

The Effectiveness of Schema Mode Therapy on Resilience and Self-Control in Adolescent Girls with a History of Non-Suicidal Self-Injury

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Article Info

Article type:

Original Research

How to cite this article:

Adelnasab, Z., & Torkan, H. (2026). The Effectiveness of Schema Mode Therapy on Resilience and Self-Control in Adolescent Girls with a History of Non-Suicidal Self-Injury. *Journal of Adolescent and Youth Psychological Studies*, 7(8), 1-10.

<http://dx.doi.org/10.61838/kman.jayps.5490>



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ABSTRACT

Objective: The present study aimed to investigate the effectiveness of schema mode therapy on resilience and self-control in adolescent girls with a history of non-suicidal self-injury.

Methods and Materials: The present study employed a quasi-experimental design with a pretest–posttest format and a control group. The statistical population consisted of adolescent girls aged 12 to 18 years with a history of non-suicidal self-injury in Isfahan during 2024. A total of 30 participants were selected using purposive sampling and randomly assigned to experimental and control groups, with 15 participants in each group. Data collection instruments included the Connor and Davidson Resilience Scale (CD-RISC) and the Tangney Self-Control Questionnaire (SCQ). The experimental group participated in 10 weekly 90-minute sessions of schema mode therapy, while the control group received no intervention. Data were analyzed using multivariate analysis of covariance (MANCOVA) in SPSS-26 software.

Findings: The findings demonstrated that schema mode therapy had a statistically significant effect on both resilience and self-control in adolescent girls with a history of non-suicidal self-injury. The results of multivariate covariance analysis indicated a significant difference between the experimental and control groups in at least one dependent variable at the posttest stage ($p < 0.05$). Univariate covariance analysis further revealed that resilience significantly increased in the experimental group compared to the control group ($F = 21.749, p = 0.001, \eta^2 = 0.465$). Additionally, self-control scores significantly improved following the intervention ($F = 13.103, p = 0.001, \eta^2 = 0.344$).

Conclusion: The findings of the present study indicate that schema mode therapy is an effective intervention for improving resilience and self-control among adolescent girls with a history of non-suicidal self-injury. By targeting maladaptive schemas, dysfunctional coping modes, and emotional dysregulation, schema mode therapy can enhance adaptive psychological functioning and reduce vulnerability to self-injurious behaviors in adolescents.

Keywords: schema modes, resilience, self-control, adolescents

1. Introduction

Adolescence is recognized as a critical developmental period characterized by rapid biological, cognitive, emotional, and social changes that may increase vulnerability to psychological maladjustment and high-risk behaviors. Among the most concerning psychological problems during adolescence is non-suicidal self-injury (NSSI), which refers to the deliberate destruction of one's body tissue without suicidal intent and for purposes not socially sanctioned (Andover et al., 2017; Reinhardt et al., 2022). Nonsuicidal self-injury has emerged as a significant public health concern due to its increasing prevalence among adolescents and its association with a wide range of emotional, interpersonal, and behavioral difficulties (Aspeqvist et al., 2024; Tilton-Weaver et al., 2023). Research has shown that adolescents who engage in self-injurious behaviors are at elevated risk for emotional dysregulation, depression, anxiety, social withdrawal, impulsivity, interpersonal conflict, and future suicidal behaviors (Shen et al., 2025; Zhao et al., 2022). The persistence of these behaviors can substantially impair academic performance, family functioning, peer relationships, and psychological well-being during adolescence and adulthood (de Oliveira et al., 2025; Halpin & Duffy, 2020).

