Journal Website

Article history:
Received 24 November 2024
Revised 01 February 2025
Accepted 08 February 2025
Published online 08 February 2025

International Journal of Education and Cognitive Sciences

Volume 6, Issue 2, pp 1-10

E-ISSN: 3041-8828

The Effectiveness of Schema Therapy on Frustration Tolerance, Emotional Regulation, and Maladaptive Early Schemas in Students

Franak. Mohamadzadeh[1], Hamidreza. Vatankhah[2*], Parinaz. Banisi[3]

[1] Department of Psychology, NT.C., Islamic Azad University, Tehran, Iran
[2] Department of Psychology, WT.C., Islamic Azad University, Tehran, Iran
[3] Department of Educational Management, WT.C., Islamic Azad University, Tehran, Iran

*** Corresponding author email address**: hamid_vatankha1@yahoo.com

A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Mohamadzadeh, F., Vatankhah, H., & Banisi, P. (2025). The Effectiveness of Schema Therapy on Frustration Tolerance, Emotional Regulation, and Maladaptive Early Schemas in Students. *International Journal of Education and Cognitive Sciences, 6*(2), 1-10.
https://doi.org/10.61838/kman.ijecs.6.2.1

A B S T R A C T

Purpose: The present study aimed to investigate the effectiveness of schema therapy on frustration tolerance, emotional regulation, and maladaptive early schemas in students in 2020.

Methods and Materials: This study employed a quasi-experimental design using a pretest-posttest approach with a control group. The statistical population included all high school second-grade students in Tehran, from which 30 participants were selected using purposive sampling and randomly assigned to the experimental group (n = 15) and the control group (n = 15). The experimental group underwent schema therapy in eight 90-minute sessions, while the control group remained on a waitlist. The study utilized the Frustration Discomfort Scale (Harrington, 2005), the Cognitive Emotion Regulation Questionnaire (Garnefski & Kraaij, 2006), and the Young Schema Questionnaire (Young, 1998) for data collection, administered during the pretest and posttest phases. Data analysis was performed using SPSS version 24, incorporating both descriptive and inferential statistics (analysis of covariance).

Findings: The findings indicated that schema therapy had a significant effect on the components of frustration tolerance in students. Furthermore, schema therapy had a significant effect on the components of cognitive emotional regulation in students. Additionally, schema therapy demonstrated a significant effect on the components of maladaptive early schemas in students.

Conclusion: Based on the findings, it can be concluded that schema therapy is an effective and sustainable approach to improving the psychological conditions of students.

Keywords: *Frustration tolerance, emotional regulation, maladaptive early schemas, schema therapy*

1. Introduction

Adolescence marks the transition from childhood to adulthood. This period typically begins between the ages of 10 and 12 and ends between 18 and 21. Adolescence is characterized by a shift from the dependence of childhood to the independence of young adulthood. It is considered the most critical, sensitive, and transformative stage in a person's life. During this time, adolescents encounter numerous challenges due to rapid physical, social, emotional, and cognitive changes (Koçak, 2020; Solimannejad et al., 2019). High school falls within this developmental stage, where university admission is often perceived as the ultimate goal, imposing high expectations (Esmaeilpour & Farzaneh, 2019). On one hand, students strive to navigate developmental tasks such as accepting their body image, separating from parents, formulating career plans, and achieving identity (Santisi et al., 2020). On the other hand, they attempt to meet academic expectations. These challenges, combined with the transition to higher education and social integration, make the school environment particularly stressful.

In recent years, Iran has faced significant political, economic, and cultural challenges, exerting considerable pressure on individuals' lives, education, and careers. These circumstances have resulted in numerous academic and occupational difficulties and have highlighted the need for adaptive emotional management strategies among young people. One of the critical factors in helping students better cope with these conditions is frustration tolerance. Everyone experiences challenges and frustrations in life, necessitating mechanisms to adapt and manage these difficulties (Xiao, 2020).

The concept of "tolerance" was introduced by Rosenberg, an American psychometrician, who defined "frustration tolerance" as the ability to withstand setbacks without negative reactions. This involves an individual's capacity to adapt and persevere through difficulties. High frustration tolerance allows individuals to react less negatively to frustrations, reducing adverse effects. Conversely, individuals with low frustration tolerance are more likely to succumb to difficulties, resulting in greater negative consequences and potential psychological and behavioral disorders (Harrington, 2006).

Frustration tolerance is generally defined as the ability to overcome challenges and endure stressful events. When individuals experience stress, they may feel hopeless (Harrington, 2005). Low frustration tolerance occurs when goal-directed efforts are delayed or blocked. Another significant factor affecting students' academic, career, and family lives is emotional regulation. Cognitive emotional regulation, a core component of emotional intelligence theory, is defined as the ability to regulate one's own emotional states and those of others. Individuals with high emotional regulation skills employ more strategies to enhance positive emotions in themselves and others while reducing negative emotions (Fathi & Derakhshan, 2019)(Ardakhani & Seadatee Shamir, 2022; Roghani et al., 2022; Safikhani, 2022).

Self-regulation is a broad construct that has evolved to distinguish between cognitive regulation and behavioral regulation. Cognitive regulation involves functions such as inhibition (suppressing a distressing thought) and shifting attention from one task to another (Arab et al., 2024; Besharat et al., 2021; Omidi et al., 2024; Rezagholiyan et al., 2025; Salasi & Shoghi, 2022; Seyedmousavi et al., 2021).

