

# The Effectiveness of Psychological Empowerment Training and Schema Therapy on Resilience and Cognitive Fusion in Adolescent Girls Exposed to Domestic Violence

Hojatollah Andisheh<sup>1</sup>, PhD Candidate;  Seyed Yousef Rasouli<sup>2\*</sup>, PhD;  Khosro Ramezani<sup>3</sup>, PhD

<sup>1</sup>Department of Psychology, Yasooj Branch, Islamic Azad University, Yasooj, Iran

<sup>2</sup>Department of Psychology and Counseling, Farhangian University, Tehran, Iran

<sup>3</sup>Department of Psychology, Faculty of Sciences, Zand Institute of Higher Education, Shiraz, Iran

\*Corresponding author: Seyed Yousef Rasouli, PhD; Department of Psychology and Counseling, Farhangian University, Postal code: 19989-63341, Tehran, Iran. Tel: +98-21-87751200; Fax: +98-21-87751000; Email: y.rasouli@cfu.ac.ir

Received: August 15, 2024; Revised: September 06, 2024; Accepted: September 22, 2024

## Abstract

**Background:** Adolescent girls exposed to domestic violence are at high risk for long-term psychological issues. This study aimed to evaluate the efficacy of psychological empowerment training and schema therapy in enhancing resilience and reducing cognitive fusion, ultimately improving their mental health and overall well-being.

**Methods:** This quasi-experimental study employed a three-phase (pre-test, post-test, follow-up) design with three groups and a two-month follow-up period. The population comprised adolescent girls who were victims of domestic violence in Dehdasht, Iran in 2022 and were under the supervision of the Dehdasht County Welfare Organization, Dehdasht, Iran. A convenience sample of 45 girls was selected and randomly assigned to the experimental and control groups (15 girls in each psychological empowerment training group, 15 girls in the schema therapy group, and 15 girls in the control group). The first experimental group underwent schema therapy for ten 90-minute sessions, while the second group received psychological empowerment training for twelve 90-minute sessions. The research instruments included the Connor-Davidson Resilience Scale (CD-RISC) and the Cognitive Fusion Scale (CFQ). Repeated measures ANOVA was used to analyze the data using SPSS version 24.

**Results:** The mean resilience score for the psychological empowerment training group at the post-test was 60.48 ( $\pm 5.31$ ), and 60.96 ( $\pm 4.72$ ) at follow-up, while the mean resilience score for the control group at the post-test was 52.44 ( $\pm 3.82$ ), and 50.53 ( $\pm 5.25$ ) at follow-up. The mean cognitive fusion score for the psychological empowerment training group at the post-test was 40.76 ( $\pm 2.66$ ), and 41.47 ( $\pm 5.73$ ) at follow-up, while the mean cognitive fusion score for the control group at the post-test was 48.73 ( $\pm 4.50$ ), and 49.54 ( $\pm 3.77$ ) at follow-up. Both psychological empowerment training and schema therapy had a significant positive effect on increasing resilience in adolescent girls exposed to domestic violence ( $P < 0.001$ ). Additionally, the findings demonstrated that both interventions significantly decreased cognitive fusion in these girls ( $P < 0.001$ ).

**Conclusions:** This study demonstrated that psychological empowerment training and schema therapy are effective treatments for adolescent girls who have experienced domestic violence. These interventions improve resilience and reduce cognitive fusion, highlighting the importance of specialized therapeutic approaches for this population.

**Keywords:** Domestic violence, Empowerment, Resilience, Schema therapy, Cognitive fusion

**How to Cite:** Andisheh H, Rasouli SY, Ramezani K. The Effectiveness of Psychological Empowerment Training and Schema Therapy on Resilience and Cognitive Fusion in Adolescent Girls Exposed to Domestic Violence. Women. Health. Bull. 2024;11(4):262-271. doi: 10.30476/whb.2024.103743.1309.

## 1. Introduction

Domestic violence constitutes a significant threat to the mental health and well-being of victims (1). Research indicated that it can precipitate a range of psychological issues, including anxiety, stress, and depression (2). The psychological and emotional turmoil experienced by victims, particularly girls, can extend beyond immediate mental health concerns to disrupt their social and academic lives. Adolescent girls exposed to domestic violence may withdraw from social interactions, including those with family and friends (3). The long-term consequences of such

trauma are profound, encompassing a spectrum of mental health challenges such as post-traumatic stress disorder, low self-esteem, and difficulties in forming healthy relationships (4). Furthermore, cognitive impairments associated with domestic violence can hinder academic performance and overall cognitive development. These enduring effects underscore the urgent need for comprehensive support services and preventative measures to address the devastating impact of domestic violence on girls' mental health (5).

Domestic violence induces stress, gradually eroding individuals' coping mechanisms and

psychological resilience (6). Albayrak and colleagues (7) demonstrated that chronic and sustained stress diminishes psychological resilience. Resilience is defined as the dynamic process of adapting positively to life's adversities (3). Resilience is more than passive resistance to harm or threatening circumstances; resilient individuals are active and constructive participants in their environments (8). As a dynamic psychological process, resilience influences individuals' responses in various life situations, particularly during crises, by regulating emotions and facilitating better performance. This process enhances successful adaptation to adversity, enabling individuals to experience positive psychological and environmental outcomes after navigating stressful experiences (9). Resilience encompasses maintaining calm under stress, flexibility in the face of obstacles, avoidance of maladaptive coping strategies, and preserving optimism and positive emotions during challenging times (10, 11).