The prevalence of nonsuicidal self-injury among adolescents has increased considerably in recent years across various societies and cultures. Epidemiological evidence indicates that self-injurious behaviors are particularly prevalent among adolescent girls, who often report higher emotional sensitivity and greater vulnerability to interpersonal stressors (Reinhardt et al., 2022; Tilton-Weaver et al., 2023). In Iran, the prevalence of nonsuicidal self-injury among adolescents and young adults has also become increasingly concerning (Izakian et al., 2018). Contemporary social and environmental pressures, including peer victimization, cyberbullying, emotional neglect, academic stress, and social isolation, have intensified the psychological burden experienced by adolescents and may contribute to self-harming behaviors (Latino et al., 2025; Zhao et al., 2022). Studies conducted after the COVID-19 pandemic further demonstrated that bullying, emotional insecurity, and disrupted social interactions have had lasting negative effects on adolescent mental health and emotional adjustment (de Oliveira et al., 2025; Shen et al., 2025). Adolescents who experience chronic interpersonal rejection or emotional invalidation

often resort to maladaptive coping strategies, including self-injury, as a means of reducing psychological distress or regulating overwhelming emotions (Aghili et al., 2023; Shahbazi et al., 2026).

One of the central psychological constructs associated with adolescent adjustment and protection against self-harming behaviors is resilience. Resilience refers to the dynamic capacity to adapt positively and effectively in the face of adversity, stress, trauma, or significant life challenges (Fletcher & Sarkar, 2013; Moeini, 2023). Psychological resilience enables individuals to maintain emotional balance, recover from stressful experiences, and utilize adaptive coping mechanisms during difficult circumstances (Amini et al., 2012; Situmorang & Widodo, 2024). Adolescents with high levels of resilience generally demonstrate better emotional regulation, greater psychological flexibility, and lower susceptibility to anxiety, depression, and self-destructive behaviors (Fletcher & Sarkar, 2013; Lopez-Fernandez et al., 2024). Conversely, low resilience has been associated with emotional instability, hopelessness, poor stress tolerance, and increased vulnerability to maladaptive coping strategies such as nonsuicidal self-injury (Halpin & Duffy, 2020; Situmorang & Widodo, 2024). Therefore, strengthening resilience may serve as a protective factor that reduces the likelihood of emotional dysregulation and self-injurious behavior in adolescents.

Another important psychological variable closely linked to adolescent behavioral adjustment is self-control. Self-control refers to the ability to regulate impulses, emotions, thoughts, and behaviors in accordance with long-term goals and social expectations (Cobb-Clark et al., 2019; Tangney et al., 2004). Adolescents with high self-control are more capable of delaying gratification, managing emotional reactions, resisting impulsive behaviors, and maintaining adaptive interpersonal functioning (Boat et al., 2024; Kausch-Blecken von Schmeling, 2024). In contrast, deficits in self-control are associated with impulsivity, aggression, emotional instability, risky behaviors, substance abuse, and self-harming behaviors (Jalili & Heidari, 2018; Tangney et al., 2004). Research has demonstrated that adolescents who engage in nonsuicidal self-injury often exhibit poor impulse regulation and difficulties controlling intense negative emotions (Heidari & Torkan, 2023; Rahnama et al., 2023). Childhood maltreatment, emotional neglect, and insecure attachment patterns may further weaken the development of self-control capacities and contribute to maladaptive behavioral responses during adolescence (Cobb-Clark et al.,

2019; Rahnama et al., 2023). Consequently, interventions aimed at enhancing self-control may help reduce impulsive self-injurious behaviors and improve psychological functioning among vulnerable adolescents.

Several psychological treatments have been developed to address emotional dysregulation and self-harming behaviors among adolescents. Dialectical behavior therapy, cognitive-behavioral therapy, and emotion-focused interventions have demonstrated effectiveness in reducing nonsuicidal self-injury and improving emotional functioning (Andover et al., 2017; Heidari & Torkan, 2023). Previous studies have shown that dialectical behavior therapy can reduce self-injurious behaviors and improve self-esteem, self-compassion, and emotional regulation in adolescent girls (Aghili et al., 2023; Yas Fard et al., 2019). Similarly, combined dialectical behavior therapy and schema therapy interventions have been associated with improvements in emotional dysregulation and reductions in self-harming behaviors (Kamal et al., 2022). Despite these findings, many adolescents continue to experience persistent maladaptive emotional patterns and relational difficulties even after receiving conventional treatments, suggesting the need for deeper and more integrative therapeutic approaches.