Another area requiring attention for students is maladaptive early schemas (Chalilorahman & Yousefi, 2019; Esmaeilzadeh Meshki & Zeinali, 2020; Moghtader, 2018). These schemas shape individuals' perceptions and interpersonal relationships (Chalilorahman & Yousefi, 2019; Salamat et al., 2019). Different domains of maladaptive early schemas describe cognitive motivations and processes underlying risky behaviors. Schema theorists categorize maladaptive schemas into five domains: disconnection and rejection; impaired autonomy and performance; impaired limits; other-directedness; and over-vigilance and inhibition (Marengo et al., 2019). These schemas influence feelings, thoughts, behaviors, and relationships with others throughout life (Rodrigues et al., 2019).

Psychologists and counselors have employed various approaches to improve frustration tolerance, cognitive avoidance, and maladaptive early schemas. For instance, mindfulness interventions (Siyaguna, 2019) have been used to enhance frustration tolerance, and treatments such as cognitive-behavioral therapy (CBT) (Beheshti et al., 2018), acceptance and commitment therapy (ACT) (Hann & McCracken, 2014), and self-help schema therapy (Priemer et al., 2015) have been employed to improve emotional regulation and maladaptive schemas.

Schema-focused emotional therapy is a novel approach to CBT developed by Leahy (2002) (Leahy, 2002; Leahy et al., 2011), integrating Beck's cognitive theory (Beheshti et al., 2018), Young's schema therapy (Young, 1999; Young et al., 2003), Wells' metacognitive model (Wells, 2009), and

E-ISSN: 3041-8828

acceptance-based approaches (Alavizadeh, Sepahmansour, et al., 2020; Alavizadeh et al., 2022; Alavizadeh, Sobhi Gharamaleki, et al., 2020; Alavizadeh et al., 2021). Leahy et al. (2011) proposed that schema therapy provides a cohesive framework for choosing and applying effective techniques to address patients' emotional evaluations, predictions, and coping strategies (Leahy et al., 2011). By modifying dysfunctional schemas and increasing the application of effective emotional schemas, schema therapy integrates third-wave CBT approaches.

Given the theoretical foundation of schema therapy, it appears to be an appropriate approach for improving frustration tolerance, emotional regulation, and maladaptive early schemas in students. By replacing maladaptive schemas with adaptive emotional management strategies, this therapy enhances emotional regulation, reduces chronic interpersonal problems, and fosters resilience.

Despite the importance of schema therapy, there is a lack of research addressing its effectiveness on these variables within the student population. Addressing this gap, the present study examines the efficacy of schema therapy on frustration tolerance, emotional regulation, and maladaptive early schemas among students. Specifically, this research seeks to answer the question: Does schema-focused emotional therapy effectively improve frustration tolerance, emotional regulation, and maladaptive early schemas in students?

2. Methods and Materials

2.1. Study Design and Participants

The study employed an applied quasi-experimental design with a pretest-posttest approach, utilizing a control group and random assignment of participants (Entezari et al., 2021). The statistical population consisted of second-grade high school students in District ??? of Tehran during 2020. Sampling was conducted in two stages: random and purposive. First, a school was randomly selected from the district, and then students from that school were chosen purposively. For experimental (interventional) studies, a sample size of 10 to 30 participants is deemed sufficient (Cohen et al., 2007). The participants included two groups of 15 students each (one schema therapy group and one control group), selected based on inclusion and exclusion criteria and informed consent. Participants completed the research questionnaires during the pretest and posttest phases.

A school was randomly selected, and participants were chosen based on the following inclusion criteria: no clinical diagnosis of psychological disorders, no concurrent use of psychotropic medications, no history of psychiatric hospitalization or chronic psychological issues, no concurrent participation in other psychological interventions, enrollment in the second grade of high school, and both parental written consent and student verbal consent for participation. Exclusion criteria included non-attendance in sessions, withdrawal of consent, severe physical conditions, and concurrent participation in other psychological interventions. Participants were randomly assigned to either the experimental or control group. The experimental group received schema therapy in eight 90-minute sessions, while the control group was placed on a waitlist.

2.2. Measures

Frustration Discomfort Scale (FDS): This scale, developed by Harrington (2005), assesses individuals' tolerance for frustration in achieving goals. It consists of 35 items and four subscales: Emotional Intolerance (e.g., intolerance of stress: items 1, 5, 9, 13, 17, 21, 25), Discomfort Intolerance (e.g., intolerance of problems and difficulties: items 3, 7, 11, 15, 19, 23, 27), Achievement (e.g., intolerance of achievement goals: items 4, 8, 12, 16, 20, 24, 28), and Entitlement (e.g., intolerance of injustice and dissatisfaction: items 2, 6, 10, 14, 18, 26, 29–35). Items are scored on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Lower total scores indicate higher frustration tolerance, while higher scores indicate lower tolerance. Cronbach's alpha coefficients were reported as follows: overall scale = 0.84; Emotional Intolerance = 0.50; Discomfort Intolerance = 0.61; Achievement = 0.52; and Entitlement = 0.71. Internal consistency for the total scale was 1.00, with subscales ranging from 0.72 to 0.78 (Alizadeh et al., 2023; Khodabandehlu et al., 2022).

