

The Mediating Role of Difficulties in Emotion Regulation in the Relationship between Personality Organization and Childhood Trauma with the Tendency towards Self-Injurious Behaviors in Adolescents

Mozhdeh Samadi Ahari ¹ , Sahar Safarzadeh ^{1*} , Fatemeh Sadat Marashian ¹ ,
Marzieh Talebzadeh Shoushtari ¹ 

1. Department of Psychology, Ahv.C., Islamic Azad University, Ahvaz, Iran.

*Corresponding Author: Dr. Sahar Safarzadeh;

Address: Department of Psychology, Ahv.C., Islamic Azad University, Ahvaz, 61349-37333, Iran.

Tel: +98 6133348420

Fax: +98 6133329200

E-mail: s.safarzadeh1152@iau.ac.ir

Article Info.

Article type:

Research Article

Received: 12 March 2025

Revised: 11 June 2025

Accepted: 3 July 2025

Published: 3 July 2025

Keywords:

Childhood Trauma,
Emotions,
Personality,
Self-Injurious Behavior

ABSTRACT

Background and Objective: The aim of this study was to explore the mediating role of emotion regulation difficulties in determining how personality organization and childhood trauma contribute to self-injurious behavior in adolescents. Specifically, we aimed to determine whether deficits in emotion regulation explain the association between these factors, providing insights for interventions such as dialectical behavior therapy and trauma-focused cognitive behavioral therapy to enhance emotion regulation and reduce self-injury risk.

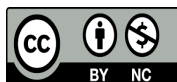
Methods: This descriptive correlational study examined the relationships among key variables within a cohort of adolescents. Using multistage cluster random sampling, 356 adolescents aged 13–18 years residing in Tehran were recruited in 2024. Participants provided data through self-report questionnaires, measuring self-injury tendencies, personality organization, experiences of childhood trauma, and emotion regulation difficulties. To analyze the complex interplay of these variables, Structural Equation Modeling (SEM) was conducted using SPSS software.

Findings: The findings revealed significant positive relationships between personality organization ($\beta=0.25$, $P<0.001$) and childhood trauma ($\beta=0.22$, $P<0.001$) with the tendency for self-injurious behaviors. Additionally, a strong positive association was found between emotion regulation difficulties and self-injurious behaviors ($\beta=0.42$, $P<0.001$). Importantly, difficulties in emotion regulation significantly mediated the associations between both personality organization and childhood trauma and the propensity for self-injurious behaviors ($P<0.001$).

Conclusion: This study demonstrates that difficulties in emotion regulation significantly mediate the relationship between compromised personality organization, childhood trauma, and self-injurious behavior in adolescents. Therefore, interventions targeting emotion regulation skills are crucial for mitigating self-injury risk in this population.

Cite this Article:

Samadi Ahari M, Safarzadeh S, Marashian FS, Talebzadeh Shoushtari M. The Mediating Role of Difficulties in Emotion Regulation in the Relationship between Personality Organization and Childhood Trauma with the Tendency towards Self-Injurious Behaviors in Adolescents. *Caspian J Pediatr* June 2025; 11: e4.



Introduction

Adolescence, a period of profound developmental shifts, inherently increases vulnerability to psychological distress and unpredictable stress responses, contributing to self-injurious behaviors [1]. These behaviors, with severe consequences for individuals and society, are notably more prevalent during adolescence [2]. The DSM-5 has classified non-suicidal self-injury as a distinct syndrome, acknowledging its role as a pathological expression of emotional pain stemming from trauma or stress, characterized by deliberate self-injury without intent to die, in contrast to suicidal behaviors, which involve actions with the explicit or implicit intent to end one's life [3]. Epidemiological studies in Iran highlight a higher prevalence of these behaviors among adolescent girls (9.6%) compared to boys (7.1%), with self-wounding and cutting being common forms [4]. The rising rates of self-injurious behaviors necessitate thorough investigation. These behaviors result from complex interactions between personal and situational factors, with intra-individual personality functioning playing a critical role [5]. Dysfunctional personality organization, marked by borderline or impulsive traits and deficits in identity integration and emotion regulation, significantly increases the risk of self-injurious behaviors in adolescents [6]. This underscores the need for focused research and interventions to address these complex issues.

Kernberg's model of personality organization categorizes psychological functioning into four levels—psychotic (impaired reality testing, delusional thinking), borderline (fluctuating reality testing, primitive defenses), neurotic (intact reality testing, neurotic defenses), and mature (robust reality testing, mature defenses)—shaped by temperament and early attachment experiences [7, 8]. Personality difficulties significantly contribute to psychological distress, primarily through their negative impact on emotion regulation [9]. Borderline personality organization, marked by identity diffusion and emotional dysregulation, is particularly associated with self-injurious behaviors, which serve as maladaptive coping mechanisms for intense emotions or dissociation [10]. A significant proportion (65-80%) of individuals with borderline personality

disorder engage in self-injury [11], highlighting the clinical relevance of Kernberg's framework in understanding and addressing self-destructive behaviors.

