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The Effectiveness of Schema Therapy on Post-Traumatic Stress Disorder and Depression in At-Risk Girls Referred to the Social Emergency Center of Amol County

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A B S T R A C T

Objective: The present study aimed to investigate the effectiveness of schema therapy on post-traumatic stress disorder and depression among at-risk girls referred to the Social Emergency Center of Amol County.

Methods and Materials: This study employed a quasi-experimental design with a pretest–posttest control group approach. The statistical population consisted of all at-risk girls aged 15 to 18 years referred to the 123 Social Emergency Center of Amol County in 2025. Using purposive sampling and based on inclusion criteria, 30 participants were selected and randomly assigned into experimental (n = 15) and control (n = 15) groups. The experimental group received eight sessions of schema therapy intervention, whereas the control group received no intervention. Data collection instruments included the Post-Traumatic Stress Disorder Questionnaire developed by Wadders et al. (1993) and the Beck Depression Inventory-II (1996). Data were analyzed using descriptive statistics and analysis of covariance (ANCOVA) in SPSS version 26.

Findings: The findings indicated that schema therapy significantly reduced post-traumatic stress disorder and depression among participants in the experimental group compared to the control group. The ANCOVA results showed a statistically significant difference between the two groups in PTSD symptoms after controlling for pretest scores ($F = 19.12$, $p = 0.001$, $\eta^2 = 0.44$). Similarly, a significant reduction was observed in depression scores in the experimental group compared to the control group ($F = 17.85$, $p = 0.001$, $\eta^2 = 0.41$). The obtained effect sizes demonstrated that schema therapy had a strong therapeutic impact on reducing trauma-related and depressive symptoms among at-risk adolescent girls.

Conclusion: The results of the present study demonstrated that schema therapy is an effective intervention for reducing post-traumatic stress disorder and depression among at-risk girls.

Keywords: *Schema Therapy, Post-Traumatic Stress Disorder, Depression, At-Risk Girls, Social Emergency Center*

1. Introduction

Post-traumatic stress disorder (PTSD) is considered one of the most severe and debilitating psychological consequences of exposure to traumatic events and has become a major public health concern across societies. PTSD develops following exposure to experiences such as violence, abuse, neglect, accidents, family conflict, or social instability, and is characterized by symptoms including intrusive memories, emotional numbness, hyperarousal, avoidance behaviors, and persistent cognitive-emotional disturbances (Bryant & Friedman, 2023; Friedman et al., 2023). Research has demonstrated that adolescents and young women exposed to traumatic experiences are particularly vulnerable to the development of PTSD because of the interaction between developmental, emotional, familial, and social factors (Kessler et al., 2022). At-risk girls who experience unstable family conditions, neglect, emotional deprivation, domestic violence, or social vulnerability often encounter cumulative traumatic experiences that significantly increase the likelihood of chronic psychological disturbances. These individuals frequently struggle with emotional dysregulation, negative self-perception, interpersonal insecurity, and depressive symptoms that interfere with their psychological functioning and social adaptation (Nowrouzi, 2025; Thompson, 2025). Consequently, identifying effective psychological interventions for reducing PTSD symptoms and associated emotional problems in vulnerable adolescent populations has become a critical priority within contemporary mental health research and clinical practice.

Depression is another prevalent psychological disorder frequently associated with traumatic experiences and chronic stress exposure. Individuals exposed to trauma often develop persistent feelings of hopelessness, sadness, guilt, emotional exhaustion, and reduced psychological resilience, which may gradually evolve into depressive symptomatology (Kessler et al., 2022). In adolescent girls, depression may manifest through emotional withdrawal, academic decline, social isolation, irritability, sleep disturbances, and impaired interpersonal functioning. Studies have shown that trauma-related depression is often more resistant to conventional treatment because traumatic experiences shape maladaptive cognitive structures and dysfunctional emotional responses that maintain psychological distress over time (Ehlers & Clark, 2024; Resick et al., 2023). In many at-risk adolescents, traumatic memories become deeply integrated into self-perception and emotional identity, contributing to persistent feelings of worthlessness, insecurity, and emotional vulnerability. Therefore, therapeutic approaches capable of addressing both trauma-related cognitions and deeper emotional structures are essential for effective psychological recovery.