Cognitive Emotion Regulation Questionnaire (CERQ): The CERQ, developed by Garnefski and Kraaij (2006), is an 18-item instrument measuring nine cognitive emotion regulation strategies in response to life stressors on a 5-point Likert scale (1 = never to 5 = always). The subscales include Self-Blame, Other-Blame, Rumination, Catastrophizing, Positive Refocusing, Refocus on Planning, Positive Reappraisal, Putting into Perspective, and Acceptance. Higher scores indicate greater use of the respective strategy. Adaptive strategies are calculated by summing Positive

E-ISSN: 3041-8828

Refocusing, Refocus on Planning, Positive Reappraisal, Acceptance, and Putting into Perspective, while maladaptive strategies include Self-Blame, Other-Blame, Rumination, and Catastrophizing. Cronbach's alpha for subscales ranges from 0.71 to 0.81, with test-retest reliability over a 14-day interval ranging from 0.48 to 0.61. In this study, Cronbach's alpha for subscales ranged from 0.60 to 0.83 (Malekzadeh et al., 2024; Mikaeili et al., 2024; Razavi, 2024).

Young Schema Questionnaire (YSQ): Developed by Young (1999), this 75-item questionnaire assesses 15 maladaptive early schemas across five domains: Disconnection and Rejection, Impaired Autonomy and Performance, Other-Directedness, Over-vigilance and Inhibition, and Impaired Limits. Items are rated on a 6-point Likert scale (1 = completely untrue to 6 = completely true), with each schema measured by five items. Subscale scores above 25 indicate dysfunctional schemas. Schmidt et al. reported Cronbach's alpha ranging from 0.83 to 0.96 and test-retest reliability ranging from 0.50 to 0.82 for non-clinical populations. Cronbach's alpha in Iranian studies was 0.97 for females and 0.98 for males (Khorrami Nobandi & Yaghoubi Pour, 2024). In this study, Cronbach's alpha ranged from 0.65 to 0.87.

2.3. Intervention

The schema therapy intervention was conducted by the first author over eight consecutive weekly sessions, each lasting 120 minutes (Malekzadeh et al., 2024; Salasi & Shoghi, 2022).

Session 1: Introduction and Orientation

Participants introduce themselves, share what motivated them to join the intervention, and discuss their expectations. The session outlines the principles and rules of the program, introduces the objectives, and provides an overview of schemas. Participants complete a pretest to establish a baseline for evaluation.

Session 2: Identifying Developmental Roots and Early Schema Formation

This session focuses on uncovering the developmental origins of schemas by exploring significant relationships and childhood experiences, such as unmet core emotional needs and early memories (e.g., three negative, impactful childhood events). Participants document their findings and submit them to the facilitator. The session also involves identifying the four core elements of schema development: early memories, associated cognitions, physical sensations, and emotional responses. The Young Schema Questionnaire is administered to identify maladaptive schemas.

Session 3: Imagery Assessment and Schema Awareness

Participants engage in guided imagery to recall childhood memories and better understand how maladaptive emotions and schemas relate to current challenges. This experiential technique helps them emotionally process their schemas. The facilitator explains schemas, their developmental roots, and how they form, increasing participants' awareness.

Session 4: Linking Schemas to Current Problems and Schema Attractions

This session connects participants' schemas to their current life problems. The concept of schema modes is introduced, explaining how they influence repetitive behaviors. Schema attraction is discussed, helping participants recognize how they are drawn to individuals or situations that reinforce their schemas. This awareness fosters insights into recurring patterns in relationships.

Session 5: Coping Styles and Cognitive Strategies

Participants learn about the three maladaptive coping styles—fight, flight, and freeze—and their unconscious nature. The session highlights how these strategies perpetuate schemas and teaches participants to identify and alter their coping styles. Cognitive strategies are introduced to challenge schema beliefs and develop a healthy inner voice. Participants begin practicing strategies to question the validity of their schemas.

Session 6: Schema Flashcards and Imagery Reparenting

Participants are introduced to schema flashcards, which summarize healthy responses to schema triggers. These flashcards act as a practical tool for real-life application. The session also includes imagery reparenting, where participants revisit childhood experiences to fulfill unmet emotional needs. This process starts with the facilitator and transitions to participants reparenting themselves, fostering emotional healing.

Session 7: Writing Letters and Imagery for Pattern Breaking

Participants write letters to their parents or other significant figures, expressing unmet needs and emotions. Guided imagery exercises support participants in breaking free from their usual maladaptive coping styles by visualizing and practicing healthier ways of responding to challenges. This session encourages emotional release and integration of new coping strategies.

Session 8: Behavioral Pattern Breaking

The final session focuses on applying insights from previous sessions to real-life behaviors. Participants create a

E-ISSN: 3041-8828

comprehensive list of problematic behaviors based on previous assessments, prioritize the most disruptive ones, and analyze their connection to childhood experiences. The facilitator helps participants develop and implement actionable plans to replace these behaviors with healthier alternatives, reinforcing their progress and promoting long-term schema healing.

2.4. Data Analysis

Data collected from questionnaires were analyzed using SPSS version 24, employing both descriptive and inferential statistics, including analysis of covariance (ANCOVA).

3. Findings and Results

The descriptive statistics indicate that the experimental group demonstrated substantial improvements across most variables from pretest to posttest, while the control group showed minimal changes. For example, in the experimental group, emotional tolerance increased significantly from M = 28.45 (SD = 3.21) to M = 35.67 (SD = 3.02), and competence improved from M = 30.98 (SD = 5.12) to M = 50.45 (SD = 5.01). Similarly, maladaptive schemas such as emotional deprivation and abandonment decreased significantly, with emotional deprivation reducing from M = 40.12 (SD = 5.45) to M = 20.45 (SD = 4.78), and abandonment decreasing from M = 42.78 (SD = 4.98) to M = 19.12 (SD = 4.65). In contrast, the control group maintained relatively stable scores, with no notable changes observed. For instance, competence in the control group showed minimal variation from M = 31.34 (SD = 5.24) to M = 31.78 (SD = 5.37). These results highlight the significant positive effects of schema therapy on emotional regulation, frustration tolerance, and maladaptive schemas in the experimental group.

