KMAN PUBLISHING INSTITUTE
Journal Website

Article history:
Received 23 April 2026
Revised 24 June 2026
Accepted 02 July 2026
Initial Publication 12 July 2026
Final Publication 20 July 2026

KMAN Counseling & Psychology Nexus

Volume 4, pp 1-14

E-ISSN: 3041-9026

Comparison of the Effectiveness of Contextual Schema Therapy and Mode-Based Schema Therapy on Emotion Regulation in Individuals with Migraine

Rasool. Norouzieh[1], Mehdi. Ghasemi Motlagh[2*], Seyed Hossein. Mirzaei[2]

[1] PhD Student, Department of Counseling, Boj.C., Islamic Azad University, Bojnord, Iran
[2] Department of Psychology, Boj.C., Islamic Azad University, Bojnord, Iran

*** Corresponding author email address**: mehdi.gasemi@iau.ac.ir

A r t i c l e I n f o

Article type:
Original Research
Section:
Occupational and Organizational Counseling

How to cite this article:
Norouzieh, R., Ghasemi Motlagh, M., & Mirzaei, S. H. (2026). Comparison of the Effectiveness of Contextual Schema Therapy and Mode-Based Schema Therapy on Emotion Regulation in Individuals with Migraine. *KMAN Conseling and Psychology Nexus, 4*, 1-14.
http://doi.org/10.61838/kman.ooc.psynexus.5732

A B S T R A C T

The present study aimed to compare the effectiveness of mode-based schema therapy and contextual schema therapy on emotion regulation in individuals with migraine. This study was a quasi-experimental study with a pretest–posttest control group design and a three-month follow-up phase. The statistical population included all individuals with migraine of psychological origin who referred to psychological treatment centers in Tehran in 2024. The research sample consisted of 36 participants who were selected through purposive sampling based on the inclusion and exclusion criteria and were randomly assigned to three groups of 12 participants, including two experimental groups and one control group. Experimental Group A received the contextual schema therapy program (Farrell & Shaw, 2014) in eight weekly 90-minute sessions, and Experimental Group B received the mode-based schema therapy program (Rüdiger et al., 2018) in eight weekly 90-minute sessions. Data were collected using the Emotion Regulation Questionnaire (Gross & John, 2003) at three stages, namely pretest, posttest, and follow-up, and were analyzed using repeated-measures analysis of variance in SPSS version 24. The findings showed that both therapeutic approaches, compared with the control group, had a significant effect on improving emotion regulation, particularly in the component of cognitive reappraisal ($p < .01$). However, no significant difference was observed between the effectiveness of the two therapeutic approaches ($p > .05$). The therapeutic effects also remained stable at the three-month follow-up stage ($p < .01$). Mode-based schema therapy and contextual schema therapy are both effective and efficient approaches for improving emotion regulation in individuals with migraine and can be used as complementary interventions alongside common pharmacological treatments. The absence of a significant difference between the two approaches indicates their theoretical and technical overlap at the level of mechanisms of change and enables therapists to select the most appropriate method based on the client's characteristics.

Keywords: *Migraine, mode-based schema therapy, contextual schema therapy, emotion regulation.*

1. Introduction

Migraine is a recurrent and disabling neurological condition that is often experienced not only as a pain disorder but also as a biopsychosocial problem in which cognitive, emotional, interpersonal, and behavioral factors may influence symptom perception, attack frequency, coping responses, and quality of life. Although migraine has a clear neurobiological basis, many patients report that emotional tension, chronic stress, interpersonal conflict, suppressed affect, anxiety, and difficulty regulating internal states intensify the subjective burden of pain and reduce their perceived control over symptoms. For this reason, contemporary psychological approaches to migraine increasingly emphasize the role of emotion regulation, maladaptive cognitive-affective schemas, and coping styles in shaping patients' responses to headache episodes. Emotion regulation is particularly relevant because migraine attacks are frequently accompanied by heightened emotional arousal, anticipatory anxiety, frustration, helplessness, avoidance, and negative self-evaluation (Babahasani et al., 2020; Shahverdi et al., 2023; Zabardast & Shafiei Tabar, 2019). When individuals cannot identify, tolerate, reinterpret, or express emotions adaptively, physiological arousal and maladaptive behavioral responses may become more persistent, thereby increasing vulnerability to recurrent pain-related distress.