Childhood psychological trauma significantly contributes to self-injurious behaviors [12]. Encompassing emotional, physical, and sexual abuse, as well as neglect, it is particularly driven by emotional abuse as the most potent predictor. Such trauma often exceeds an individual's coping capacities and has been historically widespread [13]. It is associated with numerous psychological conditions, including personality disorders, depression, and post-traumatic stress disorder (PTSD) [14]. Trauma often stems from disrupted caregiver-child attachment, which impairs the development of self-efficacy and emotion regulation skills [15]. Research by Li et al. [16] and John-Henderson et al. [17] supports the link between childhood trauma and difficulties in emotion regulation. Additionally, personality traits influence the adoption of emotion regulation strategies [18]. Collectively, childhood trauma profoundly affects psychological well-being and behavioral outcomes, underscoring the need for continued research and targeted interventions.

Emotion dysregulation is a key risk factor for self-injurious behaviors [19]. It operates within complex systems involving emotional vulnerabilities, behavioral patterns, and psychosocial factors, all influencing self-injury [20]. Emotion regulation, a dynamic process, allows individuals to adjust emotional, behavioral, and cognitive responses. Effective emotion regulation enables adaptive expression and reduces distressing feelings [21]. Emotion dysregulation is a well-established cause of self-injury. Individuals with this issue lack effective coping strategies for negative emotions, often resorting to maladaptive coping like suppression, increasing stress and anxiety. This impairs personal and professional goal attainment, making them more susceptible to challenges [19]. Research confirms emotion dysregulation leads to psychological distress, behavioral dysregulation, and increased risk of self-injury and high-risk behaviors [22, 23]. Essentially, emotion dysregulation significantly contributes to maladaptive behaviors through complex

interactions between individual vulnerabilities and environmental factors.

Adolescence represents a developmental stage marked by heightened vulnerability, wherein the intricate interplay between personality maturation and prior traumatic experiences can substantially impact psychological well-being. In the Iranian context, cultural factors such as societal expectations around emotional expression, family dynamics emphasizing collectivism, and stigma surrounding mental health issues may exacerbate the propensity for self-injurious behaviors among adolescents, as these factors can limit open emotional communication and access to psychological support [4]. Elucidating the complex pathways culminating in self-injurious behaviors within this demographic is paramount for the development of efficacious interventions. While both dysfunctional personality organization and childhood trauma have been established as contributing factors to elevated risk, the precise mechanisms through which they exert their influence remain insufficiently understood. Given the pivotal role of emotion regulation in mental health, its exploration as a mediator is critical, as it may serve as a key mechanism through which personality organization and trauma-related distress translate into self-injury, offering a modifiable target for intervention [19]. Consequently, this research endeavors to investigate the mediating role of emotion regulation difficulties in the association between personality organization, childhood trauma, and the propensity for self-injurious behaviors among adolescents.

Methods

Methodology and Participants

This study employed a descriptive correlational design, with the target population encompassing all secondary school adolescents residing in Tehran city during the academic year 2024. A total of 356 adolescent participants, aged 13–18 years, were recruited between March and June 2024. Sampling was conducted using a multi-stage cluster random sampling methodology. Specifically, from the geographical districts of Tehran, Districts 2 and 13 were selected based on their diverse socioeconomic

profiles and representation of both affluent and middle-income communities, aiming to capture variability in psychosocial factors relevant to the study. Within each selected district, four educational institutions (two female and two male secondary schools) were randomly chosen. Subsequently, three classrooms were randomly selected from each participating school, and research questionnaires were administered to the students within those classrooms. The sample size of 356 was deemed adequate for Structural Equation Modeling (SEM), as it exceeds the recommended minimum of 10–20 participants per estimated parameter, with approximately 15–20 parameters in the model based on the four key constructs (personality organization, childhood trauma, emotion regulation difficulties, and self-injurious behaviors), ensuring sufficient statistical power. Inclusion criteria for participation comprised: current enrollment in secondary school, the absence of diagnosed psychological disorders, verified through school health records and parental confirmation during the consent process, and documented informed consent obtained from both the adolescent and their legal guardians via signed consent forms distributed through school administrators and returned before data collection. Exclusion criteria consisted of participant unwillingness to complete the questionnaires and the submission of incomplete or illegible questionnaires. Of the 400 students initially approached, 356 completed the questionnaires, yielding a participation rate of 89%.