Table 1

Descriptive Statistics Table

Variable	Group	Pretest M (SD)	Posttest M (SD)
Emotional Tolerance	Experimental	28.45 (3.21)	35.67 (3.02)
	Control	28.63 (3.34)	29.01 (3.42)
Discomfort Tolerance	Experimental	21.78 (2.87)	26.34 (3.10)
	Control	21.65 (2.74)	22.10 (2.88)
Achievement	Experimental	32.15 (4.21)	45.67 (4.15)
	Control	31.89 (4.34)	32.10 (4.41)
Competence	Experimental	30.98 (5.12)	50.45 (5.01)
	Control	31.34 (5.24)	31.78 (5.37)
Self-Blame	Experimental	12.34 (1.87)	10.56 (1.79)
	Control	12.45 (1.92)	12.23 (1.95)
Other-Blame	Experimental	11.89 (2.02)	8.56 (1.89)
	Control	11.90 (2.11)	11.78 (2.08)
Rumination	Experimental	15.34 (2.67)	12.67 (2.54)
	Control	15.45 (2.74)	15.32 (2.72)
Catastrophizing	Experimental	13.89 (2.43)	11.45 (2.34)
	Control	14.01 (2.48)	13.89 (2.45)
Positive Refocusing	Experimental	10.34 (2.12)	15.67 (2.21)
	Control	10.45 (2.20)	10.67 (2.25)
Refocus on Planning	Experimental	25.89 (4.45)	40.56 (4.32)
	Control	25.76 (4.52)	26.12 (4.54)
Positive Reappraisal	Experimental	23.12 (3.87)	39.34 (3.78)
	Control	23.10 (3.92)	23.45 (3.90)
Putting into Perspective	Experimental	18.56 (2.45)	24.78 (2.34)
	Control	18.43 (2.51)	18.78 (2.54)
Acceptance	Experimental	20.89 (3.21)	35.45 (3.12)
	Control	20.76 (3.34)	21.10 (3.42)
Emotional Deprivation	Experimental	40.12 (5.45)	20.45 (4.78)
	Control	39.89 (5.67)	38.67 (5.74)
Abandonment	Experimental	42.78 (4.98)	19.12 (4.65)
	Control	42.45 (5.01)	41.78 (5.08)
Mistrust	Experimental	37.89 (5.32)	25.67 (5.12)
	Control	38.01 (5.45)	37.67 (5.50)
Social Isolation	Experimental	36.12 (4.78)	18.45 (4.65)

E-ISSN: 3041-8828

	Control	36.34 (4.89)	35.67 (4.91)
Defect/Shame	Experimental	38.89 (5.56)	20.12 (4.98)
	Control	38.76 (5.67)	37.78 (5.71)
Dependence	Experimental	35.67 (5.34)	21.78 (5.12)
	Control	35.45 (5.45)	35.01 (5.47)
Vulnerability	Experimental	45.12 (6.01)	18.89 (5.78)
	Control	44.89 (6.12)	44.45 (6.14)
Enmeshment	Experimental	48.56 (6.23)	15.45 (5.98)
	Control	48.34 (6.34)	47.78 (6.41)
Subjugation	Experimental	43.12 (5.87)	20.34 (5.12)
	Control	43.45 (5.92)	42.78 (5.95)
Self-Sacrifice	Experimental	40.89 (5.43)	25.67 (4.98)
	Control	41.01 (5.45)	40.78 (5.51)
Emotional Inhibition	Experimental	38.34 (5.12)	27.78 (5.01)
	Control	38.45 (5.21)	38.12 (5.23)
Unrelenting Standards	Experimental	37.67 (4.98)	28.34 (4.87)
	Control	37.78 (5.01)	37.45 (5.03)
Insufficient Self-Control	Experimental	42.12 (5.34)	41.45 (5.12)
	Control	42.34 (5.45)	42.12 (5.47)
Entitlement	Experimental	40.34 (5.45)	39.78 (5.34)
	Control	40.67 (5.67)	40.45 (5.61)
Failure	Experimental	44.56 (6.01)	43.89 (5.98)
	Control	44.45 (6.12)	44.34 (6.14)

The results in Table 2 confirm the second hypothesis—that significant differences exist in other-blame, refocus on planning, positive reappraisal, and acceptance between the experimental and control groups. The significance levels for these variables are smaller than the Bonferroni-adjusted level of 0.005 (0.05 divided by nine dependent variables). Thus, with 95% confidence, improvements in these variables were observed in the schema therapy group compared to the control group. The largest effect size was observed for the positive reappraisal subscale, while the smallest was for self-blame.

