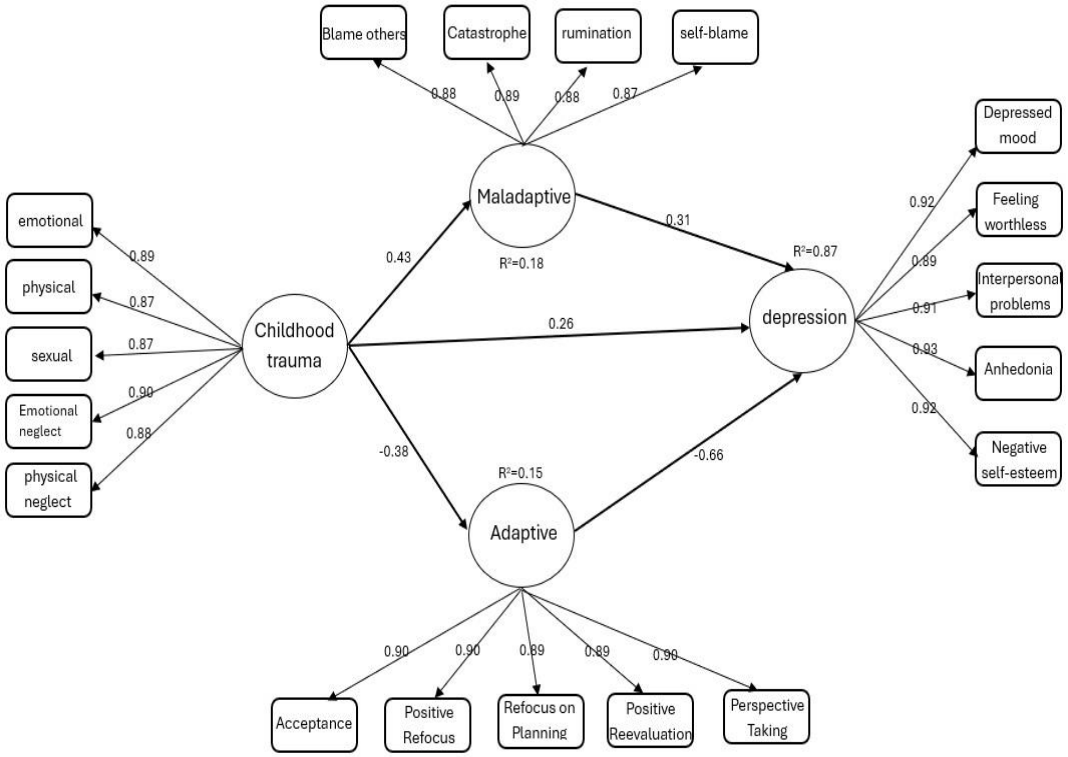


Figure 1. Structural Equation Modeling Analysis of the Relationship Between Childhood Trauma and Depression with the Mediating Role of Emotion Regulation

Below are the findings of a structural equation modeling (SEM) study that looked at the mediating role of emotion regulation in the relationship between childhood trauma and depression. All of the relationships between the study variables are statistically significant at the 0.05 error level, according to the results. As a result, every relationship in the current model is verified. The model fit indices should be looked at before examining the remaining estimated coefficients in the model.

Table 2. Model Fit Indices of the Structural Model

Index	CMIN/DF	NFI	CFI	RMSEA	TLI
Value	1.084	0.980	0.998	0.015	0.927
Recommended Range	< 3	> 0.90	> 0.90	< 0.08	> 0.90
Model Fit Evaluation	Good fit	Good fit	Excellent fit	Excellent fit	Acceptable fit

Note. CMIN/DF = chi-square/degrees of freedom ratio; NFI = Normed Fit Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; TLI = Tucker–Lewis Index. All values fall within the recommended ranges, indicating that the structural model fits the data adequately.

The structural model linking childhood trauma to depression (with emotion regulation mediation) was found to have adequate fit indices. The table above indicates that the model fits well.