Contemporary cognitive and trauma-focused theories emphasize the role of maladaptive cognitive patterns in the maintenance of PTSD and depression. According to cognitive models of PTSD, traumatic experiences alter individuals' interpretations of themselves, others, and the world, leading to exaggerated perceptions of danger, helplessness, and emotional threat (Ehlers & Clark, 2024). These maladaptive interpretations contribute to intrusive memories, emotional avoidance, and hypervigilance, thereby maintaining psychological distress. Cognitive Processing Therapy and trauma-focused cognitive behavioral approaches have demonstrated effectiveness in reducing PTSD symptoms by modifying distorted cognitions and promoting adaptive processing of traumatic experiences (Resick et al., 2023). However, researchers have increasingly argued that cognitive interventions may not fully address the deeper emotional and developmental origins of maladaptive beliefs formed during childhood and adolescence (Bryant & Friedman, 2023). This limitation has led clinicians and researchers to explore integrative approaches that target both cognitive distortions and enduring maladaptive schemas associated with trauma-related psychopathology.

Schema therapy has emerged as one of the most comprehensive and integrative therapeutic approaches for treating chronic emotional and personality-related difficulties associated with trauma and adverse childhood experiences. Originally developed by Jeffrey Young and colleagues, schema therapy integrates cognitive-behavioral, attachment-based, psychodynamic, experiential, and emotion-focused principles to identify and modify early maladaptive schemas that develop during childhood and adolescence (Young et al., 2021). Early maladaptive schemas are pervasive cognitive-emotional patterns formed in response to unmet emotional needs, dysfunctional parenting, neglect, abuse, or traumatic experiences. These schemas influence how individuals perceive themselves and others, shaping emotional reactions, interpersonal behaviors, and coping styles throughout life (Riso & Young, 2024). Individuals exposed to trauma frequently develop schemas related to abandonment, mistrust, defectiveness, vulnerability, emotional deprivation, and social isolation, all of which contribute to PTSD symptoms and depressive

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experiences. Schema therapy seeks to weaken maladaptive schemas and strengthen adaptive emotional functioning through cognitive restructuring, experiential exercises, emotional processing, and corrective therapeutic experiences.

Recent advances in schema therapy research have highlighted its effectiveness for trauma-exposed populations and individuals with complex emotional difficulties. Studies indicate that schema therapy not only reduces psychological symptoms but also improves emotional regulation, self-compassion, resilience, and interpersonal functioning (Lian, 2024; Riso & Young, 2024). Trauma survivors often struggle with deeply rooted beliefs regarding danger, shame, emotional inadequacy, and mistrust, which are difficult to modify through symptom-focused interventions alone. Schema therapy addresses these deeper psychological structures by facilitating emotional awareness and restructuring maladaptive emotional memories. Moreover, the therapeutic relationship within schema therapy provides corrective emotional experiences that help individuals rebuild feelings of safety, trust, and emotional stability (de Vos, 2022). Such mechanisms may be especially important for adolescent girls exposed to chronic emotional adversity because they frequently experience deficits in secure attachment relationships and emotional validation.

Research conducted in clinical and non-clinical settings has increasingly supported the role of schema therapy in reducing trauma-related symptoms and emotional disturbances. Hatami et al. reported that schema therapy significantly improved emotion regulation among individuals with complex PTSD, suggesting that modifying maladaptive schemas can reduce chronic emotional dysregulation associated with traumatic experiences (Hatami et al., 2024). Similarly, Khayatan et al. demonstrated that schema-based interventions improved emotional capital among women exposed to domestic violence, highlighting the role of schema modification in strengthening psychological adaptation and emotional resilience (Khayatan et al., 2024). Studies have also shown that schema therapy contributes to improvements in anxiety, interpersonal functioning, and self-regulation across different clinical populations (Lockwood & Sockalingam, 2022; Sockalingam & Lockwood, 2023). These findings suggest that schema-focused approaches may offer substantial benefits for vulnerable adolescents experiencing trauma-related emotional difficulties.