Cognitive fusion is a psychological phenomenon wherein individuals become so entangled with their thoughts and mistake them for irrefutable truths (12). Rather than viewing thoughts as mental events, they are experienced as concrete realities, indistinguishable from external experiences (13). This fusion can have a profound impact on an individual's emotional and behavioral responses, as they are driven primarily by the content of their thoughts rather than by a rational evaluation of the situation (14). In essence, cognitive fusion hinders a person's ability to step back and observe their thoughts, leading to a distorted perception of reality and potential emotional distress (15).

Girls who have endured the trauma of domestic violence often exhibit a range of challenges encompassing cognitive, psychological, and emotional domains (5). A multifaceted approach, incorporating both therapeutic and educational interventions, is crucial to address these complexities. One promising strategy is psychological empowerment, which is consistently demonstrated to be effective in fostering resilience and recovery (16). Psychological empowerment involves a process of internal liberation, where individuals tap into their inherent strengths and capabilities (17). By cultivating a belief in one's ability to influence personal outcomes and shape one's environment, psychological empowerment equips girls with the resilience to overcome

adversity and develop a sense of agency (18). This approach centers on developing critical skills such as problem-solving, decision-making, and assertiveness, while concurrently fostering a positive self-concept and a robust belief in one's potential (19).

Schema therapy is a multifaceted therapeutic approach that draws on the strengths of cognitive-behavioral therapy, attachment theory, and psychodynamic therapy (20). Unlike traditional cognitive-behavioral therapy, which primarily focuses on modifying dysfunctional thought patterns, schema therapy delves deeper into the underlying emotional and relational roots of psychological distress (21). By incorporating elements of attachment theory, it recognizes the significance of early life experiences in shaping individuals' schemas or core beliefs about themselves and the world. This integrative framework allows schema therapy to address a wide range of mental health conditions, including personality disorders, anxiety, depression, and trauma-related disorders (22). By fostering a strong therapeutic alliance and emphasizing emotional processing, schema therapy helps clients to explore and modify their maladaptive coping mechanisms and develop healthier ways of relating to themselves and others. Its comprehensive nature makes it particularly effective for individuals with complex and longstanding psychological issues (23). Mohammadi and colleagues (24) found that cognitive flexibility and resilience in patients with generalized anxiety disorder could be enhanced through schema therapy. Ghaderi and co-workers (25) demonstrated that schema therapy significantly reduces symptoms of social anxiety disorder, suggesting that schema therapy is effective in modifying maladaptive early schemas and alleviating symptoms of social anxiety disorder.

Girls are more likely than boys to experience domestic violence within the family environment, and this exposure can have a detrimental impact on their mental health, increasing the prevalence of depression, psychosis, and stress. Psychological interventions such as schema therapy and psychological empowerment have been shown to be effective in mitigating the negative consequences of such experiences. A crucial gap in the literature is the identification of factors influencing the psychological recovery of girls exposed to domestic violence. This gap can be addressed by

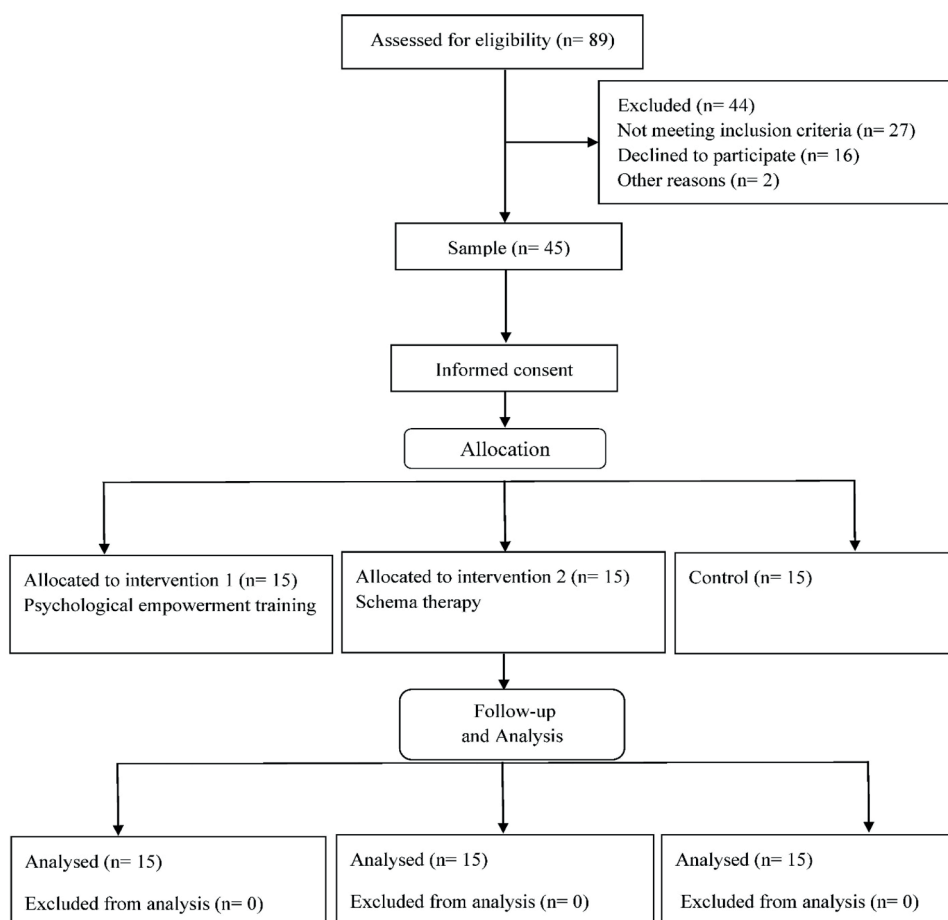
implementing therapeutic interventions such as psychological empowerment and schema therapy, which have the potential to enhance resilience in these individuals. Therefore, the present study aimed to investigate the efficacy of psychological empowerment training and schema therapy in improving psychological resilience and cognitive fusion in adolescent girls who have experienced domestic violence.