Schema therapy has emerged as a comprehensive and integrative psychological treatment specifically designed to address chronic maladaptive emotional and behavioral patterns rooted in early life experiences (Farrell & Shaw, 2022; Young et al., 2003). According to schema therapy theory, adverse childhood experiences, unmet emotional needs, dysfunctional parenting styles, and traumatic interpersonal relationships contribute to the development of early maladaptive schemas that shape individuals' perceptions, emotions, and coping behaviors throughout life (Edwards, 2022; Young et al., 2003). These schemas may become activated in emotionally stressful situations and lead to maladaptive coping responses such as avoidance, surrender, overcompensation, and self-destructive behaviors (Farrell & Shaw, 2022; Martean, 2013). Adolescents who engage in nonsuicidal self-injury often exhibit schemas related to emotional deprivation, abandonment, defectiveness, mistrust, social isolation, and emotional inhibition (Abbasi Rad et al., 2023; Kamal et al., 2022). These maladaptive schemas may intensify emotional pain and contribute to repetitive self-harming behaviors as a dysfunctional strategy for emotional regulation.

Within schema therapy, schema modes represent momentary emotional-cognitive-behavioral states that become activated in response to internal or external stressors

(Edwards, 2022). Schema mode therapy specifically focuses on identifying and modifying dysfunctional modes, such as the vulnerable child mode, angry child mode, punitive parent mode, and detached protector mode, while strengthening healthy adult functioning (Farrell & Shaw, 2022; Young et al., 2003). The schema mode approach emphasizes experiential techniques, emotional processing, limited reparenting, empathic confrontation, imagery rescripting, and cognitive restructuring to help individuals meet unmet emotional needs and develop healthier coping strategies (Edwards, 2022; Martean, 2013). Because adolescents with a history of nonsuicidal self-injury frequently experience intense emotional distress, unstable self-concepts, interpersonal sensitivity, and maladaptive coping responses, schema mode therapy may provide a particularly suitable intervention framework for this population.

Empirical evidence supports the effectiveness of schema mode therapy in improving emotional and interpersonal functioning across various clinical populations. Research has shown that schema mode-based interventions can significantly reduce emotional dysregulation, self-injurious behaviors, interpersonal sensitivity, and maladaptive emotional responses (Abbasi Rad et al., 2023; Afsar et al., 2021). Studies have also demonstrated that schema mode therapy contributes to improvements in conflict resolution, emotional awareness, integrative self-knowledge, and psychological adjustment (Abbasi Rad et al., 2023; Latafati Beris et al., 2021). Furthermore, schema-focused interventions appear to enhance adaptive coping mechanisms and emotional resilience by helping individuals recognize and transform maladaptive schemas and coping modes (Edwards, 2022; Farrell & Shaw, 2022). Given the strong associations between self-injury, emotional dysregulation, low resilience, and poor self-control, schema mode therapy may effectively target the underlying emotional and cognitive mechanisms contributing to nonsuicidal self-injury in adolescent girls.

Despite the growing body of research on nonsuicidal self-injury and schema-based interventions, several gaps remain in the literature. First, relatively limited research has specifically examined the effectiveness of schema mode therapy among adolescent girls with a history of nonsuicidal self-injury. Second, although previous studies have investigated the effects of therapeutic interventions on emotional regulation and self-harming behaviors, fewer studies have simultaneously focused on resilience and self-control as important psychological outcomes. Third, cultural and social factors may influence the manifestation of self-

injurious behaviors and treatment responsiveness, highlighting the importance of conducting context-specific studies within Iranian adolescent populations (Izakian et al., 2018; Moeini, 2023). Addressing these gaps may contribute to the development of more effective prevention and intervention programs tailored to the emotional and developmental needs of vulnerable adolescents.