Measure

The Self-Injurious Behavior Questionnaire

This 22-item self-report instrument, developed by Sansone et al. [24], evaluates the history of self-injury through a dichotomous response format (yes=1, no=0). It assesses both direct self-injurious behaviors, such as cutting, burning, and suicide attempts, which result in immediate tissue damage, and indirect self-injurious behaviors, including substance abuse, reckless driving, and high-risk sexual behaviors. Elevated scores signify a greater severity and frequency of self-injurious behaviors. The total score is derived by summing only the affirmed responses, specifically, the number of "yes"

responses; "no" responses are excluded from the scoring procedure. The maximum achievable score on this questionnaire is 22. In a study conducted by Salimi et al. [25], Cronbach's alpha coefficient was reported to be 0.71.

The Personality Organization Questionnaire

The Personality Organization Questionnaire, developed by Clarkin et al. [26], is a 37-item self-report tool utilizing a five-point Likert scale (1=strongly disagree, 5=strongly agree). It evaluates three subscales: primitive psychological defenses, identity diffusion, and reality testing, with total scores ranging from 37 to 185. Monajem et al. [27] reported Cronbach's alpha coefficients of 0.76 for the primitive psychological defenses subscale, 0.70 for the identity diffusion subscale, and 0.73 for the reality testing subscale, indicating adequate reliability.

The Childhood Trauma Questionnaire

The Childhood Trauma Questionnaire, developed by Bernstein et al. [28], is a screening instrument designed to assess experiences of childhood trauma and maltreatment. It evaluates five distinct types of childhood maltreatment: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. Comprising 28 items, the questionnaire includes 25 items for the primary subscales and 3 items to identify individuals who may minimize or deny childhood adversities. Higher scores indicate greater severity of trauma or maltreatment, while lower scores reflect fewer such experiences. Each subscale ranges from 5 to 25, with total scores spanning 25 to 125. Garrusi and Nakhaee [29] reported Cronbach's alpha coefficients ranging from 0.81 to 0.98 for the five subscales, demonstrating strong reliability.

The Difficulties in Emotion Regulation Scale-Short Form

The Difficulties in Emotion Regulation Scale-Short Form, developed by Bjureberg et al. [30], is a 16-item self-report measure evaluating five facets of emotion dysregulation: lack of emotional clarity, challenges in goal-directed behavior, impulse control difficulties, limited access to effective emotion

regulation strategies, and non-acceptance of emotional responses. Items are rated on a 6-point Likert scale, from 1 (almost never) to 6 (almost always). Fallahi et al. [31] reported Cronbach's alpha coefficients ranging from 0.68 to 0.91 for the five subscales, indicating acceptable.

Statistical analyses

The data were subjected to a comprehensive statistical analysis, encompassing both descriptive and inferential techniques. Descriptive statistics, such as means and standard deviations, were calculated to describe the variable distributions. Pearson's correlation coefficients were used to examine bivariate associations. Structural equation modeling (SEM) was employed to test the proposed structural model. All analyses were performed using AMOS version 27.0, facilitating thorough data exploration.

Results

The current study involved 356 adolescent participants, comprising 232 female and 124 male individuals. Table 1 displays the descriptive statistics, including means and standard deviations, as well as correlation coefficients among the variables of personality organization, childhood trauma, emotion regulation difficulties, and self-injurious behavior tendencies.

Table 1 revealed statistically significant bivariate correlations among the study variables. Furthermore, the skewness and kurtosis indices, as detailed in Table 2, were within the conventional range of ± 2 , indicating that the data met the assumption of normal distribution.

Prior to conducting SEM, key assumptions were tested, including normality (confirmed via skewness and kurtosis values within ± 2 , as shown in Table 1), linearity (verified through scatterplot inspections), and absence of multicollinearity (assessed using variance inflation factors below 5). Table 2 presents the goodness-of-fit indices utilized to evaluate the hypothesized structural model's capacity to reproduce the observed covariance matrix. The chi-square (χ^2) statistic was 195.21 (df = 67), resulting in a χ^2 /df ratio of 2.91, which is within the

conventionally accepted range of 1 to 3, indicating an acceptable model fit. Furthermore, the Goodness-of-Fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI) were 0.93 and 0.89, respectively, aligning with or exceeding the recommended criteria of 0.95 and 0.85 for robust model fit. The Comparative Fit Index (CFI) was 0.98, surpassing the 0.95 threshold and further supporting the model's adequacy. Finally, the Root Mean Square Error of Approximation (RMSEA) was 0.07, demonstrating a close approximation of the model to the population covariance matrix, and falling below the strict cutoff of 0.08.

Table 3 displays the standardized direct and indirect path coefficients derived from the structural equation model, revealing statistically significant relationships among the variables under investigation. Specifically, both childhood trauma and personality organization exerted significant positive direct effects on difficulties in emotion regulation ($\beta=0.50$ and $\beta=0.28$, respectively, $P<0.001$). Moreover, difficulties in emotion regulation emerged as a significant predictor of self-injurious behaviors ($\beta=0.42$, $P<0.001$). Direct effects were also observed for the associations between childhood trauma and self-injurious behavior ($\beta=0.25$, $P<0.001$) and between personality organization and self-injurious behavior ($\beta=0.22$, $P<0.001$). Notably, significant indirect effects were identified, indicating that difficulties in emotion regulation mediated the relationships between both childhood trauma and self-injurious behavior ($\beta=0.21$, $P<0.001$) and personality organization and self-injurious behavior ($\beta=0.12$, $P<0.001$). Figure 1 shows the research model.