## 2. Methods

### 2.1. Design and Participants

A quasi-experimental design with a three-phase (pre-test, post-test, follow-up) and three-group (psychological empowerment training, schema therapy, and control) design was employed. The population consisted of adolescent girls who had experienced domestic violence and were referred to the welfare center in Dehdasht, Iran, in 2022. A convenience sample of 45 adolescent girls who were victims of domestic violence was selected. Participants were randomly assigned to the experimental and control groups (15 girls in the

schema therapy group, 15 girls in the psychological empowerment training group, and 15 girls in the control group). The sample size was determined based on the resilience variable. The mean and standard deviation of resilience at post-test in the schema therapy and control groups were  $58.52 \pm 4.27$  and  $52.44 \pm 3.82$ , respectively. The sample size for this study was calculated using G\*Power software (power=0.90, alpha=0.05), based on previous research findings (26). The flowchart of the distribution of participants is presented in Figure 1. To ensure unbiased assignment, participants were randomly allocated to the experimental and control groups using a random number table. A random number was assigned to each participant, and those with numbers falling within a predetermined range were assigned to the schema therapy group, while others were assigned to the psychological empowerment training group. The remaining participants formed the control group. The inclusion criteria were: informed consent, a history of domestic violence, age between 13 and 18 years, and physical health. The exclusion criteria were: missing more than two sessions, irregular attendance, and unwillingness to cooperate with the researcher.



**Figure 1:** The figure shows the distribution of participants.

## 2.2. Procedure

Ethical approval was obtained from the University Ethics Committee and research permits were acquired from the City Welfare Center in Dehdasht, Iran. Participants were informed of the objectives of the study, and written informed consent was obtained. A pre-test was administered using questionnaires. The first experimental group received schema therapy for ten 90-minute sessions, while the second experimental group received psychological empowerment training for twelve 90-minute sessions. The control group did not receive any psychological intervention and was placed on a waiting list. The post-test was administered after the completion of intervention sessions, and a follow-up was conducted two months after the post-test. A summary of the intervention sessions for the schema therapy and psychological empowerment groups is presented in Tables 1 and 2.

## 2.3. Research Instrument

The Connor-Davidson Resilience Scale (CD-RISC) and the Cognitive Fusion Questionnaire (CFQ). The CD-RISC is a self-report instrument comprising 25 items rated on a five-point Likert scale. Higher scores indicate greater resilience. This scale has been validated in diverse populations and demonstrates the capacity to differentiate between

individuals exhibiting high and low resilience levels (27). Total scores range from 0 to 100, with higher scores indicating greater resilience. CD-RISC has shown acceptable psychometric properties, with a reported Cronbach's alpha of 0.78 (28). The validity of CD-RISC was confirmed by Keyhani and co-workers (28), with a CVI of 0.97 and a CVR of 0.95. CFQ is a 12-item self-report measure of cognitive fusion. Responses are rated on a 7-point Likert scale. Total scores for CFQ range from 12 to 72, with higher scores indicating greater cognitive fusion (29). CFQ has demonstrated adequate psychometric properties, with a reported Cronbach's alpha of 0.92 (30). In line with the findings of Soltani and colleagues (30), CFQ exhibited strong evidence of validity, as indicated by a CVI of 0.92 and a CVR of 0.93.

## 2.4. Statistical Analyses

To ensure the validity of inferential statistical tests, Levene's test was conducted to assess the homogeneity of variances, and the Shapiro-Wilk test was used to verify the normality of the data distribution. A repeated measures analysis of variance (ANOVA) was employed to evaluate the effectiveness of the interventions on resilience and cognitive fusion. Descriptive statistics, including mean and standard deviation, were calculated for each outcome measure at each time point (pre-test, post-test, and follow-up) to provide a more comprehensive understanding of the data.