The theoretical foundations of schema therapy are also strongly connected to the concept of psychological capital, which includes optimism, resilience, hope, and self-efficacy. Psychological capital is increasingly recognized as an important protective factor against emotional disorders and psychological vulnerability (Luthans & et al., 2023). Adolescents with higher levels of psychological capital demonstrate greater resilience in coping with stress, trauma, and emotional adversity. However, traumatic experiences and maladaptive schemas often weaken psychological capital by reinforcing feelings of helplessness, fear, and emotional inadequacy. Research by Hu indicated that psychological capital is positively associated with subjective achievement and emotional well-being among adolescents (Hu, 2025). Similarly, Yadgar found that positive youth development interventions improved psychological capital while reducing anxiety symptoms among adolescents (Yadgar, 2024). Since schema therapy aims to modify dysfunctional emotional structures and enhance adaptive coping capacities, it may indirectly contribute to strengthening psychological capital and emotional resilience among at-risk youth.

Another important aspect of trauma-related psychopathology involves emotional schemas and emotion regulation processes. Trauma survivors frequently develop maladaptive emotional beliefs, such as viewing emotions as dangerous, uncontrollable, or shameful, which intensify emotional dysregulation and psychological distress. Studies have shown that maladaptive emotional schemas are associated with depression, anxiety, and impaired psychological adjustment (Nikogoftar & Shourangiz, 2023). Furthermore, ineffective emotion regulation strategies often exacerbate PTSD symptoms and depressive reactions in vulnerable populations. Hosseini and Sharifi demonstrated that interventions focusing on emotional self-regulation significantly improved psychological functioning and emotional management (Hosseini & Sharifi, 2024). Schema therapy incorporates emotional processing and experiential techniques that directly target dysfunctional emotional responses and facilitate healthier regulation of emotions. Consequently, schema-focused interventions may be particularly effective for adolescents who have experienced trauma-related emotional dysregulation.

Family and developmental contexts also play a central role in the emergence of maladaptive schemas and emotional disorders. Early childhood experiences involving neglect, rejection, criticism, abuse, or inconsistent caregiving significantly influence the formation of maladaptive schema modes and emotional vulnerabilities (Young et al., 2021). Research by Yousefi et al. demonstrated that parental

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schema modes significantly predict children's mental health outcomes, emphasizing the intergenerational transmission of maladaptive emotional patterns (Yousefi et al., 2021). Similarly, Nilforoushan et al. found significant relationships between early maladaptive schemas and general mental health problems among women seeking psychological support (Nilforoushan et al., 2023). These findings support the theoretical assumption that maladaptive schemas represent core psychological mechanisms underlying emotional disorders and trauma-related symptoms. Therefore, interventions that directly target these schemas may produce meaningful improvements in emotional well-being and psychological functioning.

Despite the growing evidence supporting schema therapy, relatively limited research has specifically investigated its effectiveness among at-risk adolescent girls referred to social emergency settings. Most previous studies have focused on adults with personality disorders, eating disorders, or chronic psychological difficulties (Lockwood & Sockalingam, 2022; Sockalingam & Lockwood, 2023). Furthermore, although trauma-focused cognitive interventions have shown effectiveness in treating PTSD, there remains a need for culturally sensitive and developmentally appropriate therapeutic approaches capable of addressing the complex emotional needs of vulnerable adolescents (Nowrouzi, 2025; Thompson, 2025). Social emergency centers often encounter adolescent girls experiencing multiple forms of trauma, including emotional neglect, domestic violence, family instability, and social deprivation. These individuals may require interventions that address both trauma-related symptoms and deeper maladaptive emotional structures. Schema therapy appears particularly suitable for this population because it integrates cognitive, emotional, developmental, and interpersonal dimensions of psychological functioning.

In addition, recent developments in trauma treatment emphasize the importance of integrating neuroscience, attachment theory, and experiential interventions into psychotherapy for trauma survivors (Riso & Young, 2024). Trauma is increasingly understood as a multidimensional psychological experience affecting cognition, emotional processing, interpersonal trust, and self-identity (Friedman et al., 2023). Consequently, interventions that merely focus on symptom reduction may fail to achieve sustainable psychological recovery. Schema therapy addresses these multidimensional aspects by promoting emotional awareness, cognitive restructuring, corrective relational experiences, and adaptive coping strategies. Such an integrative framework may be especially beneficial for adolescent girls exposed to chronic stress and emotional adversity because it addresses the underlying developmental roots of emotional dysfunction rather than focusing solely on symptom management.