Considering the increasing prevalence of nonsuicidal self-injury among adolescent girls, the important role of resilience and self-control in psychological adjustment, and the theoretical and empirical foundations of schema mode therapy, investigating the effectiveness of this intervention appears highly necessary. Therefore, the present study aimed to determine the effectiveness of schema mode therapy on resilience and self-control in adolescent girls with a history of nonsuicidal self-injury.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a quasi-experimental design with a pretest–posttest format and a control group. The statistical population consisted of adolescent girls aged 12 to 18 years with a history of non-suicidal self-injury (NSSI) in the city of Isfahan during 2024. From this population, 30 participants were selected through purposive sampling based on the inclusion criteria and were randomly assigned to either the experimental group or the control group, with 15 participants in each group. Sample size estimation was conducted using G*Power version 3.1 software. Based on an effect size of 0.50, statistical power of 0.85, and significance level of 0.05, the minimum required sample size was estimated to be 28 participants, including 14 individuals in each group. Considering the possibility of participant attrition, the sample size was increased to 15 participants per group.

The inclusion criteria consisted of informed consent to participate in the intervention sessions, a documented history of non-suicidal self-injury identified through a structured clinical interview according to DSM-5 criteria, absence of concurrent psychological treatment or interventions based on psychological records, absence of medication intoxication or severe medical conditions that could interfere with participation, and being within the age range of 12 to 18 years. The exclusion criteria included absence from more than two therapy sessions, withdrawal from the study, incomplete questionnaire responses, initiation of substance or alcohol use during the intervention

period, and lack of cooperation in completing therapeutic assignments and exercises. Ethical principles were strictly observed throughout the study. Confidentiality was emphasized both by the researcher and by all group members, and participants were assured that all collected information and session discussions would remain completely confidential. Informed consent was obtained from both the participants and their parents after a comprehensive explanation of the study objectives, procedures, duration of sessions, and possible challenges associated with participation. In addition, the researcher committed to minimizing potential risks and preventing any psychological harm to participants throughout the research process.

2.2. Measures

The Connor and Davidson Resilience Scale (CD-RISC) (2003) was used to assess resilience. This instrument consists of 25 items designed to measure resilience constructs on a 5-point Likert scale ranging from 0 to 4. The total score ranges from 0 to 100, with higher scores indicating greater resilience. Previous studies have reported satisfactory test–retest reliability as well as convergent and divergent validity for the scale. The original developers reported a Cronbach’s alpha coefficient of 0.86. In Iran, the psychometric properties of the scale were examined by Nejati et al. (2015), who reported reliability coefficients of 0.93 through test–retest assessment and 0.83 through Cronbach’s alpha. Additionally, Bigdeli et al. (2012) reported an internal consistency coefficient of 0.90 based on Cronbach’s alpha (Abdi, 2019). In the present study, the reliability of the scale was confirmed with a Cronbach’s alpha coefficient of 0.82.

Self-control was measured using the Tangney Self-Control Questionnaire (SCQ) developed by Tangney et al. (2004). This self-report instrument consists of 36 items rated on a 5-point Likert scale ranging from “not at all like me” to “very much like me.” The questionnaire provides an overall self-control score, and several items are reverse scored. Total scores are categorized into low, moderate, and high levels of self-control. Scores between 0 and 48 indicate poor self-control, scores between 48 and 95 indicate moderate self-control, and scores above 95 indicate high self-control. Previous research conducted by Aryanpour et al. reported an internal consistency coefficient of 0.87 using Cronbach’s alpha (Aryanpour, 2014). In the present study, the reliability coefficient obtained through Cronbach’s alpha was 0.71.