**Table 1:** A summary of schema therapy sessions

Sessions	Content
1	A clear and concise explanation of the schema model, including the formation of early maladaptive schemas, characteristics of early maladaptive schemas, their developmental origins and domains, and maladaptive coping styles and responses.
2	Patient education on schemas, conceptualizing the patient's problem from a schema-focused perspective, and identifying the patient's disturbed schema domains. Examination of objective evidence supporting and refuting schemas based on the patient's past and present life experiences.
3	Teaching cognitive techniques in schema therapy, including schema validity testing and redefining evidence supporting schemas.
4	Teaching and practicing two additional cognitive techniques: evaluating the pros and cons of the patient's coping styles, and engaging in dialogue between the schema mode and the healthy adult mode, and learning healthy adult mode responses.
5	Teaching techniques for creating and developing schema mode cards when encountering schema-activating situations, and completing schema tracking forms during daily life and when schemas are activated.
6	Presenting the rationale for using experiential techniques, guided imagery, conceptualizing mental imagery within the framework of schemas, identifying unmet emotional needs, and challenging schemas at an emotional level.
7	Providing opportunities for the patient to identify their feelings toward their parents and their unmet needs, assisting the patient in expressing blocked emotions related to the traumatic event, and creating a supportive environment for the patient.
8	Finding new ways to communicate and abandoning avoidance and overcompensation coping styles, creating a comprehensive list of problematic behaviors, prioritizing changes, and setting therapeutic goals.
9	Mental imagery of challenging situations and confronting the most problematic behaviors, practicing healthy behaviors through mental imagery, role-playing, and completing homework related to new behavioral patterns, reviewing the pros and cons of unhealthy and healthy behaviors.
10	Overcoming barriers to behavior change, summarizing, and concluding.

**Table 2:** A summary of psychological empowerment training sessions

Sessions	Content
1	Introductions and introductions, stating the rules and objectives of the session, a brief explanation of psychological empowerment, its principles, and consequences.
2	Explanation of stress and stressors, request for sharing experiences, as one of the sources of stress is the lack of information about ways to deal with violence, providing awareness and information to empower them. Teaching a relaxation program and acquiring psychological calmness to reduce tension.
3	Discussing anxiety and girls' concerns about experiences of violence, explaining the component of trust, which is one of the components of psychological empowerment. Trust can include trust in therapists, treatment methods, trust in God, and reliance on His infinite power.
4	Explaining the reduction in quality of life and its various aspects due to experiencing violence. One of the areas that is severely endangered is family and social relationships. Since a sense of competence is related to quality of life, the component of a sense of competence was taught, and skills were provided on how to interact with others.
5	Explaining the role of psychological resilience in reducing the psychological damage of violence and that this type of resilience can increase people's coping power. Due to the relationship between self-determination and psychological resilience, the component of self-determination empowerment was taught, and then its components were explained.
6	Explanation of the belief that parents' activities for the well-being of a sick child are not very beneficial and its consequences: depression and hopelessness. Explanation of the meaningfulness component. Explanation of rumination about the child's illness and future, and providing techniques to reduce rumination.
7	Since girls who have experienced domestic violence may feel ineffective in the face of problems due to the additional psychological burden of violence, the component of self-efficacy empowerment was taught to them. Explanation of the sources of self-efficacy and the characteristics of self-efficacious individuals.
8	Examining the causes of sadness in girls with experiences of violence and the decrease in their happiness. Explanation of happiness, gratitude, and appreciation as a factor of happiness. Explanation of gratitude as another component of empowerment, and explanation of its consequences: strengthening social bonds (including relationships with other safe individuals).
9	Explanation of efficacy, perceived control, locus of control, practicing the use of abilities in practice, and examining feelings of efficacy.
10	Examining the causes of maladjustments, the lack of effective coping skills, explaining problem-focused coping skills, explaining problem-solving and its steps.
11	In this session, examining the causes of anger in girls with experiences of violence (feelings of failure and misfortune), bodily reactions during anger, stages of anger, causes of anger, effects of anger, and methods of coping with anger, which is considered a type of psychological empowerment.
12	Summarizing the sessions, answering questions, and conducting a post-test.

**Table 3:** Descriptive statistics for resilience and cognitive fusion across experimental and control groups

Variables	Groups	Pre-test	Post-test	Follow-up	P (within group)
		Mean±SD	Mean±SD	Mean±SD	
Resilience	Psychological empowerment training	51.63±4.21	60.48±5.31	60.96±4.72	0.001
	Schema therapy	52.87±4.40	58.52±4.27	59.67±4.91	0.001
	Control	51.54±3.95	52.44±3.82	50.53±5.25	0.556
	P (between group)	0.437	0.001	0.001	-
Cognitive fusion	Psychological empowerment training	48.52±3.47	40.76±2.66	41.47±5.73	0.001
	Schema therapy	49.89±4.62	41.57±4.32	41.84±2.60	0.001
	Control	47.56±4.58	48.73±4.50	49.54±3.77	0.0207
	P (between group)	0.175	0.001	0.001	-

Additionally, paired t-tests were used to compare scores within each group. Chi-square tests were employed to examine differences in demographic characteristics between groups. Bonferroni post-hoc tests were conducted to identify specific pairwise differences between groups in cases where the overall ANOVA was significant. All statistical analyses were performed using SPSS version 24.