Considering the high prevalence of trauma-related disorders among vulnerable adolescents, the significant psychological consequences associated with PTSD and depression, and the growing evidence supporting schema-focused interventions, further investigation into the effectiveness of schema therapy for at-risk girls appears necessary. Moreover, the limited number of studies conducted in social emergency contexts highlights the need for additional empirical evidence regarding the applicability and effectiveness of schema therapy in these settings. Therefore, the present study was conducted to investigate the effectiveness of schema therapy on post-traumatic stress disorder and depression among at-risk girls referred to the Social Emergency Center of Amol County.

2. Methods and Materials

2.1. Study Design and Participants

The present study was applied in terms of purpose and quasi-experimental in terms of methodology, employing a pretest–posttest design with a control group. The study aimed to investigate the effectiveness of schema therapy on post-traumatic stress disorder and depression among at-risk girls referred to the Social Emergency Center of Amol County. The statistical population consisted of all at-risk girls aged 15 to 18 years who were referred to the 123 Social Emergency Center of Amol County during 2025, with a total population of 785 individuals. Participants were selected through purposive sampling based on specific inclusion and exclusion criteria. Inclusion criteria included being within the specified age range, willingness to participate in the study, ability to respond to the questionnaires, and having experienced at least one traumatic event. Individuals with severe psychiatric disorders requiring immediate psychiatric intervention, absence from more than two treatment sessions, or unwillingness to continue participation were excluded from the study. Following the initial selection, participants were randomly assigned to either the experimental group or the control group using simple random assignment. Due to the limitations of the study, the final sample consisted of 30 participants, with 15 individuals assigned to the experimental group and 15 individuals assigned to the control group. The experimental group

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received schema therapy intervention, whereas the control group did not receive any psychological intervention during the study period.

2.2. Measures

The Post-Traumatic Stress Disorder Questionnaire developed by Wadders et al. (1993) was used to assess the severity of post-traumatic stress disorder symptoms. This instrument is considered one of the valid and widely used measures for evaluating PTSD symptoms and consists of 17 items covering three major dimensions of the disorder, including emotional numbness and avoidance, re-experiencing traumatic events, and hyperarousal. The emotional numbness and avoidance dimension evaluates behaviors and emotional responses through which individuals avoid confronting traumatic memories and negative emotions, often leading to emotional detachment. The re-experiencing dimension measures intrusive memories, nightmares, and physiological reactions associated with traumatic events, which frequently occur involuntarily and repeatedly. The hyperarousal dimension assesses heightened sensitivity to environmental stimuli, irritability, sleep disturbances, and exaggerated physiological reactions to stress that may impair social and daily functioning. Responses are scored on a five-point Likert scale ranging from 0 (not at all) to 4 (extremely), with total scores ranging from 17 to 85. Scores above the cutoff point of 51 indicate clinically significant PTSD symptoms. Higher scores reflect greater severity of post-traumatic stress disorder symptoms and a higher likelihood of requiring therapeutic intervention. Regarding psychometric properties, Goodarzi (2003) reported a Cronbach's alpha coefficient of 0.93 for the questionnaire, and its validity was confirmed through factor analysis, indicating high reliability and validity for assessing PTSD symptoms in clinical and social populations, particularly among at-risk adolescent girls referred to social emergency centers.

Depression was measured using the Beck Depression Inventory-II (BDI-II) developed by Beck, Steer, and Brown (1996). The BDI-II is one of the most widely used and psychometrically validated instruments for assessing the severity of depressive symptoms. The questionnaire was developed based on the revised diagnostic criteria for depressive disorders presented in the DSM-IV and consists of 21 items assessing various symptoms of depression, including sadness, hopelessness, guilt, feelings of worthlessness, sleep disturbances, appetite changes, fatigue, concentration difficulties, and suicidal thoughts. Each item is scored on a four-point scale ranging from 0 to 3, resulting in a total score between 0 and 63. Scores between 0 and 13 indicate minimal depression, 14 to 19 mild depression, 20 to 28 moderate depression, and 29 to 63 severe depression. Numerous studies have demonstrated the strong content validity, convergent validity, and discriminant validity of the BDI-II. In particular, the questionnaire has shown high correlations with other established measures of depression such as the Hamilton Depression Rating Scale and the Center for Epidemiological Studies Depression Scale. In addition, the instrument effectively discriminates between depressed and non-depressed individuals. Beck et al. (1996) reported a Cronbach's alpha coefficient of 0.92 and a two-week test–retest reliability coefficient of 0.93 for the original version of the inventory. In Iran, the questionnaire was translated, standardized, and validated by Mohammadi (2005), who reported a Cronbach's alpha coefficient of 0.87 and a two-week test–retest reliability coefficient of 0.74. Confirmatory factor analysis also supported the two-factor structure of cognitive-affective symptoms and somatic-performance symptoms. The BDI-II is advantageous due to its ease of administration, short completion time of approximately 10 minutes, simple scoring procedure, and high accuracy in assessing the severity of depressive symptoms.