Discussion

This study sought to investigate whether difficulties in emotion regulation mediate the association between personality organization, childhood trauma, and the propensity for self-injurious behaviors in adolescents. The study findings indicated a positive and statistically significant relationship between personality

organization and childhood trauma with the propensity for self-injurious behaviors in adolescents. Likewise, a positive and statistically significant relationship was observed between emotion regulation difficulties and the propensity for self-injurious behaviors among adolescents. Moreover, emotion regulation difficulties significantly mediated the relationship between both personality organization and childhood trauma with the propensity for self-injurious behaviors in adolescents. These results align with findings from Shahmoradi et al. [12], who similarly identified a significant association between childhood trauma, emotion dysregulation, and self-injurious behaviors in an Iranian adolescent sample, emphasizing the mediating role of emotion dysregulation. However, unlike Shahmoradi et al., which also examined self-criticism as a predictor, the current study focused exclusively on personality organization and trauma, providing a more targeted exploration of these constructs. Similarly, Liu et al. [32] reported that childhood trauma predicts non-suicidal self-injury through stress perception in Chinese high school students, supporting the mediating role of emotional processes, though their focus on stress perception differs from our emphasis on emotion regulation difficulties. In contrast, Ghorbaninejad and Ershadi Manesh [33] found distress tolerance, rather than emotion regulation, as a mediator in the relationship between childhood trauma and self-injury among adolescents with borderline personality traits, suggesting that while both studies highlight mediation, the specific emotional mechanisms may vary by population and context. These comparisons underscore the robustness of our findings within the broader literature while highlighting the unique contribution of emotion regulation as a mediator in the Iranian adolescent context.

The study's findings, which revealed a positive and statistically significant relationship between personality organization, childhood trauma, and the propensity for self-injurious behaviors in adolescents, underscore the complex interplay between psychological structure and early adverse experiences. Personality organization, referring to

Table 1. Means, Standard Deviations, Skewness, Kurtosis, and Correlation Coefficients of Research Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1- Personality organization - primitive psychological defenses	1													
2- Personality organization - identity diffusion	0.39**	1												
3- Personality organization - reality testing	0.66**	0.35**	1											
4- Childhood trauma - emotional abuse	0.48**	0.26**	0.53**	1										
5- Childhood trauma - physical abuse	0.45**	0.20**	0.49**	0.63**	1									
6- Childhood trauma - sexual abuse	0.44**	0.14*	0.48**	0.61**	0.56**	1								
7- Childhood trauma - emotional neglect	0.55**	0.39**	0.59**	0.51**	0.48**	0.59**	1							
8- Childhood trauma - physical neglect	0.54**	0.25**	0.55**	0.55**	0.62**	0.44**	0.56**	1						
9- Difficulties in emotion regulation - lack of clarity	0.45**	0.29**	0.55**	0.36**	0.42**	0.48**	0.47**	0.39**	1					
10- Difficulties in emotion regulation - difficulty engaging in goal-directed behaviors	0.40**	0.25**	0.46**	0.29**	0.37**	0.43**	0.36**	0.28**	0.51**	1				
11- Difficulties in emotion regulation - difficulty controlling impulsive behavior	0.46**	0.23**	0.37**	0.40**	0.48**	0.50**	0.33**	0.31**	0.49**	0.30**	1			
12- Difficulties in emotion regulation - limited access to effective emotion regulation strategies	0.50**	0.26**	0.44**	0.51**	0.35**	0.46**	0.38**	0.26**	0.44**	0.56**	0.49**	1		
13- Difficulties in emotion regulation - non-acceptance of emotional responses	0.49**	0.25**	0.52**	0.43**	0.51**	0.35**	0.29**	0.31**	0.37**	0.45**	0.51**	0.57**	1	
14- Self-injurious behavior	0.54**	0.29**	0.59**	0.52**	0.56**	0.47**	0.45**	0.33**	0.33**	0.39**	0.34**	0.41**	0.46**	1
Mean	24.76	22.92	40.46	10.75	9.38	9.61	13.52	10.62	6.77	10.40	9.82	15.85	9.41	6.06
Standard deviation	6.33	5.14	9.79	3.26	2.02	2.77	4.06	2.8	2.49	3.46	2.68	3.74	2.92	1.88
Skewness	0.39	-0.02	0.50	0.27	0.66	-0.60	0.15	0.26	-0.11	-0.26	-0.03	-0.08	-0.25	0.69
Kurtosis	0.41	-0.31	-0.92	-0.48	-1.05	-0.96	-1.13	0.41	-0.83	-0.57	-0.88	-0.97	-0.86	-0.78