### 3. Results

Participant demographics indicated a mean age of 15.45±2.51 years in the psychological empowerment training group, 16.19±2.60 years in the schema therapy group, and 15.60±1.90 years in the control group (P=0.434) (P=0.434). In the control group, 9 (60.00%) participants lived with both parents, while 6 (40.00%) lived with only

one parent. In the psychological empowerment training group, 11(73.33%) participants lived with both parents, and 4 (26.67%) lived with only one parent. Finally, in the schema therapy group, 10 (66.67%) participants lived with both parents, and 5 (33.33%) lived with only one parent ( $P=0.741$ ). A comparison of groups in terms of demographic variables revealed no significant differences between the experimental and control groups. Descriptive statistics for resilience and cognitive fusion across experimental and control groups are presented in Table 3. Resilience scores at the pre-test were  $51.63\pm 4.21$  for the psychological empowerment training group,  $52.87\pm 4.40$  for the schema therapy group, and  $51.54\pm 3.95$  for the control group. At post-test, these scores were  $60.48\pm 5.31$ ,  $58.52\pm 4.27$ , and  $52.44\pm 3.82$ , respectively. Follow-up assessments revealed resilience scores of  $60.96\pm 4.72$ ,  $59.67\pm 4.91$ , and  $50.53\pm 5.25$  for the corresponding groups. Regarding cognitive fusion, pre-test scores were  $48.52\pm 3.47$ ,  $49.89\pm 4.62$ , and  $47.56\pm 4.58$  for the psychological empowerment training, schema therapy, and control groups, respectively. Post-test scores were  $40.76\pm 2.66$ ,  $41.57\pm 4.32$ , and  $48.73\pm 4.50$ , while follow-up scores were  $41.47\pm 5.73$ ,  $41.84\pm 2.60$ , and  $49.54\pm 3.77$  for the respective groups.

Based on the results of repeated measures ANOVA, there were significant differences in resilience and cognitive fusion among the psychological empowerment training, schema therapy, and control groups of adolescent girls who experienced domestic violence ( $P<0.001$ ). Additionally, the results indicated significant differences in resilience and cognitive fusion between the pre-test, post-test, and follow-up stages for both the experimental and control groups of adolescent girls who experienced domestic violence ( $P<0.001$ ).

Post hoc Bonferroni comparisons (Table 4) revealed no significant differences in resilience or cognitive fusion between the psychological empowerment training and schema therapy groups. Conversely, the control group exhibited significantly lower levels of resilience and higher levels of cognitive fusion compared with both intervention groups. Moreover, at follow-up, the control group continued to exhibit significantly lower levels of resilience and higher levels of cognitive fusion compared to both intervention groups, suggesting the enduring positive effects of the interventions.

#### 4. Discussion

This study examined the effectiveness of psychological empowerment training and schema therapy in enhancing psychological resilience and reducing cognitive fusion among adolescent female survivors of domestic violence. The findings indicated that psychological empowerment training and schema therapy were effective in improving resilience among adolescent girls who experienced domestic violence. These results align with previous studies (31, 32), that supported the efficacy of schema therapy in enhancing resilience among students with depressive symptoms. To explain these findings, it can be argued that resilience is a crucial factor in psychological well-being and effective functioning. In fact, psychological resilience is equivalent to using adaptive strategies to regulate emotions in mitigating perceived stress (9). Studies have shown that negative coping strategies such as self-blame, rumination, and blaming others are positively correlated with depression (33). Moreover, the most common cognitive disturbance experienced by these adolescents is ruminative thinking, which involves excessive distress with

**Table 4:** Results of Bonferroni post-hoc tests for resilience and cognitive fusion at post-test and follow-up

Phases	Variables	Groups	Mean difference	SE	P
Post-test	Resilience	Psychological empowerment training - Schema therapy	-1.96	1.76	0.275
		Psychological empowerment training - Control	-7.93	1.69	0.001
		Schema therapy - Control	-5.97	1.48	0.001
	Cognitive fusion	Psychological empowerment training - Schema therapy	0.71	1.31	0.592
		Psychological empowerment training - Control	7.97	1.35	0.001
		Schema therapy - Control	7.16	1.61	0.001
Follow-up	Resilience	Psychological empowerment training - Schema therapy	-0.82	1.54	0.612
		Psychological empowerment training - Control	-6.25	1.72	0.001
		Schema therapy - Control	-5.43	1.58	0.001
	Cognitive fusion	Psychological empowerment training - Schema therapy	0.57	1.28	0.665
		Psychological empowerment training - Control	7.32	1.41	0.001
		Schema therapy - Control	6.75	1.73	0.001

SE: Standard Error

anxious thoughts. Additionally, many adolescents with depressive symptoms exhibit poorer emotion regulation skills (3).

Psychological resilience is a positive adaptation in response to adverse conditions, and maladaptive schemas can become activated under these circumstances. Thus, given the students' exposure to depressive symptoms in challenging situations and its direct impact on activating maladaptive schemas, schema therapy can be effective in enhancing resilience among this group of adolescents (21). Moreover, schema therapy, by providing a cognitive-behavioral program that involves identifying and intentionally confronting schemas, raises individual awareness and encourages active coping with the circumstances they aim to change (24). This, in turn, increases resilience, as resilience is also considered an individual's active and constructive engagement with their environment (19).

Schema therapy emphasizes changing maladaptive coping styles and schemas formed during childhood by providing cognitive and behavioral techniques to replace maladaptive patterns with newer, more adaptive ones (25). Psychological resilience is a positive adaptation in response to adverse conditions, and maladaptive schemas can become activated under these circumstances. Thus, given the girls' exposure to depressive symptoms in challenging situations and its direct impact on activating maladaptive schemas, schema therapy can be effective in enhancing resilience among this group of girls. Additionally, schema therapy, by providing a cognitive-behavioral program that involves identifying and intentionally confronting schemas, raises individual awareness and encourages active coping with the circumstances they aim to change, which in turn increases resilience, as resilience is also considered an individual's active and constructive engagement with their environment (31). The group factor in schema therapy also facilitates the activation of techniques and has significant effects on social judgment such as responsibility, assertiveness, and self-control. In fact, due to close connections and interactions between group members, the opportunity to experience learning techniques in a supportive environment is increased (24). On the other hand, by increasing opportunities for skill training, members' sense of self-efficacy and risk-taking for engaging in new behaviors is also strengthened. Furthermore, group members learn to express empathy and meet their emotional

needs within the group, rather than avoiding their emotions (25).