2.3. Intervention

The schema therapy intervention was implemented based on the therapeutic protocols proposed by Jeffrey Young (2003) and Arnoud Arntz (2013) and was conducted in eight weekly sessions for the experimental group. The intervention began with establishing a therapeutic relationship and conducting an initial psychological assessment, during which participants' personal histories, current psychological problems, and the concept of schemas were introduced. Subsequent sessions focused on educating participants about early maladaptive schemas, their origins in childhood experiences, and their impact on emotional and behavioral functioning. Participants were then guided to identify their own maladaptive schemas through self-awareness exercises and schema-focused discussions. In later sessions, the relationship between maladaptive schemas and current psychological difficulties, including post-traumatic stress symptoms and depressive reactions, was analyzed. Cognitive-behavioral and experiential techniques were employed to challenge dysfunctional beliefs, reduce

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negative emotional patterns, and develop adaptive coping strategies. Additional sessions focused on improving interpersonal communication skills, conflict resolution abilities, emotional regulation, empathy, and psychological resilience. Relaxation exercises, imagery techniques, and mindfulness-based practices were also incorporated to reduce emotional distress associated with traumatic experiences. The final session was dedicated to evaluating participants' progress, reviewing learned coping strategies, reinforcing adaptive behavioral patterns, and planning for the maintenance of therapeutic gains after the completion of the intervention.

2.4. Data Analysis

Data analysis was conducted using both descriptive and inferential statistical methods. In the descriptive section, indices such as mean, standard deviation, and frequency distribution were calculated to provide an overall description of the research variables. In the inferential section, analysis of covariance (ANCOVA) and repeated measures analysis of variance were employed to examine the effectiveness of schema therapy on post-traumatic stress disorder and depression among the participants while controlling for pretest scores. Prior to conducting the inferential analyses, the assumptions of normality, homogeneity of variances, and homogeneity of regression slopes were examined and confirmed. All statistical analyses were performed using SPSS software version 26.

3. Findings and Results

The demographic characteristics of the 30 at-risk girls referred to the Social Emergency Center of Amol County were examined. The findings showed that the highest frequency belonged to the 16–17-year age group, comprising 14 participants (46.7%), while 8 participants (26.7%) were aged 15 years and another 8 participants (26.7%) were aged 18 years. Regarding educational status, 18 participants (60%) were currently attending school, whereas 12 participants (40%) had dropped out of school. In terms of family status, 20 participants (66.7%) were living in supportive care centers and 10 participants (33.3%) were living with their families. Furthermore, the results related to referral history indicated that 17 participants (56.7%) had been referred to the social emergency center for the first time, while 13 participants (43.3%) had previous referrals. Overall, these findings demonstrate that the study sample had appropriate diversity in terms of age, educational status, family conditions, and referral history, suggesting that the participants could be considered a relatively representative sample of at-risk girls referred to the social emergency center.

Table 1

Descriptive Statistics of Post-Traumatic Stress Disorder and Depression Scores in the Experimental and Control Groups

Variable	Group	Stage	Mean	Standard Deviation
Post-Traumatic Stress Disorder	Experimental	Pretest	58.30	6.10
		Posttest	42.80	5.50
	Control	Pretest	57.90	6.30
		Posttest	56.70	6.20
Depression	Experimental	Pretest	24.60	4.50
		Posttest	16.20	3.90
	Control	Pretest	24.10	4.60
		Posttest	23.80	4.70

The descriptive findings indicated that the mean scores of post-traumatic stress disorder and depression in the experimental group decreased considerably following the schema therapy intervention, whereas the control group showed only minor and non-significant changes between the pretest and posttest stages. Specifically, the mean PTSD score in the experimental group decreased from 58.30 in the pretest to 42.80 in the posttest, while the depression score decreased from 24.60 to 16.20. In contrast, the control group demonstrated minimal changes in both variables. These findings suggest that schema therapy was effective in reducing the severity of post-traumatic stress disorder and depressive symptoms among at-risk girls referred to the Social Emergency Center of Amol County.