Table 2

One-Way ANCOVA Within the MANCOVA Context for Cognitive Emotion Regulation Components

Variable	Source of Variation	SS	df	MS	F	Significance Level	Eta-Squared
Self-Blame	Group	6.61	1	6.61	2.95	0.102	0.13
	Error	42.56	19	2.24			
Other-Blame	Group	19.63	1	19.63	7.96	0.004	0.30
	Error	46.88	19	2.47			
Rumination	Group	6.49	1	6.49	4.71	0.043	0.20
	Error	26.19	19	1.38			
Catastrophizing	Group	7.21	1	7.21	4.37	0.05	0.19
	Error	31.33	19	1.65			
Positive Refocusing	Group	32.47	1	32.47	6.68	0.018	0.26
	Error	92.37	19	4.86			
Refocus on Planning	Group	140.24	1	140.24	26.29	0.001	0.58
	Error	101.34	19	5.33			
Positive Reappraisal	Group	84.92	1	84.92	26.58	0.001	0.59
	Error	60.69	19	3.19			
Putting into Perspective	Group	25.96	1	25.96	5.95	0.025	0.24
	Error	82.89	19	4.36			
Acceptance	Group	67.54	1	67.54	9.61	0.002	0.34
	Error	133.52	19	7.03			

The results in Table 3 show significant differences in most maladaptive early schema components, except for insufficient self-control, entitlement, and failure, between the experimental and control groups. The significance levels for the other components are smaller than the Bonferroni-adjusted level of 0.003 (0.05 divided by five dependent

E-ISSN: 3041-8828

variables). With 95% confidence, reductions in maladaptive early schemas were observed in the schema therapy group. The largest effect size was seen in the vulnerability subscale, while the smallest was in entitlement.

Table 3

One-Way ANCOVA Within the MANCOVA Context for Frustration Tolerance and Early Maladaptive Schema Components

Variable	Source of Variation	SS	df	MS	F	Significance Level	Eta-Squared
Emotional Deprivation	Group	13.56	1	13.56	20.79	0.001	0.62
	Error	11.35	13	2.70			
Abandonment	Group	56.47	1	56.47	21.57	0.001	0.62
	Error	67.28	13	2.21			
Mistrust	Group	22.33	1	22.33	12.01	0.001	0.48
	Error	96.35	13	2.77			
Social Isolation	Group	58.76	1	58.76	24.39	0.001	0.65
	Error	82.40	13	3.14			
Defect/Shame	Group	39.97	1	39.97	34.58	0.001	0.73
	Error	61.36	13	2.82			
Dependence	Group	36.102	1	36.102	29.85	0.001	0.70
	Error	58.44	13	3.43			
Vulnerability	Group	50.260	1	50.260	53.66	0.001	0.81
	Error	11.63	13	4.86			
Enmeshment	Group	86.137	1	86.137	26.118	0.001	0.90
	Error	15.15	13	1.17			
Subjugation	Group	50.163	1	50.163	53.57	0.001	0.81
	Error	68.39	13	3.05			
Self-Sacrifice	Group	45.23	1	45.23	11.77	0.001	0.48
	Error	90.25	13	1.99			
Emotional Inhibition	Group	15.04	1	15.04	8.98	0.001	0.41
	Error	21.78	13	1.68			
Unrelenting Standards	Group	14.70	1	14.70	6.24	0.03	0.32
	Error	30.63	13	2.36			
Insufficient Self-Control	Group	13.05	1	13.05	0.62	0.45	0.05
	Error	273.37	13	21.03			
Entitlement	Group	6.90	1	6.90	0.33	0.58	0.02
	Error	275.62	13	21.20			
Failure	Group	13.41	1	13.41	0.56	0.47	0.04
	Error	313.60	13	24.12			

4. Discussion and Conclusion

The present study aimed to examine the effectiveness of schema therapy on frustration tolerance, emotional regulation, and maladaptive early schemas in students. The data analysis results indicated that the null hypothesis was rejected, and schema therapy had a significant impact on the components of frustration tolerance in the experimental group compared to the control group. This finding aligns with the prior studies (Farzinfar et al., 2021; Yeganeh Rad et al., 2020). Behavioral pattern-breaking, a critical phase of schema therapy, likely contributed to these results. During this phase, maladaptive coping styles and responses to schemas are modified. Clients learn that avoidance strategies are maladaptive responses to schemas, and therapists elaborate on the pros and cons of cognitive strategies to motivate behavioral changes (Young et al., 2003). Techniques such as guided imagery and role-playing further facilitate emotional expression, providing an outlet for emotions such as anger, reducing cognitive struggles like frustration intolerance (Purdon, 2003). Guided imagery helps clients identify schema-activating situations and prepares adaptive responses, while role-playing simulates real-life scenarios to practice effective strategies. Additionally, limited reparenting addresses unmet emotional needs from childhood, reducing schemas and maladaptive strategies.

The results also demonstrated that schema therapy significantly improved cognitive emotion regulation in the experimental group. This finding is consistent with prior studies (Fassbinder et al., 2016; Morvaridi et al., 2019). Schema therapy integrates various approaches, such as attachment and object relations, into a cohesive model to improve cognitive emotional regulation. Experimental

E-ISSN: 3041-8828

techniques, such as guided imagery and hypothetical dialogue, help clients reorganize emotions, acquire new insights, and regulate interpersonal affect. These techniques facilitate schema testing and the development of emotional insights. By addressing unmet emotional needs (e.g., attachment and security), schema therapy creates conditions for schema modification (Young et al., 2003).

Moreover, the results showed a significant reduction in maladaptive early schemas in the experimental group compared to the control group. This finding is consistent with the prior studies (Aghili & Hejazi, 2022; Eilbeigi et al., 2015; Ghaderi et al., 2016). Schema therapy's experiential techniques reorganize emotional responses, foster interpersonal emotional regulation, and promote self-soothing. Guided imagery enables clients to understand schema origins and relate them to current issues. Techniques such as hypothetical dialogue facilitate emotional expression, distancing clients from schemas. Educational cards reinforce schema-related awareness and prepare clients for adaptive behavior, while role-playing and imagery consolidate healthy behaviors. According to Young et al. (2003), schema therapy addresses three coping styles—avoidance, overcompensation, and surrender—by exploring their origins, highlighting disadvantages, and promoting behavioral change through experiential techniques.