The results also indicated that psychological empowerment training and schema therapy were effective in reducing cognitive fusion among adolescent girls who experienced domestic violence. These findings align with previous research (34). Individuals with higher levels of cognitive fusion are more likely to experience stress and anxiety. In cognitive fusion, individuals are so influenced by their thoughts that they perceive them as completely real, causing their behavior and experience to be governed by these thoughts rather than other regulatory mechanisms. This reduces their sensitivity to direct consequences (35).

A significant finding of the study was the efficacy of psychological empowerment training in reducing cognitive fusion among adolescent girls who had experienced domestic violence. This outcome suggests that empowering these young women to believe in their abilities and control over their lives can positively impact their mental health (16). By enhancing their sense of agency and self-efficacy, psychological empowerment training appears to have equipped participants with the tools to challenge and modify maladaptive thought patterns associated with cognitive fusion (19). The reduction in cognitive fusion following psychological empowerment training is a noteworthy finding with potential implications for therapeutic interventions targeting adolescent survivors of domestic violence. By addressing cognitive distortions and promoting healthier thought patterns, this intervention can contribute to improved mental health outcomes and overall well-being.

Cognitive fusion refers to the tendency to become entangled with one's thoughts, leading to distress and impaired functioning. By demonstrating that schema therapy can effectively reduce cognitive fusion, the study highlights a potential therapeutic approach to help mitigate the negative impacts of domestic violence on mental health. This finding emphasizes the importance of addressing the specific psychological needs of adolescent girls who have experienced trauma. Schema therapy, which focuses on identifying and changing maladaptive schemas, can provide these individuals with tools to recognize and dissociate from harmful thought patterns, thereby fostering emotional resilience and healthier coping mechanisms (24).

#### 4.1. Limitations

The present study is subject to several limitations. Firstly, the use of a convenience sample limits the generalizability of the findings to a wider population of adolescent girls who have experienced domestic violence. Secondly, the relatively small sample size may have reduced the study's statistical power to detect significant effects. Thirdly, the quasi-experimental design, while allowing for causal inferences, lacks the rigorous control of a randomized controlled trial, potentially introducing confounding variables. Finally, the study's focus on a specific geographic location (Dehdasht, Iran) may limit the applicability of the results to other contexts.

#### 5. Conclusions

The findings of this study provide compelling evidence for the efficacy of both psychological empowerment training and schema therapy in enhancing resilience and reducing cognitive fusion among adolescent girls exposed to domestic violence. The significant improvements observed in both outcome measures underscore the potential of these interventions in mitigating the long-term psychological consequences of such trauma. These results contribute to the growing body of literature supporting the effectiveness of targeted interventions for this vulnerable population. Further research is warranted to explore the potential mechanisms of change underlying these interventions and to examine their long-term effects on various domains of functioning.

#### Acknowledgment

This research was conducted as part of the doctoral dissertation of Mr. Hojatollah Andisheh at the Department of Psychology, Yasooj Branch, Islamic Azad University, Yasooj, Iran. The researchers would like to express their sincere gratitude to the adolescent girls who participated in this study.

#### Authors' Contribution

Hojatollah Andisheh: Substantial contributions to the conception or design of the work, collected and analyzed the data, interpreted the results, and drafted the manuscript. Seyed Yousef Rasouli: Contributing to the study design, data analysis, and interpretation

of results, acquisition, analysis, interpretation of data for the work, drafting the work and reviewing it critically for important intellectual content. Khosro Ramezani: Contributions to the conception of the work, drafting the work and reviewing it critically for important intellectual content. All authors have read and approved the final manuscript and agree to be accountable for all aspects of the work, ensuring the accuracy and integrity of the content.

**Conflict of Interest:** None declared.

**Funding:** No funding.

#### Ethical Approval

The study was approved by the Ethics Committee of Islamic Azad University, Yasooj Branch, Iran, with the code of IR.IAU.YASOOJ.REC.1401.003. Also, written informed consent was obtained from the participants.

#### References

1. Newnham EA, Chen Y, Gibbs L, Dzidic PL, Guragain B, Balsari S, et al. The Mental Health Implications of Domestic Violence During COVID-19. *Int J Public Health*. 2022;66:1604240. doi: 10.3389/ijph.2021.1604240. PubMed PMID: 35126030; PubMed Central PMCID: PMC8813757.
2. Malik M, Munir N, Ghani MU, Ahmad N. Domestic violence and its relationship with depression, anxiety and quality of life: A hidden dilemma of Pakistani women. *Pak J Med Sci*. 2021;37(1):191-194. doi: 10.12669/pjms.37.1.2893. PubMed PMID: 33437275; PubMed Central PMCID: PMC7794145.
3. Howell KH, Barnes SE, Miller LE, Graham-Bermann SA. Developmental variations in the impact of intimate partner violence exposure during childhood. *J Inj Violence Res*. 2016;8(1):43-57. doi: 10.5249/jivr.v8i1.663. PubMed PMID: 26804945; PubMed Central PMCID: PMC4729333.
4. Wessells MG, Kostelny K. The Psychosocial Impacts of Intimate Partner Violence against Women in LMIC Contexts: Toward a Holistic Approach. *Int J Environ Res Public Health*. 2022;19(21):14488. doi: 10.3390/ijerph192114488. PubMed PMID: 36361364; PubMed Central PMCID: PMC9653845.
5. Doroudchi A, Zarenezhad M, Hosseini-zhad