**: P<0.01; *: P<0.05

Table 2. Fit indicators of the research model

Fit indicators	χ^2	df	(χ^2 /df)	GFI	AGFI	CFI	RMSEA
Model	195.21	67	2.91	0.93	0.89	0.98	0.07
Acceptable range	-	-	1 to 3	>0.95	>0.85	>0.95	<0.08

Table 3. Direct and indirect paths in the research model

Paths	B	SE	β	P
Childhood trauma → Difficulties in emotion regulation	0.21	0.03	0.50	0.001
Personality organization → Difficulties in emotion regulation	0.09	0.02	0.28	0.001
Difficulties in emotion regulation → Self-injurious behavior	1.26	0.17	0.42	0.001
Childhood trauma → Self-injurious behavior	0.31	0.08	0.25	0.001
Personality organization → Self-injurious behavior	0.20	0.07	0.22	0.001
Childhood trauma → Self-injurious behavior through difficulties in emotion regulation	0.26	0.04	0.21	0.001
Personality organization → Self-injurious behavior through difficulties in emotion regulation	0.11	0.03	0.12	0.001

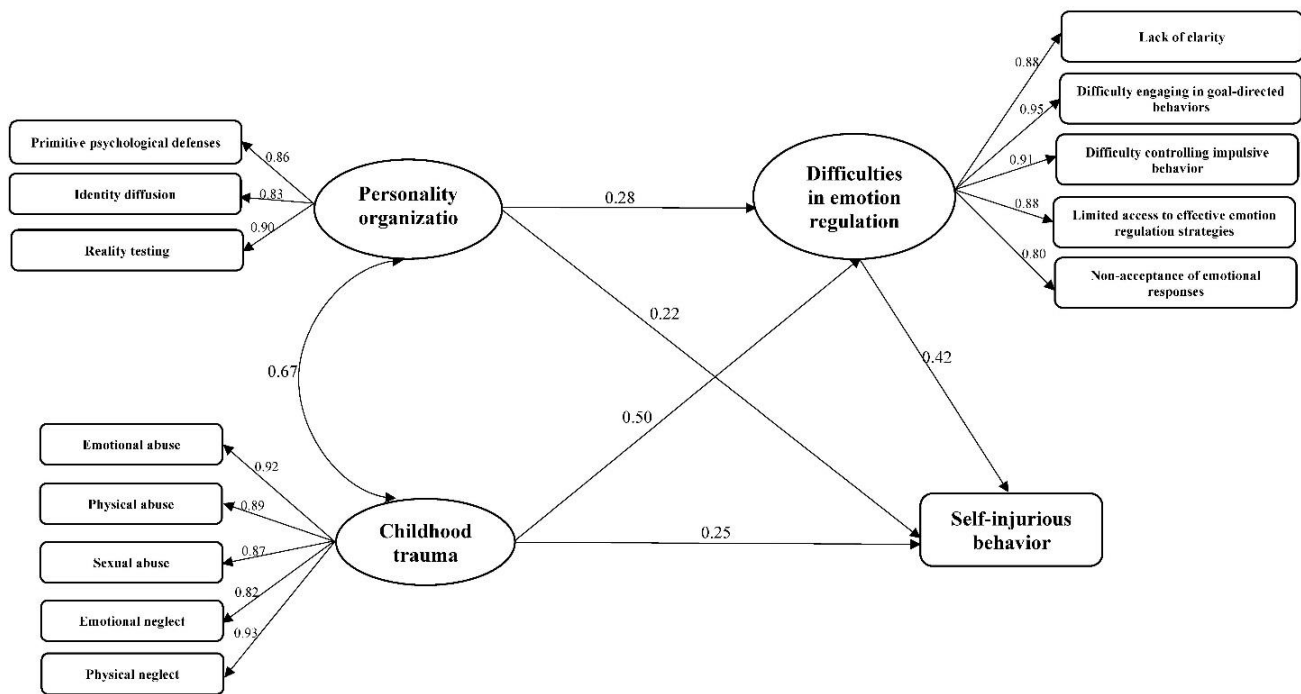


Figure 1. Structural model of factors influencing self-injurious behavior

the coherence and stability of an individual's psychological functioning, encompassing their sense of self, emotion regulation, and interpersonal relationships, appears to function as a critical framework through which traumatic experiences are processed [7]. When this organization is disrupted or underdeveloped—potentially due to inconsistent caregiving, neglect, or abuse during childhood—adolescents may struggle to manage distress adaptively. The statistical significance of this relationship suggests that it is not merely coincidental but reflects a reliable pattern, where deficits in personality organization amplify

vulnerability to maladaptive coping mechanisms such as self-injury [6]. This aligns with established psychological theories, including object relations and attachment perspectives, which posit that early relational trauma can impair the development of cohesive self, predisposing individuals to internalize psychological pain through self-inflicted physical harm.