Before conducting the analysis of covariance, the statistical assumptions underlying ANCOVA were examined. The normality of score distributions was assessed using the Shapiro–Wilk test, and the results indicated that

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the distribution of scores for post-traumatic stress disorder and depression did not significantly deviate from normality ($p > 0.05$). Homogeneity of variances was evaluated using Levene's test, and the findings confirmed equality of variances between the experimental and control groups for both variables. In addition, the assumption of homogeneity of regression slopes was tested and supported, indicating that the relationship between pretest and posttest scores was consistent across groups. Therefore, all assumptions required for conducting ANCOVA were satisfied, and the analysis was considered appropriate for testing the research hypotheses.

Table 2

Results of ANCOVA for the Effectiveness of Schema Therapy on Post-Traumatic Stress Disorder and Depression

Variable	F	Sig.	Effect Size (η^2)
Post-Traumatic Stress Disorder	19.12	0.001	0.44
Depression	17.85	0.001	0.41

The results of the analysis of covariance demonstrated that, after controlling for pretest scores, there were statistically significant differences between the experimental and control groups in post-traumatic stress disorder and depression scores. For post-traumatic stress disorder, the obtained F value was 19.12 with a significance level of 0.001, indicating that schema therapy had a significant effect on reducing PTSD symptoms among the participants. The effect size for this variable was $\eta^2 = 0.44$, suggesting that approximately 44% of the variance in PTSD symptom reduction was attributable to the therapeutic intervention, which represents a large effect size. Similarly, for depression, the F value was 17.85 with a significance level of 0.001, indicating a statistically significant reduction in depressive symptoms in the experimental group compared to the control group. The effect size for depression was $\eta^2 = 0.41$, showing that more than 40% of the observed reduction in depression scores was associated with the schema therapy intervention. Overall, these findings indicate that schema therapy played a substantial role in reducing emotional and psychological difficulties among at-risk girls and may serve as an effective therapeutic intervention in social emergency settings.

4. Discussion

The present study aimed to investigate the effectiveness of schema therapy on post-traumatic stress disorder and depression among at-risk girls referred to the Social Emergency Center of Amol County. The findings demonstrated that schema therapy significantly reduced the severity of post-traumatic stress disorder symptoms and depressive symptoms in the experimental group compared to the control group. The results of the analysis of covariance indicated that the observed improvements were statistically significant and associated with large effect sizes, suggesting that schema therapy played an important role in improving the psychological condition of the participants. These findings are consistent with the theoretical foundations of schema therapy, which emphasize the role of early maladaptive schemas in the development and maintenance of emotional disorders and trauma-related psychological difficulties (Riso & Young, 2024; Young et al., 2021).

One of the major findings of the present study was the significant reduction in post-traumatic stress disorder symptoms following schema therapy intervention. This result aligns with previous research indicating that trauma survivors often develop maladaptive cognitive-emotional schemas that intensify intrusive memories, hypervigilance, emotional avoidance, and feelings of vulnerability (Bryant & Friedman, 2023; Friedman et al., 2023). According to cognitive models of PTSD, traumatic experiences disrupt individuals' sense of safety and alter their interpretations of themselves and the world, leading to persistent psychological distress (Ehlers & Clark, 2024). Schema therapy appears to reduce PTSD symptoms by targeting these deeply rooted maladaptive beliefs and replacing them with more adaptive emotional and cognitive patterns. Through cognitive restructuring, experiential techniques, emotional processing, and corrective therapeutic experiences, participants gradually learned to reinterpret traumatic experiences in less threatening ways and develop healthier emotional responses.