- H, Malekpour A, Ehsaei Z, Kaboodkhani R, et al. Psychological complications of the children exposed to domestic violence: a systematic review. *Egypt J Forensic Sci.* 2023;13(1):26. doi: 10.1186/s41935-023-00343-4. PubMed PMID: 37274510; PubMed Central PMCID: PMC10213576.
6. Ayosanmi OSS, Agboola JO, Elijah F, Alaga A, Adeniran O, Ogunlade GI, et al. Characterization of Violence Against Reproductive-age Women in Southwest Nigeria. *Women Health Bull.* 2022;9(3):132-141. doi: 10.30476/whb.2022.94749.1170.
  7. Albayrak ZS, de Fátima da Silva Vaz A, Bordes J, Ünlü S, Sep MSC, Vinkers CH, et al. Translational models of stress and resilience: An applied neuroscience methodology review. *Neuroscience Applied.* 2024;3:104064. doi: 10.1016/j.nsa.2024.104064.
  8. Ford JD, King N, Galappaththi EK, Pearce T, McDowell G, Harper SL. The Resilience of Indigenous Peoples to Environmental Change. *One Earth.* 2020;2(6):532-543. doi: 10.1016/j.oneear.2020.05.014.
  9. Mousavi S, Mousavi S, Shahsavari MR. Effects of Compassion-Focused Therapy on Resilience and Distress Tolerance in Female Heads of Households. *Women Health Bull.* 2023;10(3):200-209. doi: 10.30476/whb.2023.99466.1238.
  10. Tsirigotis K, Łuczak J. Resilience in Women who Experience Domestic Violence. *Psychiatr Q.* 2018;89(1):201-211. doi: 10.1007/s11126-017-9529-4. PubMed PMID: 28801868; PubMed Central PMCID: PMC5807488.
  11. Rollero C, Speranza F. Intimate Partner Violence and Resilience: The Experience of Women in Mother-Child Assisted Living Centers. *Int J Environ Res Public Health.* 2020;17(22):8318. doi: 10.3390/ijerph17228318. PubMed PMID: 33182789; PubMed Central PMCID: PMC7696442.
  12. Eskandari L, Hooman F, Asgari P, Alizadeh M. Association between Maternal Cognitive Fusion and Depression and Children's Sadness Management in Students with Specific Learning Disorders through an Artificial Neural Network. *Women Health Bull.* 2023;10(4):275-282. doi: 10.30476/whb.2024.100816.1259.
  13. García-Gómez M, Guerra J, López-Ramos VM, Mestre JM. Cognitive Fusion Mediates the Relationship between Dispositional Mindfulness and Negative Affects: A Study in a Sample of Spanish Children and Adolescent School Students. *Int J Environ Res Public Health.* 2019;16(23):4687. doi: 10.3390/ijerph16234687. PubMed PMID: 31775280; PubMed Central PMCID: PMC6926870.
  14. Farshad MR, Samavi SA. External Shame and Self-Criticism in Married Women: the Mediating Role of Cognitive Fusion and Experiential Avoidance. *Women Health Bull.* 2022;9(4):216-223. doi: 10.30476/whb.2022.96102.1187.
  15. Carvalho SA, Trindade IA, Gillanders D, Pinto-Gouveia J, Castilho P. Cognitive fusion and depressive symptoms in women with chronic pain: A longitudinal growth curve modelling study over 12 months. *Clin Psychol Psychother.* 2019;26(5):616-625. doi: 10.1002/cpp.2386. PubMed PMID: 31240784.
  16. Llorente-Alonso M, García-Ael C, Topa G. A meta-analysis of psychological empowerment: Antecedents, organizational outcomes, and moderating variables. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues.* 2024;43(2):1759-1784. doi: 10.1007/s12144-023-04369-8.
  17. Zhou H, Chen J. How Does Psychological Empowerment Prevent Emotional Exhaustion? Psychological Safety and Organizational Embeddedness as Mediators. *Front Psychol.* 2021;12:546687. doi: 10.3389/fpsyg.2021.546687. PubMed PMID: 34349690; PubMed Central PMCID: PMC8326325.
  18. Taghipour A, Sadat Borghei N, Latifnejad Roudsari R, Keramat A, Jabbari Nooghabi H. Psychological Empowerment Model in Iranian Pregnant Women. *Int J Community Based Nurs Midwifery.* 2016;4(4):339-351. PubMed PMID: 27713897; PubMed Central PMCID: PMC5045978.
  19. Karimivakil A, Shafiabadi A, Farahbakhsh K, Younesi J. Effectiveness of psychological empowerment training program based on individual psychology Adler's theory on female-headed household's learned helplessness. *Quarterly of Counseling Culture and Psychotherapy.* 2017;8(31):23-51. doi: 10.22054/qccpc.2017.22427.1541.
  20. Arendt ITP, Gondan M, Juul S, Hastrup LH, Hjorthøj C, Bach B, et al. Schema therapy versus treatment as usual for outpatients with difficult-to-treat depression: study protocol for a parallel group randomized clinical trial (DEPRE-ST).