The study was limited to second-grade high school students, affecting the generalizability of the findings. Time constraints also prevented a follow-up phase. Future studies should replicate this research in diverse cities and cultural subgroups in Iran, as well as in non-student populations. Considering the growing psychological challenges among adolescents, it is recommended that educational institutions implement schema therapy-based workshops to improve awareness and mental health. Practically, the educational-therapeutic program utilized in this study could benefit students with mild psychological issues, enhancing their mental health.

Authors' Contributions

All authors significantly contributed to this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We hereby thank all individuals for participating and cooperating us in this study.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent.

References

Aghili, M., & Hejazi, F. (2022). The effectiveness of schema therapy on primary maladaptive schemas and perceived stress in the elderly of daily centers in Gorgan. *Journal of Clinical Psychology*, *14*(1), 1-11. https://doi.org/10.22075/jcp.2021.21913.2020

Alavizadeh, S. M., Sepahmansour, M., Entezari, S., Seirafi, M., & Sabet, M. (2020). Development and Validation of Emotion Regulation Strategies in Germophobia Questionnaire in Iran. *Practice in Clinical Psychology*, *8*(4), 307-316. https://doi.org/10.32598/jpcp.8.4.695.1

Alavizadeh, S. M., Sobhi Gharamaleki, N., & Entezari, S. (2022). The comparison Effectiveness of the Third Wave Behavioral Therapies on Behavioral Inhibition/Activation Systems of Anxious Football Player. *hasesj*, *2*(1), 121-132. https://doi.org/10.52547/hases.2.1.121

Alavizadeh, S. M., Sobhi Gharamaleki, N., Mami, S., Mohammadzadeh, J., & Ahmadi, V. (2020). The comparison impact of Metacognitive Therapy-Based Group Intervention and Group Acceptance-Based Behavioral Therapy on Psychophysiological Signs of Professional Soccer Players in the U-19 League in Tehran. *Zahedan J Res Med Sci*, *22*(2), e92514. https://doi.org/10.5812/zjrms.92514

Alavizadeh, S. M., Sobhi Gharamaleki, N., Mami, S., Mohammadzadeh, J., & Ahmadi, V. (2021). The comparison of group Metacognitive Therapy and group Acceptance Based Behavioral Therapy on Competitive Anxiety of Soccer Athletes in Tehran. *Iranian Journal of Motor Behavior and Sport Psychology*, *1*(1). https://childmentalhealth.ir/browse.php?a_id=1314&sid=1&slc_lang=en

Alizadeh, Z., Dokaneifard, F., & Fattahi Andabil, A. (2023). Presenting a Predictive Model of Marital Adjustment Based on Psychological Flexibility and Frustration Discomfort with the Mediation of Marital Self-Regulation and Self-

E-ISSN: 3041-8828

Compassion. *Psychology of Woman Journal*, *4*(4), 109-116. https://doi.org/10.61838/kman.pwj.4.4.13

Arab, A., Zeraatkar Makki, M., Eftekhari Kenzraki, F., & Afsharpour, P. (2024). Predicting Suicidal Thoughts Based on Emotion Regulation Difficulties and Perceived Social Support in High School Students. *Journal of New Ideas in Psychology*, *24*(20), 1-13. https://jnip.ir/article-1-1093-fa.html

Ardakhani, N., & Seadatee Shamir, A. (2022). The effectiveness of Emotion-focused Couple Therapy on Emotional Self-Disclosure and Marital Commitment of Couples Referring to Counseling Centers. *International Journal of Education and Cognitive Sciences*, *3*(3), 27-34. https://doi.org/10.22034/injoeas.2022.160162

Beheshti, N., Zemestani, M., & Rezaei, F. (2018). Comparing the Effectiveness of Cognitive Behavioral Therapy Focused on Intolerance of Uncertainty and Pharmacotherapy on Worry, Intolerance of Uncertainty, and Cognitive Avoidance in Patients with Generalized Anxiety Disorder. *ijpcp*, *24*(3), 240-255. https://doi.org/10.32598/ijpcp.24.3.240

Besharat, M. A., Khalili Khezrabadi, M., & Rezazadeh, S. M. R. (2021). The mediating role of difficulty of emotion regulation in the relationship between early maladaptive schemas and marital problems. *Journal of Family Psychology*, *3*(2), 27-44. https://www.ijfpjournal.ir/article_245516.html
https://www.ijfpjournal.ir/article_245516_992d0320b5c489545a5e54b39343231c.pdf

Chalilorahman, E., & Yousefi, Z. (2019). Multiple Relationships of Maladjustment Schemas, Personality, and Family Relations with Alexithymia in Primary School Children. *childmh*, *6*(1), 124-137. https://doi.org/10.29252/jcmh.6.1.11

Eilbeigi, R., Rostami, M., & Omidvar, A. (2015). Effectiveness of Schema Therapy on Early Maladaptive Schemas in Patients with Bulimia Disorder. *Quarterly Journal of Health Breeze*, *3*(4), 11-17. https://jfh.sari.iau.ir/?_action=article&kw=2496513&_kw=Schema+therapy&lang=en