2.3. *Intervention*

The experimental group received Schema Mode-Based Therapy (SMBT) based on the protocol developed by Farrell and Shaw (2022). The intervention was administered in a group format over 10 weekly sessions, each lasting 90 minutes. The therapeutic process focused on establishing a safe, empathic, and accepting therapeutic relationship to facilitate limited reparenting and emotional bonding. Early maladaptive schemas, coping styles, and schema modes associated with self-injurious behaviors were gradually identified and conceptualized throughout treatment. Participants completed several schema-related assessments and engaged in experiential, cognitive, and imagery-based techniques aimed at recognizing the developmental origins of maladaptive schemas and unmet emotional needs. The intervention also emphasized identifying vulnerable child modes, angry and impulsive child modes, and maladaptive coping responses related to emotional distress and self-harm behaviors. Cognitive restructuring techniques, empathic confrontation, unconditional positive regard, and limited reparenting strategies were employed to weaken maladaptive schemas and strengthen adaptive coping mechanisms. During the final sessions, participants were encouraged to abandon maladaptive coping styles, practice adaptive emotional regulation strategies, consolidate newly acquired psychological skills, and generalize treatment gains to real-life situations in order to prevent relapse.

2.4. *Data Analysis*

Data analysis was conducted using SPSS software version 26. Descriptive statistics, including means and

standard deviations, were calculated for the study variables. To examine the effectiveness of schema mode-based therapy on resilience and self-control while controlling for pretest scores, multivariate analysis of covariance (MANCOVA) was employed. The significance level for all statistical analyses was set at 0.05.

3. **Findings and Results**

Based on educational level, in both the experimental and control groups, 13 participants (43.3%) were studying in lower secondary school and 17 participants (56.7%) were studying in upper secondary school. Regarding age distribution, in the experimental group, 4 participants (26.7%) were between 12 and 14 years old, 6 participants (40.0%) were between 14 and 16 years old, and 5 participants (33.3%) were between 16 and 18 years old. In the control group, 3 participants (20.0%) were between 12 and 14 years old, 7 participants (46.7%) were between 14 and 16 years old, and 5 participants (33.3%) were between 16 and 18 years old. The mean and standard deviation of age in the present sample were reported as 16.6 ± 0.617 years in the experimental group and 17.8 ± 0.632 years in the control group. The mean frequency of self-injury during the previous year was 2.73 ± 0.800 in the experimental group and 2.40 ± 0.740 in the control group. The minimum history of self-injury during the previous year was one episode and the maximum was four episodes. Table 1 presents the means and standard deviations of the research variables.

Table 1

Means and Standard Deviations of Resilience and Self-Control Scores in the Experimental and Control Groups

Variable	Phase	Experimental Group Mean	Experimental Group SD	Control Group Mean	Control Group SD
Resilience	Pretest	24.46	8.63	25.13	8.74
Resilience	Posttest	27.93	8.59	25.67	10.00
Self-control	Pretest	53.60	9.90	53.86	7.00
Self-control	Posttest	57.33	9.93	53.07	7.04

As shown in Table 1, the schema mode therapy group demonstrated considerable changes in both resilience and self-control at the posttest stage compared to the control group. To determine the significance of these differences, analysis of covariance was used to control for the effects of time and group membership. The Shapiro–Wilk test was used to examine the normality of data distribution, and the

results indicated that the data were normally distributed ($p > 0.05$). The homogeneity of regression slopes assumption was also examined. The results for resilience ($F = 0.845, p = 0.442$) and self-control ($F = 0.314, p = 1.217$) confirmed the assumption of homogeneity of regression slopes for the study variables. Furthermore, Levene’s test results for resilience ($F = 0.751, p = 0.456$) and self-control ($F = 0.014,$

$p = 0.906$) indicated that the assumption of equality of variances across groups at the posttest stage was satisfied. The results of Box's M test also demonstrated homogeneity

of variance–covariance matrices across groups (Box's $M = 7.137$, $p = 0.390$). The results of the multivariate analysis of covariance are presented in Table 2.

Table 2

Results of Multivariate Analysis of Covariance

Test	Value	F	df	Error df	Significance Level
Pillai's Trace	0.726	20.300	2	25	0.001
Wilks' Lambda	0.274	20.300	2	25	0.001
Hotelling's Trace	2.648	20.300	2	25	0.001
Roy's Largest Root	2.648	20.300	2	25	0.001

Table 2 presents the results of the multivariate analysis of covariance for resilience and self-control scores in the experimental and control groups. According to the findings, the significance levels in all multivariate tests were lower

than 0.05, indicating that there was a statistically significant difference between the experimental and control groups in at least one of the dependent variables.