Furthermore, the role of childhood trauma as a contributing factor highlights its enduring impact on behavioral outcomes in adolescence, a developmental period characterized by heightened emotional lability and identity formation. Traumatic

experiences, such as physical or emotional maltreatment, may overwhelm an adolescent's capacity to process affect, particularly if their personality organization lacks resilience or integrative strength [33]. The propensity for self-injurious behaviors in this context can be conceptualized as a maladaptive attempt to regulate intense affect or to externalize an internal sense of dysregulation, findings consistent with trauma-informed models such as those proposed by van der Kolk [34]. The statistical significance of this correlation reinforces the need for targeted interventions that address both the sequelae of trauma and the underlying personality structure. Clinically, these results advocate for therapeutic approaches—such as dialectical behavior therapy or trauma-focused cognitive behavioral therapy—that foster emotion regulation and self-concept development while processing past trauma, to reduce the incidence of self-injury among at-risk adolescents [17].

The study's observation of a positive and statistically significant relationship between emotion regulation difficulties and the propensity for self-injurious behaviors among adolescents underscores the pivotal role of emotional processing in behavioral outcomes during this developmental stage. Emotion regulation difficulties, characterized by challenges in modulating intense emotions, tolerating distress, or employing adaptive coping strategies, appear to increase vulnerability to self-injury as a maladaptive mechanism for managing psychological distress [12]. This finding aligns with theoretical frameworks such as Linehan's biosocial theory, which posits that deficits in emotion regulation, often stemming from invalidating environments or biological predispositions, can precipitate impulsive and harmful behaviors such as self-injury [35]. The statistical significance of this relationship underscores its reliability across the sample, indicating that adolescents who struggle to navigate their emotional landscape are more likely to engage in self-injury as a means of relief or expression. Clinically, this emphasizes the importance of interventions—such as skills training in mindfulness and distress tolerance—that target emotion

regulation capacities to mitigate the incidence of self-injurious behaviors in this population.

The finding that emotion regulation difficulties significantly mediated the relationship between both personality organization and childhood trauma and the propensity for self-injurious behaviors in adolescents elucidates a key mechanistic pathway through which these factors exert their influence. This mediation suggests that deficits in emotion regulation serve as a critical intermediary mechanism, whereby disrupted personality organization—potentially characterized by impaired self-coherence or relational instability—and the persistent effects of childhood trauma, such as hyperarousal or interpersonal mistrust, manifest in a compromised ability to regulate emotional distress [16]. Adolescents experiencing such difficulties may find themselves unable to effectively process or modulate intense affect, leading them to self-injury as a tangible, albeit maladaptive, coping strategy. This aligns with developmental and trauma-informed theoretical models, such as those articulated by Gross and Ford, which posit that emotion regulation functions as a crucial mediator between internal psychological structures and external behavioral outcomes [36]. The statistical significance of this mediation effect underscores its robustness, highlighting the clinical importance of targeting emotion regulation in therapeutic interventions. Specifically, these findings suggest that interventions such as Dialectical Behavior Therapy (DBT), which emphasizes skills training in mindfulness, distress tolerance, and emotion regulation, or Trauma-Focused Cognitive Behavioral Therapy (TF-CBT), which integrates trauma processing with emotional coping strategies, can effectively disrupt the pathway from personality organization deficits and trauma to self-injurious behaviors. By enhancing adolescents' abilities to manage intense emotions, clinicians can reduce reliance on self-injury as a coping mechanism, potentially lowering the incidence of self-injurious behaviors in at-risk populations [36].

Limitations

Although the multi-stage cluster random sampling from Tehran's Districts 2 and 13 was methodologically sound, it limits the generalizability

of the findings. The study's focus on urban secondary school students in specific districts may not fully represent adolescents' experiences across diverse socioeconomic, cultural, or rural contexts within Iran or beyond. Additionally, reliance on self-report questionnaires introduces potential biases, such as social desirability or recall inaccuracies, which may affect the validity of responses regarding sensitive topics like self-injurious behaviors and childhood trauma. Furthermore, the cross-sectional design precludes establishing causality among the variables, limiting the ability to determine the temporal sequence of personality organization, trauma, emotion regulation difficulties, and self-injury.

Conclusion

This study provides compelling evidence that both compromised personality organization and traumatic childhood experiences contribute significantly to an increased propensity for self-injurious behavior in adolescents. Furthermore, the robust positive correlation between difficulties in emotion regulation and self-injurious tendencies underscores the critical role of emotional dysregulation in this population. Most importantly, the observed mediating effect of emotion regulation difficulties clarifies the underlying mechanism by which personality organization and childhood trauma exert their influence on self-injury. These findings suggest that deficits in emotion regulation are a crucial mediating pathway, explaining how vulnerabilities stemming from personality structures and traumatic experiences translate into maladaptive coping behaviors. Consequently, interventions aimed at mitigating self-injury in adolescents should prioritize the development of effective emotion regulation strategies. Future research should conduct longitudinal studies to determine the causality and temporal dynamics among these variables, investigate the role of cultural and contextual factors specific to diverse populations, and investigate additional mediators such as distress tolerance or self-efficacy, to further elucidate pathways to self-injury. Additionally, studies could assess the effectiveness of targeted interventions, such as Dialectical Behavior Therapy, in different settings to enhance generalizability. This research contributes to

a deeper understanding of the complex interplay between personality, trauma, emotion regulation and self-injury, providing a basis for targeted clinical and preventive efforts.