Table 4. Direct and indirect effects of childhood trauma on depression with mediating role of emotion regulation

Path	*Standardized Parameter (β)*	*t-value*	*p-value*
Childhood trauma → Maladaptive ER strategy	0.428	8.214	0.001
Childhood trauma → Adaptive ER strategy	-0.381	-7.355	0.001
Maladaptive ER strategy → Depression	0.310	10.851	0.001
Adaptive ER strategy → Depression	-0.664	-20.243	0.001
Childhood trauma → Depression	0.256	8.610	0.001
bootstrapping test for the indirect effect Path	**Standardized Parameter (β)**	**95% Confidence Interval**	**Standard Error**	**p-value**
Childhood trauma → Depression (via maladaptive ER)	0.132	0.059-0.108	0.012	0.001
Childhood trauma → Depression (via adaptive ER)	0.252	0.115-0.199	0.022	0.001

Maladaptive emotion regulation strategies (β = 0.428) and adaptive emotion regulation strategies (β = -0.381) were found to be significantly correlated with childhood trauma, according to the SEM results. This means that as trauma increases, maladaptive strategies rise while adaptive strategies fall. Additionally, adaptive strategies had a significant negative direct effect on depression (β = -0.664), whereas maladaptive strategies had a significant positive direct effect (β = 0.310).Bootstrap analysis also showed that childhood trauma had big indirect effects on depression through both bad strategies (β = 0.132) and good strategies (β = 0.252). In other words, trauma makes teens more depressed by making them use more maladaptive strategies and fewer adaptive strategies.

5. Discussion

By focusing the degree and kind of emotion regulation, the current study sought to investigate the mediating pathways between childhood trauma and depression.Hypothesis

5.1. Relationship between childhood trauma and depression

The findings indicated a strong and positive correlation between adolescent depression symptoms and childhood trauma. This result aligned with previous research (e.g., Wang et al., 2020; Watters et al., 2023; Heim et al., 2008; Zhao et al., 2022). The symptoms of Major Depressive Disorder (MDD), and neurobiological heterogeneity were significantly affected by childhood trauma, such as emotional or physical abuse or neglect, which altered the architecture of brain's functional networks and impairs connectivity both within and between networks in attention, cognitive, sensory, and subcortical regions (Yu et al., 2019).

The HPA axis gets activated when trauma happens which results in elevated cortisol production and increased neuroinflammation and this process leads to treatment-resistant

depression (Heim et al., 2008). Research shows that trauma leads to biological changes which make people more likely to develop mood disorders like depression and it also causes metabolic changes that include altered LPA and DHEAS levels (Guo et al., 2024).Based on attachment theory, trauma elevates the risk of depression by weakening stable caregiver bonds, disrupting trust, and undermining a positive self-image (Struck et al., 2020; Van Assche et al., 2020; Williams et al., 2019). Beck's cognitive theory (1967) proposed that traumatic events generate persistent negative beliefs, such as "I am worthless" or "The world is unsafe," which acted as cognitive distortions that erode resilience and reinforce hopelessness, ultimately leading to depression (Duru & Balkıs, 2022; Hou et al., 2021).
Furthermore, Young's maladaptive schemas framework suggested that trauma produces unhealthy cognitive-emotional patterns, such as feelings of emotional deprivation or defectiveness, which exacerbate depressive symptoms (Zhao et al., 2022).

5.2. Relationship between childhood trauma and emotion regulation

The findings show that childhood trauma affects people by decreasing their ability to handle emotions properly while increasing their tendency to handle emotions inappropriately which matches earlier research results. Trauma causes emotional regulation difficulties because it disrupts the neuropsychological development process. The prefrontal cortex and amygdala changes that occur in the brain lead to increased emotional responses which people find harder to manage (Marusak et al., 2015; Feifer, 2024).From a psychological perspective, learning healthy emotion regulation strategies is hindered by insecure caregiving. Children with traumatic experiences often adopt maladaptive behaviors, such as emotional avoidance or suppression. The absence of healthy models for processing emotions in trauma leads individuals to rely on maladaptive cognitive strategies which include self-blame and rumination and catastrophizing according to Garnefski's cognitive emotion regulation theory. The study shows that neglected children tend to self-blame when they experience negative emotions which makes it harder for them to manage their emotions (Oshri et al., 2015; Peng et al., 2021).Beyond biopsychosocial factors, cultural context also plays a crucial role in shaping emotion regulation. Research across different cultures showed that variations in individualism and collectivism affect emotion regulation strategies, such as cognitive reappraisal and suppression (Ramzan & Amjad, 2017). Collectivist cultures which value social harmony more frequently use suppression as a method to prevent negative emotions during group or family interactions which leads to increased requirements for emotional control.In contrast, individualistic cultures permit greater expression of emotions, including negative ones, and cognitive reappraisal is more frequently used. These cultural differences affect the development of adaptive versus maladaptive emotion regulation and, consequently, the severity and manifestation of depressive symptoms.