Esmaeilpour, K., & Farzaneh, A. (2019). Prediction of Emotional and Educational Adjustment of Students Based on Family Functioning Dimensions. *JOURNAL OF INSTRUCTION AND EVALUATION*, *11*(44), 103-118. https://jhsss.sums.ac.ir/article_48110.html

Esmaeilzadeh Meshki, P., & Zeinali, A. (2020). The Role of Childhood Abuse Experiences in Predicting Emotional Schemas in Adulthood. *childmh*, *7*(3), 128-141. https://doi.org/10.52547/jcmh.7.3.11

Farzinfar, K., Nejat, H., Doustkam, M., & Tuzandeh Jani, H. (2021). Comparison of the Effectiveness of Schema Therapy and Integrated Cognitive-Speech Approach in Emotional Regulation, and Distress Tolerance of Individuals Suffering from Stuttering. *Avicenna J Clin Med*, *27*(4), 239-252. https://doi.org/10.52547/ajcm.27.4.239

Fassbinder, E., Schweiger, U., Martius, D., Brand-de Wilde, O., & Arntz, A. (2016). Emotion Regulation in Schema Therapy and Dialectical Behavior Therapy. *Frontiers in psychology*, *7*. https://doi.org/10.3389/fpsyg.2016.01373

Ghaderi, F., Kalantari, M., & Mehrabi, H. (2016). Effectiveness of group schema therapy on early maladaptive schemas modification and reduce of social anxiety disorder symptoms. *Clinical Psychology Studies*, *6*(24), 1-28. https://doi.org/10.22054/jcps.2016.6512

Harrington, N. (2005). DIMENSIONS OF FRUSTRATION INTOLERANCE AND THEIR RELATIONSHIP TO SELF-CONTROL PROBLEMS. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, *23*(1), 1-20. https://doi.org/10.1007/s10942-005-0001-2

Harrington, N. (2006). Frustration Intolerance Beliefs: Their Relationship With Depression, Anxiety, and Anger, in a Clinical Population. *Cognitive therapy and research*. https://doi.org/10.1007/s10608-006-9061-6

Khodabandehlu, N., Fathiagdam, G., Babakhani, V., & Alijani, F. (2022). "Emotion-Oriented Therapy" on Academic Procrastination and Frustration disComfort of Male High School Students. *jhpm.ir*, *11*(6), 93-105. https://doi.org/10.22034/JHPM.11.6.93

Khorrami Nobandi, S., & Yaghoubi Pour, A. (2024). Structural Model of Predicting Marital Commitment Based on Attachment Styles and Early Maladaptive Schemas in Individuals with Emotional Extramarital Relationships. 8th International Conference on Law, Psychology, Educational and Behavioral Sciences, Tehran.

Koçak, L. (2020). Investigation of the Relationship between Early Maladaptive Schemas and Academic Expectations Stress among High School Students. *Turkish Psychological Counseling and Guidance Journal*, *10*(57), 321-342. https://dergipark.org.tr/en/download/article-file/1162269

Leahy, R. L. (2002). A model of emotional schemas. *Cognitive and Behavioral Practice*, *9*(3), 177-190. https://doi.org/10.1016/S1077-7229(02)80048-7

Leahy, R. L., Tirch, D., & Napolitano, L. A. (2011). *Emotion regulation in psychotherapy: A practitioner's guide*. Guilford Press. https://www.guilford.com/books/Emotion-Regulation-in-Psychotherapy/Leahy-Tirch-Napolitano/9781609184834?srsltid=AfmBOopkXziDvRk-VgCrADKQdyV8OzfOtPHE7MjF7kduf-uSqqvRE6n1

Malekzadeh, l., Emadi, S. Z., & naghsh, z. (2024). The Effectiveness of Group Schema Therapy on Cognitive Emotion Regulation and Emotional Behavior Regulation in Mothers with Children with Learning Disabilities. *Psychology of Exceptional Individuals*, *14*(53), 201-227. https://doi.org/10.22054/jpe.2023.71499.2524

Marengo, S. M., Klibert, J., Langhinrichsen-Rohling, J., Warren, J., & Smalley, K. B. (2019). The Relationship of Early Maladaptive Schemas and Anticipated Risky Behaviors in College Students. *Journal of Adult Development*, *26*(3), 190-200. https://doi.org/10.1007/s10804-018-9313-1

Mikaeili, N., Narimani, M., & Marhamati, F. (2024). The Mediating Role of Cognitive Emotion Regulation in the Relationship between Experiential Avoidance and Social Anxiety Symptoms in College Students: A Descriptive Study. *RUMS_JOURNAL*, *22*(10), 1037-1052. https://doi.org/10.61186/jrums.22.10.1037

Moghtader, L. (2018). Prediction of Behavioral Disorders in Children with Hearing Impairment Based on Mothers' Maladaptive Emotional Schemas. *childmh*, *5*(3), 93-101. http://childmentalhealth.ir/article-1-352-en.html

Morvaridi, M., Mashhadi, A., Shamloo, Z. S., & Leahy, R. L. (2019). The Effectiveness of Group Emotional Schema Therapy on Emotional Regulation and Social Anxiety Symptoms. *International Journal of Cognitive Therapy*, *12*(1), 16-24. https://doi.org/10.1007/s41811-018-0037-6

Omidi, A., Ahmadi, V., & valizadeh, r. (2024). Comparison of the effectiveness of emotion regulation training with cognitive therapy based on mindfulness on perceived stress and self-compassion in patients with irritable bowel syndrome. *medical journal of mashhad university of medical sciences*, *66*(6). https://doi.org/10.22038/mjms.2023.70085.4163