Acknowledgments

The authors would like to thank the school staff in Tehran, Districts 2 and 13, the adolescent participants and their guardians for their cooperation, as well as the Islamic Azad University, Ahvaz Branch, for research support.

Ethical Considerations

This research adhered to established ethical standards and was granted approval by the Ethical Committee of Islamic Azad University, Ahvaz Branch, under the reference code [IR.IAU.AHVAZ.REC.1403.382](https://doi.org/10.30619/IR.IAU.AHVAZ.REC.1403.382).

Funding

There was no financial support for this research.

Conflict of interest

The authors declare no conflicts of interest.

References

1. Jimenez AL, Banaag CG, Arcenas AMA, Hugo LV. Adolescent development. In: Tasman A, Riba MB, Alarcón RD, et al., eds. *Tasman's Psychiatry*. 5th ed. Cham: Springer International Publishing; 2020. p. 1-43.
2. Yahyapour Azad M, Hamzehpoor Haghghi T, Khosraviyan S. Prediction of Non-Suicidal Self-Injury based on Attachment Styles in High School Female Students. *Caspian J Pediatr* 2023; 9(1): 15.
3. Gratz KL, Dixon-Gordon KL, Chapman AL, Tull MT. Diagnosis and Characterization of DSM-5 Nonsuicidal Self-Injury Disorder Using the Clinician-Administered Nonsuicidal Self-Injury Disorder Index. *Assessment* 2015; 22(5): 527-39.
4. Mozafari N, Bagherian F, Zadeh Mohammadi A, Heidari M. Prevalence and functions of self-harming behaviors in adolescents in Sanandaj. *Shenakht J Psychol Psychiatr* 2021; 8(4): 110-23.

5. Lurigio AJ, Nesi D, Meyers SM. Nonsuicidal self-injury among young adults and adolescents: Historical, cultural and clinical understandings. *Soc Work Mental Health* 2024; 22(1): 122-48.
6. Baus N, Fischer-Kern M, Naderer A, et al. Personality organization in borderline patients with a history of suicide attempts. *Psychiatr Res* 2014; 218(1): 129-33.
7. Eurelings-Bontekoe EHM, Luyten P, Ijssennagger M, et al. Relationship between personality organization and Young's cognitive model of personality pathology. *Personal Individ Diff* 2010; 49(3): 198-203.
8. Gruber M, Alexopoulos J, Doering S, et al. Personality functioning and self-disorders in individuals at ultra-high risk for psychosis, with first-episode psychosis and with borderline personality disorder. *BJPsych Open* 2023; 9(5): 150.
9. Aslan IH, Dorey L, Grant JE, Chamberlain SR. Emotion regulation across psychiatric disorders. *CNS Spectr* 2024; 29(3): 215-20.
10. Schulze A, Hughes N, Lis S, Krause-Utz A. Dissociative Experiences, Borderline Personality Disorder Features, and Childhood Trauma: Generating Hypotheses from Data-Driven Network Analysis in an International Sample. *J Trauma Dissociation* 2024; 25(4): 436-55.
11. Brickman LJ, Ammerman BA, Look AE, et al. The relationship between non-suicidal self-injury and borderline personality disorder symptoms in a college sample. *Borderline Personal Disord Emot Dysregul* 2014; 1: 14.
12. Shahmoradi H, Masjedi-Arani A, Bakhtiari M, Abasi I. Investigating the Role of Childhood Trauma, Emotion Dysregulation, and Self-criticism in Predicting Self-harming Behaviors. *Practice in Clinical Psychology* 2021; 9(4): 321-8.
13. Liu D, Qu D, Xu S, et al. Profile of childhood trauma subtypes associated with self-injurious thoughts and behaviors. *Psychol Trauma* 2024; 16(1): 63-71.
14. Wang SK, Feng M, Fang Y, et al. Psychological trauma, posttraumatic stress disorder and trauma-related depression: A mini-review. *World J Psychiatr* 2023; 13(6): 331-9.
15. Cruz D, Lichten M, Berg K, George P. Developmental trauma: Conceptual framework, associated risks and comorbidities, and evaluation and treatment. *Front Psychiatr* 2022; 13: 800687.
16. Li J, Gao Y, Liu J, et al. Impacts of difficulties with emotion regulation on the longitudinal relationship between peer victimization and changes in adolescent nonsuicidal self-injury. *J Adolesc* 2024; 96(2): 350-9.
17. John-Henderson NA, Counts CJ, Strong NCB, et al. Investigating the role of emotion regulation in the relationship between childhood trauma and alcohol problems in American Indian adults. *J Affect Disord* 2024; 344: 440-5.
18. Zhu Z, Qin S, Dodd A, Conti M. Understanding the relationships between emotion regulation strategies and Big Five personality traits for supporting effective emotion regulation tools/interventions design. *Advanc Design Res* 2023; 1(1): 38-49.
19. Wolff JC, Thompson E, Thomas SA, et al. Emotion dysregulation and non-suicidal self-injury: A systematic review and meta-analysis. *Eur Psychiatry* 2019; 59: 25-36.
20. Calvete E, Royuela-Colomer E, Maruottolo C. Emotion dysregulation and mindfulness in non-suicidal self-injury. *Psychiatry Res* 2022; 314: 114691.
21. Sadeghi F, Mousavi S, Goudarzi A, Shahsavari MR. The Effect of Cognitive-Behavioral Play Therapy on Emotion Regulation and Separation Anxiety: A Quasi-Experimental Study in Elementary-School Children in Isfahan. *Caspian J Pediatr* 2022; 8(2): 730-8.
22. Raudales AM, Darosh AG, Contractor AA, et al. Positive Emotion Dysregulation Identifies Trauma-Exposed Community Individuals at Risk for Suicide and Nonsuicidal Self-Injury. *J Nerv Ment Dis* 2021; 209(6): 434-42.
23. Ip JWY, McMMain SF, Chapman AL, Kuo JR. The role of emotion dysregulation and interpersonal dysfunction in nonsuicidal self-injury during dialectical behavior therapy for borderline personality disorder. *Behav Res Therap* 2024; 180: 104594.
24. Sansone RA, Wiederman MW, Sansone LA. The Self-Harm Inventory (SHI): development of a scale for identifying self-destructive behaviors and borderline personality disorder. *J Clin Psychol* 1998; 54(7): 973-83.
25. Salimi A, Hashemi Nosratabad T, Khanjani Z. Structural causal relationships between ego strength and contextual relationships (family emotional atmosphere, peer communication, school bonding) with adolescent self-harm mediated by emotion regulation. *Clin Psychol Stud* 2023; 14(52): 148-77.