5.3. Relationship between emotion regulation and depression

The results showed that poor emotion regulation is strongly and negatively associated with more severe depression, consistent with previous research (Kraft et al., 2023). Based on Garnefski's cognitive emotion regulation theory, excessive use of maladaptive strategies, such as rumination, self-blame, or catastrophizing, intensifies negative emotions and contributes to depressive symptoms. Rumination perpetuates hopelessness by continuously focusing on

negative events, while self-blame lowers self-esteem, thereby increasing vulnerability to depression (Wang et al., 2021).

Adaptive strategies, which include positive reappraisal and acceptance, help people to decrease their negative emotional experiences. People who find it difficult to control their emotions will depend on maladaptive strategies which lead to depressive symptoms that include social withdrawal and low mood (Wang et al., 2021). Neurobiological factors also play a role: an imbalance between the amygdala and prefrontal cortex impairs emotion regulation and sustains cycles of negative affect (Marusak et al., 2015; Feifer, 2024).From a cognitive perspective, Beck's theory suggests that poor emotion regulation, combined with cognitive distortions like catastrophizing—a maladaptive strategy in Garnefski's model—exacerbates depression (Chahar Mahali et al., 2020). Thus, Young's maladaptive schemas, such as emotional deprivation and defectiveness, hinder effective emotion regulation and prolong depressive symptoms.

5.4. Mediating role of emotion regulation

Consistent with previous research, the results showed that emotion regulation mediates the association between childhood trauma and depression (Huh et al., 2017; Hopfinger et al., 2016). This mediation can be well understood through Garnefski's cognitive emotion regulation theory, which posits that maladaptive cognitive strategies,such as self-blame, rumination, and catastrophizing,are shaped by childhood trauma and undermine emotion regulation (Oshri et al., 2015; Peng et al., 2021). These deficits contribute to depression by reducing resilience and amplifying negative emotions.

Children who experience emotional abuse tend to experience self-blame, which increases their feelings of guilt and worthlessness and makes them more vulnerable to developing depression. The cycle operates through its established pattern but people can reduce its effects by using adaptive strategies which include acceptance and positive reappraisal that individuals with trauma history rarely use (Wang et al., 2021).Trauma affects the HPA axis and brain regions, such as the prefrontal cortex, leading to maladaptive emotional patterns (Marusak et al., 2015; Feifer, 2024). Based on attachment theory, insecure bonds with caregivers hinder the acquisition of healthy emotion regulation strategies, increasing reliance on maladaptive ones (Oshri et al., 2015; Peng et al., 2021). Additionally, Young's schemas of emotional deprivation exacerbate maladaptive coping mechanisms, such as avoidance and self-blame, thereby facilitating the pathway from trauma to depression (Chahar Mahali et al., 2020).

In this study, adaptive strategies showed stronger mediating effects than maladaptive strategies because they proved better at reducing trauma damage. The finding requires further theoretical research and empirical research to achieve clear understanding (Zhao et al., 2022).

6. Limitation and Recommendation

1. A cross-sectional design was used with a retrospective self-report measure of childhood trauma (CT), but the timing of trauma exposure in terms of development was not taken into account.

2. The sample only included adolescents who lived in cities, so it is important to be careful when applying the findings to teens who live in rural areas or are nomadic, as their experiences, parenting styles, or access to mental health services may be different.

7. Future Directions

1. **Longitudinal studies:** Future research could use longitudinal designs to clarify the causal relationships among childhood trauma, emotion regulation, and depression, since the present study was cross-sectional.
2. **Clinical populations:** Similar studies could be conducted with the clinical samples (e.g., adolescents diagnosed with depression or anxiety disorders) to compare results with non-clinical populations.
3. **Intervention-based research:** Experimental studies are recommended to test whether interventions focused on improving adaptive emotion regulation strategies can reduce the depressive symptoms among adolescents with a history of trauma.
4. **Broader variables:** Future studies may examine additional mediating or moderating variables, such as social support, resilience, or family functioning, to expand the structural model.

8. Conclusion

According to Garnefski's theory, in particular, emotion regulation mediates the link between depression and childhood trauma. Maladaptive cognitive patterns like rumination and self-blame are shaped by trauma, which impairs emotion regulation and makes people more susceptible to depression. Interventions that focus on the trauma prevention and these tactics may improve mental health and lessen long-term psychological effects. The study emphasizes how crucial it is to treat and prevent depression by concentrating on emotion regulation.

9. Author Contributions

Author 1 contributed to the conceptualization, methodology design, statistical analysis, and initial drafting of manuscript. Author 2 contributed to data collection, interpretation of results, and critical revision of the manuscript. Both authors reviewed and approved the final version of the manuscript.

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11. Conflicts of Interest:

There are no conflicts of interest.

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