Table 3

Results of Multivariate Analysis of Covariance for the Study Variables in the Experimental and Control Groups

Variable	Sum of Squares	df	Mean Square	F	Significance Level	Eta Squared
Resilience	113.013	1	133.013	21.749	0.001	0.465
Self-control	166.959	1	166.959	13.103	0.001	0.344

The results presented in Table 3 indicate that there was a statistically significant difference between the experimental and control groups in resilience scores ($F = 21.749$, $p < 0.05$). The effect size was 0.465, indicating that 46.5% of the individual differences in posttest resilience scores were attributable to the effects of schema mode therapy. A statistically significant difference was also observed between the experimental and control groups in self-control scores ($F = 13.103$, $p < 0.05$). The effect size for self-control was 0.344, indicating that 34.4% of the individual differences in posttest self-control scores were explained by the effects of schema mode therapy.

The obtained results are consistent with the theoretical foundations of schema therapy and support the role of schema-focused interventions in promoting emotional regulation, adaptive coping, and psychological adjustment among adolescents with emotional and behavioral difficulties (Farrell & Shaw, 2022; Young et al., 2003).

One of the major findings of the present study was the significant improvement in resilience among adolescent girls with a history of nonsuicidal self-injury following schema mode therapy. This finding is consistent with previous studies reporting that psychological interventions focused on emotional processing and maladaptive schemas can enhance resilience and adaptive coping capacities (Moeini, 2023; Situmorang & Widodo, 2024). Resilience is considered a multidimensional psychological capacity that enables individuals to adapt successfully to stressful experiences and recover from emotional adversity (Fletcher & Sarkar, 2013). Adolescents who engage in nonsuicidal self-injury often experience emotional vulnerability, interpersonal rejection, low distress tolerance, and chronic psychological pain, all of which reduce their resilience and increase their dependence on maladaptive coping strategies (Halpin & Duffy, 2020; Reinhardt et al., 2022). Schema mode therapy appears to improve resilience by helping adolescents recognize the origins of their maladaptive

4. Discussion

The present study aimed to investigate the effectiveness of schema mode therapy on resilience and self-control in adolescent girls with a history of nonsuicidal self-injury. The findings demonstrated that schema mode therapy significantly increased resilience and self-control among participants in the experimental group compared to the control group. These findings indicate that schema mode therapy can effectively improve adaptive psychological functioning and reduce maladaptive emotional responses among adolescents vulnerable to self-injurious behaviors.

emotional patterns, understand unmet emotional needs, and replace dysfunctional coping mechanisms with healthier responses.

The effectiveness of schema mode therapy in enhancing resilience may also be explained through its emphasis on emotional validation, limited reparenting, and the development of healthy adult modes. According to schema theory, individuals with maladaptive schemas often develop dysfunctional coping styles because of repeated childhood experiences of neglect, rejection, emotional deprivation, or invalidation (Edwards, 2022; Young et al., 2003). Through therapeutic techniques such as imagery rescripting, empathic confrontation, and emotional processing, schema mode therapy allows adolescents to reinterpret painful emotional experiences and develop more adaptive internal representations of themselves and others (Farrell & Shaw, 2022; Martean, 2013). This process can reduce emotional helplessness and strengthen psychological flexibility, which are essential components of resilience. Previous studies similarly reported that schema-focused interventions improve emotional stability and adaptive functioning among individuals experiencing emotional dysregulation and self-harming behaviors (Abbasi Rad et al., 2023; Afsar et al., 2021).