26. Lenzenweger MF, Clarkin JF, Kernberg OF, Foelsch PA. The Inventory of Personality Organization: psychometric properties, factorial composition, and criterion relations with affect, aggressive dyscontrol, psychosis proneness, and self-domains in a nonclinical sample. *Psychological assessment*. 2001 Dec;13(4):577.
27. Monajem A, Monirpour N, Mirzahosseini H. Structural Relationships of the Personality Organization, Object Relations and Defense Mechanisms with Pathological Eating Disorder. *J Clin Psychol* 2018; 10(2): 1-14.
28. Bernstein DP, Stein JA, Newcomb MD, et al. Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse Negl* 2003; 27(2): 169-90.
29. Garrusi B, Nakhaee N. Validity and reliability of a Persian version of the Childhood Trauma Questionnaire. *Psychol Rep* 2009; 104(2): 509-16.
30. Bjureberg J, Ljótsson B, Tull MT, et al. Development and Validation of a Brief Version of the Difficulties in Emotion Regulation Scale: The DERS-16. *J Psychopathol Behav Assess* 2016; 38(2): 284-96.
31. Fallahi V, Narimani M, Atadokht A. Psychometric Properties of the Difficulties in Emotion Regulation Scale Brief Form (Ders-16): in Group of Iranian Adolescents. *J Shahid Sadoughi Uni Med Sci* 2021; 29(5): 3721-35.
32. Liu Y, Fang Y, Chen Y, et al. Relationship between childhood trauma and non-suicidal self-injury in high school students: the mediating role of the stress perception and the moderating role of teacher-student relationship. *BMC Psychol* 2024; 12(1): 379.
33. Ghorbaninejad F, Ershadi Manesh S. The structural model of childhood trauma with non-suicidal self-injury behavior in adolescents with borderline personality traits based on the mediating role of distress tolerance. *J Psychol Sci* 2023; 22(130): 1-22.
34. Paulus FW, Ohmann S, Möhler E, et al. Emotional Dysregulation in Children and Adolescents with Psychiatric Disorders. A Narrative Review. *Front Psychiatr* 2021; 12: 628252.
35. Livingston NR, Stanton K. Compatibility of Linehan's biosocial theory and the DSM-5 Alternative Model of Personality Disorders for borderline personality disorder. *Personal Ment Health* 2024; 18(4): 402-13.
36. Miu AC, Szentágotai-Tătar A, et al. Emotion regulation as mediator between childhood adversity and psychopathology: A meta-analysis. *Clin Psychol Rev* 2022; 93: 102141.