The effectiveness of schema therapy in reducing PTSD symptoms observed in this study is consistent with findings reported by Hatami et al., who demonstrated that schema therapy improved emotion regulation among individuals with complex post-traumatic stress disorder (Hatami et al., 2024). Trauma survivors frequently experience difficulties in regulating emotions because traumatic experiences

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strengthen maladaptive schemas associated with fear, mistrust, abandonment, and emotional deprivation. Schema therapy directly addresses these schemas and promotes emotional awareness and regulation, thereby reducing trauma-related symptoms. Similarly, Lian emphasized that schema therapy has shown promising effectiveness among trauma-exposed populations because it addresses the developmental origins of emotional dysfunction and trauma-related distress (Lian, 2024). The current findings support this perspective and suggest that schema therapy may be especially useful for adolescents exposed to chronic emotional adversity and social vulnerability.

Another important finding of the present study was the significant reduction in depressive symptoms among participants receiving schema therapy. Depression among trauma-exposed adolescents is often associated with persistent negative beliefs regarding self-worth, hopelessness, emotional inadequacy, and helplessness (Kessler et al., 2022). Traumatic experiences can strengthen maladaptive schemas related to defectiveness, failure, and emotional deprivation, which in turn maintain depressive cognitions and emotional distress. Schema therapy attempts to weaken these maladaptive schemas and strengthen adaptive emotional experiences through therapeutic techniques focused on emotional processing and cognitive restructuring (Riso & Young, 2024). As participants gradually developed healthier self-perceptions and emotional coping strategies, reductions in depressive symptoms became evident in the posttest findings.

The observed reduction in depression is consistent with the findings of Nilforoushan et al., who reported significant relationships between early maladaptive schemas and general mental health problems (Nilforoushan et al., 2023). The present study suggests that modifying maladaptive schemas may improve emotional well-being and reduce depressive symptoms in vulnerable adolescents. Furthermore, Khayatan et al. found that schema-based interventions enhanced emotional capital and psychological adaptation among women exposed to violence and emotional adversity (Khayatan et al., 2024). The improvement in emotional functioning observed in their study may explain the reductions in depression identified in the present research. Adolescents who learn to reinterpret emotional experiences and challenge dysfunctional beliefs may become more resilient in coping with stressful situations, thereby experiencing fewer depressive symptoms.

The results of the present study may also be interpreted through the framework of psychological capital. Psychological capital includes optimism, resilience, hope, and self-efficacy, all of which are essential protective factors against emotional disorders (Luthans & et al., 2023). Traumatic experiences often weaken these positive psychological capacities by reinforcing fear, helplessness, and emotional insecurity. Schema therapy may contribute to rebuilding psychological capital by encouraging adaptive coping, emotional resilience, and self-confidence. Hu demonstrated that psychological capital is associated with emotional well-being and subjective achievement among adolescents (Hu, 2025). Similarly, Yadgar reported that interventions focused on positive youth development improved psychological capital while reducing anxiety symptoms (Yadgar, 2024). The reductions in PTSD and depression observed in the present study may therefore reflect not only symptom improvement but also broader enhancement in emotional resilience and psychological functioning.

The findings of the present study are also consistent with the growing body of evidence supporting integrative trauma-focused interventions. Contemporary trauma researchers emphasize that trauma affects multiple dimensions of psychological functioning, including cognition, emotional regulation, interpersonal trust, self-identity, and coping capacities (Bryant & Friedman, 2023; Friedman et al., 2023). Therefore, interventions that focus solely on symptom reduction may fail to address the deeper developmental and emotional roots of trauma-related distress. Schema therapy offers an integrative framework that combines cognitive, experiential, behavioral, and attachment-based techniques to produce broader psychological change (Young et al., 2021). This multidimensional therapeutic approach may explain the substantial effect sizes observed in the current study.

Another possible explanation for the effectiveness of schema therapy involves improvements in emotional regulation and emotional schema restructuring. Trauma survivors often perceive emotions as threatening, uncontrollable, or shameful, which contributes to emotional suppression and chronic psychological distress. Nikogoftar and Shourangiz found that maladaptive emotional schemas were significantly associated with psychological vulnerability and impaired post-traumatic growth (Nikogoftar & Shourangiz, 2023). Schema therapy encourages individuals to identify, express, and process emotions more adaptively, thereby reducing emotional avoidance and improving psychological adjustment. The

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therapeutic environment also provides emotional validation and corrective interpersonal experiences, which may strengthen emotional security among vulnerable adolescents.