The findings related to resilience are also compatible with studies demonstrating that resilience is inversely associated with maladaptive emotional responses and psychological vulnerability during adolescence (Amini et al., 2012; Lopez-Fernandez et al., 2024). Adolescents with higher resilience levels are generally more capable of coping effectively with interpersonal stressors, bullying, emotional rejection, and social pressure (de Oliveira et al., 2025; Latino et al., 2025). In contrast, adolescents with low resilience may experience greater emotional instability and are more likely to engage in self-destructive behaviors when confronted with stress or interpersonal conflict (Shen et al., 2025; Zhao et al., 2022). Schema mode therapy may therefore function as a protective intervention by increasing adolescents' ability to tolerate emotional distress and respond to negative experiences in more adaptive ways. The group-based therapeutic setting may also have contributed to resilience enhancement by fostering emotional support, interpersonal connection, and shared emotional experiences among participants.

Another important finding of the present study was the significant increase in self-control among adolescent girls receiving schema mode therapy. This result is consistent with previous studies emphasizing the role of self-control in adolescent psychological adjustment and behavioral

regulation (Cobb-Clark et al., 2019; Tangney et al., 2004). Self-control refers to the ability to regulate impulses, emotions, and behaviors in accordance with long-term goals and adaptive standards. Deficits in self-control are strongly associated with impulsive behaviors, aggression, emotional dysregulation, and self-injurious tendencies (Boat et al., 2024; Jalili & Heidari, 2018). Adolescents who engage in nonsuicidal self-injury often struggle with impulse regulation and emotional tolerance, making self-harming behaviors a maladaptive strategy for reducing emotional distress (Heidari & Torkan, 2023; Rahnema et al., 2023). The present findings suggest that schema mode therapy can effectively strengthen adolescents' ability to regulate emotions and manage impulsive reactions.

The improvement in self-control observed in this study may be attributed to the cognitive, behavioral, and experiential techniques used in schema mode therapy. The intervention encourages participants to identify maladaptive schemas and recognize the emotional triggers associated with impulsive behaviors and self-injury (Edwards, 2022; Farrell & Shaw, 2022). Through repeated emotional awareness exercises and cognitive restructuring, adolescents gradually become more capable of recognizing automatic emotional reactions before engaging in impulsive responses. Additionally, schema mode therapy strengthens healthy coping modes and reduces reliance on maladaptive coping styles such as avoidance, surrender, or overcompensation. As adolescents develop greater awareness of their emotional states and behavioral patterns, they may gain increased control over self-destructive impulses and emotional reactivity.

The findings of the present study are also consistent with studies indicating that interventions focused on emotional regulation and schema modification can significantly reduce self-harming behaviors and improve psychological functioning (Kamal et al., 2022; Yas Fard et al., 2019). Adolescents with histories of nonsuicidal self-injury frequently exhibit dysfunctional beliefs about themselves, others, and interpersonal relationships, including beliefs related to defectiveness, abandonment, emotional deprivation, and worthlessness (Abbasi Rad et al., 2023; Young et al., 2003). These schemas contribute to chronic emotional pain and increase the likelihood of impulsive self-harming behaviors. Schema mode therapy directly targets these maladaptive beliefs and promotes the development of healthier emotional and cognitive patterns. Consequently, adolescents may become more capable of managing emotional distress without resorting to self-injury.

The present findings further align with previous studies demonstrating the effectiveness of schema-focused and third-wave therapeutic interventions in improving emotional regulation and reducing maladaptive behaviors among adolescents (Aghili et al., 2023; Heidari & Torkan, 2023). For example, studies on dialectical behavior therapy have shown improvements in emotional regulation, self-esteem, and self-compassion among adolescents engaging in self-harming behaviors (Shahbazi et al., 2026; Yas Fard et al., 2019). Although dialectical behavior therapy and schema mode therapy differ in theoretical structure, both approaches emphasize emotional awareness, distress tolerance, and the replacement of maladaptive coping strategies with healthier responses. Schema mode therapy may provide additional benefits by specifically addressing early maladaptive schemas and unmet emotional needs that underlie chronic emotional difficulties and impulsive behaviors.