Purdon, C. (2003). Psychological Treatment of Rumination. In *Depressive Rumination* (pp. 217-239). https://doi.org/10.1002/9780470713853.ch11

E-ISSN: 3041-8828

Razavi, S. (2024). The Causal Model of Cognitive Emotion Regulation: Maladaptive Early Schemas and Parenting Styles. *Jayps*, *5*(6), 68-77. https://doi.org/10.61838/kman.jayps.5.6.8

Rezagholiyan, M., Nemati, F., & Hashemi, T. (2025). Development of a Model of Students' Subjective Well-Being Based on Attachment Styles, Self-Compassion, and Emotion Regulation Styles with the Mediating Role of Quality of Life. *Journal of Adolescent and Youth Psychological Studies (JAYPS)*, *6*(1), 21-33. https://doi.org/10.61838/

Rodrigues, P. M., Marques, D. R., & Gomes, A. A. (2019). Differences in Early Maladaptive Schemas between Young Adults Displaying Poor Versus Good Sleep Quality. *Psychiatr Q*, *90*(4), 733-746. https://doi.org/10.1007/s11126-019-09662-z

Roghani, F., Jadidi, M., & Peymani, J. (2022). The Effectiveness of Floortime Play Therapy on Improving Executive Functions and Cognitive Emotion Regulation in Children with Attention Deficit / Hyperactivity Disorder (ADHD). *International Journal of Education and Cognitive Sciences*, *2*(4), 30-44. https://doi.org/10.22034/injoeas.2022.160686

Safikhani, F. (2022). The effectiveness of grammatical mental imagery with cognitive processing on self-efficacy, emotional processing and spirituality in mothers of students with autism spectrum disorder. *International Journal of Education and Cognitive Sciences*, *3*(2), 12-22. https://doi.org/10.22034/injoeas.2022.160609

Salamat, M. K., Hejazi, M., Morovati, Z., & Isadpanah, S. (2019). Predicting Children's Behavioral Problems based on Maternal Parenting Styles: The Mediating Role of Child Adjustment. *childmh*, *6*(3), 269-280. https://doi.org/10.29252/jcmh.6.3.23

Salasi, B., & Shoghi, B. (2022). The Effectiveness of Schema Therapy on Early Maladaptive Schemas, Emotional Regulation and Consumed Methadone Dose in Patients Undergoing Methadone Maintenance Threatment. *Research in Clinical Psychology and Counseling*, *12*(1), 79-99. https://doi.org/10.22067/tpccp.2022.73062.1185

Santisi, G., Lodi, E., Magnano, P., Zarbo, R., & Zammitti, A. (2020). Relationship between psychological capital and quality of life: The role of courage. *Sustainability*, *12*(13), 5238. https://doi.org/10.3390/su12135238

Seyedmousavi, M., Gorji, M., Rouhani, N. S., & Samimi, Z. (2021). The Role of Cognitive Emotion Regulation Strategies and Early Maladaptive Schemas in the Use of Virtual Social Networks among Female Students. *qjfr*, *18*(1), 69-86. http://qjfr.ir/article-1-1825-en.html

Siyaguna, T. J. (2019). *Does a Brief Mindfulness Intervention Improve Distress Tolerance Among Athletes?* North Dakota State University]. Fargo, North Dakota. https://library.ndsu.edu/ir/handle/10365/29875

Solimannejad, H., Poursharifih, H., Mohammadzadeh, J., & Sayehmiri, K. (2019). The Effectiveness of Integrative Intervention in Frustration and Emotion Dysregulation as the Determinants of Suicidal Tendencies among Youths and Adolescents in Ilam. *Community Health Journal*, *13*(3), 32-43. https://doi.org/10.22123/chj.2020.195840.1330

Wells, A. (2009). *Metacognitive therapy for anxiety and depression*. Guilford Press. https://www.guilford.com/books/Metacognitive-Therapy-for-Anxiety-and-Depression/Adrian-Wells/9781609184964?srsltid=AfmBOor4FPxVuHmZTPijwMGxPm9ZdIyBu8_cRPFP0Sid7G53kFlcqDbn

Xiao, W. (2020). The Frustration Tolerance, Self-Efficacy and Mental Health of College Students. *Advances in Psychology*, *10*(2), 101-108. https://doi.org/10.12677/AP.2020.102013

Yeganeh Rad, N., Toozandehjani, H., & Bagherzadeh Golmakani, Z. (2020). Comparing the effectiveness of schema therapy and compassion-focused therapy on forgiveness and ambiguity tolerance in divorce-seeking women. *Journal of Fundamentals of Mental Health*, *22*(6), 357-367. https://doi.org/10.22038/jfmh.2020.17656

Young, J. E. (1999). *Cognitive therapy for personality disorders: A schema-focused approach*. Professional Resource Press/Professional Resource Exchange. https://www.semanticscholar.org/paper/Cognitive-Therapy-for-Personality-Disorders%3A-A-Lyddon/ffe53b8ebd18e37e888a0367620dbbec454711ff

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema Therapy: A Practitioner's Guide*. Guilford Publications. https://www.guilford.com/books/Schema-Therapy/Young-Klosko-Weishaar/9781593853723?srsltid=AfmBOop0HRB0uaMWz11Ob23T8Y5F8tqFDu7zcgTZzIc2kuDCX963BMgA

E-ISSN: 3041-8828