The present findings are further supported by studies emphasizing the importance of culturally sensitive trauma interventions for vulnerable populations. Thompson argued that trauma-focused interventions should be adapted to the cultural and developmental characteristics of trauma-exposed individuals in order to maximize treatment effectiveness (Thompson, 2025). Similarly, Nowrouzi highlighted the importance of developing indigenous trauma treatment models for children and adolescents that address specific emotional and social contexts (Nowrouzi, 2025). At-risk girls referred to social emergency centers often experience complex combinations of family conflict, emotional neglect, social instability, and interpersonal trauma. Schema therapy appears particularly appropriate for such populations because it addresses emotional needs, attachment-related difficulties, and maladaptive cognitive structures simultaneously.

The effectiveness of schema therapy observed in the present study may also be associated with the therapeutic relationship itself. Schema therapy places considerable emphasis on limited reparenting, emotional support, empathy, and the establishment of a secure therapeutic alliance (Young et al., 2021). Many at-risk adolescents experience deficits in secure attachment relationships and emotional validation within their family environments. Consequently, the therapeutic relationship may serve as a corrective emotional experience that promotes trust, emotional safety, and self-worth. de Vos emphasized that one of the primary mechanisms of change in schema therapy involves the development of healthier emotional experiences within the therapeutic process (de Vos, 2022). This mechanism may have contributed substantially to the reductions in trauma-related symptoms and depressive experiences observed in the present study.

The present findings are also indirectly supported by studies on related psychological interventions. Hosseini and Sharifi demonstrated that interventions focused on emotional self-regulation improved psychological functioning and emotional stability (Hosseini & Sharifi, 2024). Similarly, cognitive therapy approaches for PTSD have been shown to reduce traumatic stress symptoms by modifying dysfunctional interpretations of traumatic experiences (Ehlers & Clark, 2024; Resick et al., 2023). Schema therapy extends these approaches by addressing not only trauma-related cognitions but also enduring maladaptive schemas rooted in developmental experiences. This broader therapeutic focus may explain why schema therapy was effective in reducing both PTSD and depressive symptoms among participants.

5. Conclusion

Overall, the results of the present study indicate that schema therapy is an effective intervention for improving the psychological health of at-risk adolescent girls exposed to trauma and emotional adversity. The intervention significantly reduced symptoms of post-traumatic stress disorder and depression while promoting healthier emotional functioning and psychological adjustment. Considering the complexity of trauma-related psychological difficulties among vulnerable adolescents, schema therapy may represent a valuable and comprehensive treatment approach within social emergency settings and mental health services.

6. Limitations & Suggestions

One of the limitations of the present study was the relatively small sample size, which may limit the generalizability of the findings to broader populations of at-risk adolescents. In addition, the study was conducted only among girls referred to the Social Emergency Center of Amol County, and therefore the findings may not be fully applicable to boys or adolescents from different cultural and social backgrounds. Another limitation was the absence of long-term follow-up assessment, making it difficult to determine the stability and durability of treatment effects over time. Furthermore, reliance on self-report questionnaires may have increased the possibility of response bias or socially desirable responding among participants.

Future research is recommended to examine the long-term effectiveness of schema therapy through follow-up assessments conducted several months after treatment completion. Researchers are also encouraged to compare schema therapy with other evidence-based trauma interventions such as cognitive behavioral therapy, cognitive processing therapy, and mindfulness-based interventions in larger and more diverse samples. Investigating the effectiveness of schema therapy among male adolescents, children, and individuals from different cultural contexts may provide a more comprehensive understanding of its applicability. In addition, future studies may explore the

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mediating role of emotional regulation, psychological capital, attachment styles, and resilience in explaining the therapeutic outcomes of schema therapy among trauma-exposed populations.

From a practical perspective, the findings of the present study suggest that schema therapy may be implemented as an effective psychological intervention in social emergency centers, counseling clinics, schools, and mental health institutions working with vulnerable adolescents. Mental health professionals and counselors may benefit from specialized training in schema-focused techniques in order to improve emotional functioning and reduce trauma-related symptoms among at-risk youth. The integration of schema therapy into supportive and preventive mental health programs may contribute to enhancing emotional resilience, reducing depression and traumatic stress symptoms, and promoting healthier psychological development among adolescents exposed to social and emotional adversity.

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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.

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Authors' Contributions

All authors equally contributed to this article.

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