The relationship between self-control and resilience may also explain the effectiveness of schema mode therapy observed in this study. Research suggests that resilience and self-control are interconnected psychological capacities that mutually reinforce adaptive functioning (Boat et al., 2024; Tangney et al., 2004). Adolescents with stronger self-control abilities are better able to regulate emotional reactions, tolerate frustration, and maintain goal-directed behaviors under stress. Similarly, resilient individuals demonstrate greater emotional flexibility and problem-solving abilities when confronted with adversity (Fletcher & Sarkar, 2013; Situmorang & Widodo, 2024). By improving emotional awareness, reducing maladaptive schemas, and strengthening healthy coping mechanisms, schema mode therapy may simultaneously enhance both resilience and self-control, thereby reducing vulnerability to self-injurious behaviors.

Another explanation for the effectiveness of schema mode therapy relates to the developmental characteristics of adolescence. Adolescence is a sensitive developmental stage during which identity formation, emotional regulation, and interpersonal relationships undergo significant changes (Latino et al., 2025; Tilton-Weaver et al., 2023). Emotional instability and heightened sensitivity to peer rejection, bullying, and social evaluation may increase the likelihood of self-harming behaviors during this period (de Oliveira et al., 2025; Shen et al., 2025). Schema mode therapy provides adolescents with a structured framework for understanding their emotions, interpersonal experiences, and maladaptive coping responses. Through the therapeutic relationship and experiential interventions, adolescents may develop a

stronger sense of emotional security, self-worth, and interpersonal trust, all of which contribute to improved psychological adjustment.

5. Conclusion

The present study contributes to the growing literature on schema-focused interventions for adolescents with nonsuicidal self-injury by demonstrating that schema mode therapy can effectively enhance resilience and self-control in adolescent girls. Given the increasing prevalence of self-injurious behaviors among adolescents and the long-term psychological consequences associated with these behaviors, interventions targeting the underlying emotional and cognitive mechanisms appear highly necessary. The findings of this study suggest that schema mode therapy may serve as an effective clinical approach for improving emotional functioning and reducing psychological vulnerability among adolescents with self-injurious tendencies.

6. Limitations & Suggestions

One of the limitations of the present study was the relatively small sample size and the restriction of participants to adolescent girls in the city of Isfahan, which may limit the generalizability of the findings to other populations and cultural contexts. In addition, the use of self-report questionnaires may have increased the possibility of response bias and socially desirable responding. Another limitation was the absence of a long-term follow-up period to evaluate the stability and durability of treatment effects over time. Furthermore, variables such as family functioning, socioeconomic status, and severity of psychological symptoms were not controlled and may have influenced the outcomes of the intervention.

Future research is recommended to investigate the long-term effectiveness of schema mode therapy through follow-up assessments conducted several months after treatment completion. Researchers are also encouraged to examine the effectiveness of this intervention among male adolescents and adolescents from different cultural and socioeconomic backgrounds. Comparative studies investigating schema mode therapy alongside other evidence-based treatments such as dialectical behavior therapy, acceptance and commitment therapy, and cognitive-behavioral therapy may further clarify the relative effectiveness of different interventions for nonsuicidal self-injury. Additionally, future studies should examine mediating variables such as

emotional regulation, attachment styles, family relationships, and self-compassion in order to better understand the mechanisms underlying therapeutic change.

The findings of the present study have important practical implications for mental health professionals, school counselors, and clinical psychologists working with adolescents who engage in self-injurious behaviors. Schema mode therapy may be incorporated into school-based counseling programs and adolescent mental health services to improve resilience, emotional regulation, and self-control among vulnerable adolescents. Parents, teachers, and healthcare providers may also benefit from psychoeducational programs focused on recognizing maladaptive emotional patterns and promoting supportive interpersonal relationships. Early identification and intervention for adolescents at risk of self-injury may contribute significantly to the prevention of chronic emotional difficulties and the promotion of healthier psychological development.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors equally contributed to this article.

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