- Trials. 2024;25(1):266. doi: 10.1186/s13063-024-08079-9. PubMed PMID: 38627837; PubMed Central PMCID: PMC11022394.
21. Kopf-Beck J, Zimmermann P, Egli S, Rein M, Kappelmann N, Fietz J, et al. Schema therapy versus cognitive behavioral therapy versus individual supportive therapy for depression in an inpatient and day clinic setting: study protocol of the OPTIMA-RCT. *BMC Psychiatry*. 2020;20:506. doi: 10.1186/s12888-020-02880-x. PubMed PMID: 33054737; PubMed Central PMCID: PMC7557007.
  22. Peeters N, van Passel B, Krans J. The effectiveness of schema therapy for patients with anxiety disorders, OCD, or PTSD: A systematic review and research agenda. *Br J Clin Psychol*. 2022;61(3):579-597. doi: 10.1111/bjc.12324. PubMed PMID: 34296767; PubMed Central PMCID: PMC9544733.
  23. Peeters N, Stappenbelt S, Burk WJ, van Passel B, Krans J. Schema therapy with exposure and response prevention for the treatment of chronic anxiety with comorbid personality disorder. *Br J Clin Psychol*. 2021;60(1):68-76. doi: 10.1111/bjc.12271. PubMed PMID: 33319395; PubMed Central PMCID: PMC7898627.
  24. Mohammadi F, Taleb N, Rezaei Shojaei S, Emami roudi T. The Effectiveness of Schema Therapy on Cognitive Flexibility and Resiliency in Patients with Generalized Anxiety. *Medical Journal of Mashhad University of Medical Sciences*. 2019;63(2):34-42. doi: 10.22038/mjms.2020.16176. Persian.
  25. Ghaderi F, Kalantari M, Mehrabi H. Effectiveness of group schema therapy on early maladaptive schemas modification and reduce of social anxiety disorder symptoms. *Clinical Psychology Studies*. 2016;6(24):1-28. doi: 10.22054/jcps.2016.6512. Persian.
  26. Sharifi Nejad Rodani R, Marashian FS, Shahbazi M. Comparing the Effectiveness of Acceptance and Commitment Therapy and Schema Therapy on Psychological Well-being and Cognitive Distortion of Single Women with Love Trauma Syndrome. *Women Health Bull*. 2023;10(2):112-121. doi: 10.30476/WHB.2023.98252.1227.
  27. Connor KM, Davidson JR. Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*. 2003;18(2):76-82. doi: 10.1002/da.10113.
  28. Keyhani M, Taghvaei D, Rajabi A, Amirpour B. Internal Consistency and Confirmatory Factor Analysis of the Connor-Davidson Resilience Scale (CD-RISC) among Nursing Females. *Iranian Journal of Medical Education*. 2015;14(10):857-865. Persian.
  29. Gillanders DT, Bolderston H, Bond FW, Dempster M, Flaxman PE, Campbell L, et al. The development and initial validation of the cognitive fusion questionnaire. *Behav Ther*. 2014;45(1):83-101. doi: 10.1016/j.beth.2013.09.001. PubMed PMID: 24411117.
  30. Soltani E, Izadi S, Sharifi P, Poursadeghfard M. Psychometric Properties of the Persian Version of Cognitive Fusion Questionnaire-Chronic Illness in Multiple Sclerosis. *Iran J Psychiatry Behav Sci*. 2022;16(1):e113524. doi: 10.5812/ijpbs.113524.
  31. Rahbar Karbasdehi F, Abolghasemi A, Rahbar Karbasdehi E. The Effectiveness of Schema Therapy on Psychological Resilience and Social Empowerment in Students with Depression Symptoms. *Quarterly Journal of Psychological Studies*. 2020;15(4):73-90. doi: 10.22051/psy.2019.23724.1808. Persian.
  32. Setoodeh G, Karami A, Edraki M, Nick N. Investigating the effect of psychological empowerment on using coping strategies, stress, anxiety and depression in adolescents with haemophilia: a randomized controlled trial. *International Journal of Adolescence and Youth*. 2023;28(1):2270036. doi: 10.1080/02673843.2023.2270036.
  33. Dehghanizadeh Z, Gharcheh S, Asghari K, Shabani H, Eydi - Baygi M. Relationship of Negative Strategies of Emotion Regulation with Anxiety and Depression in the Students of Shiraz University of Medical Sciences, Shiraz, Iran. *Ann Mil Health Sci Res*. 2017;15(3):e63315. doi: 10.5812/amh.63315.
  34. Safaeian M, Kakavand A, Bahrami Hidaji M, Mohammadi Shirmahaleh F. Comparing the Effectiveness of Mindfulness Training with Schema Therapy on Cognitive fusion and Job Burnout in Female Nurses. *Archives of Hygiene Sciences*. 2023;12(2):62-69. doi: 10.34172/AHS.12.2.1.417.
  35. Bardeen JR, Fergus TA. The interactive effect of cognitive fusion and experiential avoidance on anxiety, depression, stress and posttraumatic stress symptoms. *Journal of Contextual Behavioral Science*. 2016;5(1):1-6. doi: 10.1016/j.jcbs.2016.02.002.