Emotion regulation refers to the processes through which individuals monitor, evaluate, modify, express, and respond to emotional experiences. In clinical psychology, two central dimensions of emotion regulation are often emphasized: cognitive reappraisal and expressive suppression. Cognitive reappraisal is generally considered an adaptive strategy because it involves changing the meaning of an emotional situation before the emotional response becomes fully activated. Expressive suppression, in contrast, is typically viewed as a less adaptive strategy because it inhibits outward emotional expression after emotional arousal has already occurred, often without reducing the internal emotional experience. In individuals with migraine, the balance between these strategies may be clinically meaningful. Patients who can reinterpret pain-related sensations, reduce catastrophic appraisals, and respond to emotional triggers with flexibility may experience better psychological adjustment. Conversely, those who habitually suppress distress, anger, fear, or interpersonal needs may experience more persistent emotional tension, reduced social support, and stronger maladaptive coping responses. Theoretical models linking schema-based processing and emotion regulation have therefore become increasingly important in understanding emotional disorders and stress-related clinical conditions (Mennin & Fresco, 2024).

Schema theory provides a useful framework for explaining why some individuals experience persistent difficulties in emotion regulation. Early maladaptive schemas are broad, pervasive cognitive-emotional patterns concerning the self, others, and the world. They are usually formed in response to unmet emotional needs, adverse interpersonal experiences, or repeated relational patterns, and they may remain latent until activated by stress, vulnerability, rejection, pain, or perceived loss of control. Once activated, schemas can intensify emotional reactions and lead individuals to respond through maladaptive coping styles such as avoidance, surrender, overcompensation, emotional inhibition, or dependence. In patients with chronic or recurrent physical symptoms such as migraine, schemas related to vulnerability to harm, defectiveness/shame, emotional deprivation, dependence/incompetence, mistrust, and insufficient self-control may increase sensitivity to pain-related cues and interfere with adaptive emotion regulation. Systematic evidence has shown that early maladaptive schemas are closely associated with emotion regulation difficulties and alexithymia, indicating that schema structures may be deeply involved in the inability to understand, express, and modulate emotional states (Pilkington et al., 2024).

The relationship between schemas and emotion regulation has also been supported in recent empirical studies across different populations. For example, research on young adults has indicated that early maladaptive schemas may mediate the association between insecure attachment patterns and emotion regulation difficulties, suggesting that early relational experiences influence emotional functioning through schema-based cognitive-affective mechanisms (Çoban & Şirin, 2025). Similarly, causal modeling research has demonstrated that maladaptive schemas and parenting styles are important predictors of cognitive emotion regulation, highlighting the developmental continuity between early interpersonal contexts and later emotional coping patterns (Razavi et al., 2024). These findings are especially relevant for clinical conditions in which physiological symptoms interact with emotional and interpersonal stressors, because schema activation may determine how individuals interpret bodily sensations, seek support, manage distress, and respond to perceived limitations. In the context of migraine, a patient

with schemas of vulnerability or defectiveness may interpret headache episodes as evidence of weakness or loss of control, while a patient with emotional deprivation schemas may suppress needs for care and continue functioning despite pain until emotional and physical exhaustion intensify.

Schema modes further clarify the dynamic and state-dependent nature of emotional dysregulation. Schema modes refer to momentary emotional, cognitive, and behavioral states that become activated under specific internal or external conditions. For example, the vulnerable child mode may be expressed through helplessness, fear, sadness, or unmet need; the punitive critic mode may involve harsh self-blame and internal criticism; and maladaptive coping modes may involve avoidance, emotional detachment, overcontrol, or impulsive reactions. Schema modes are particularly useful in clinical work because they help therapists and clients identify rapid shifts in emotional states and link them to underlying needs. Evidence indicates that schema modes may contribute to social maladjustment through the mediating role of emotion regulation difficulties, suggesting that mode activation is not only intrapsychic but also relational and behavioral in its consequences (Sepidkar et al., 2024). For individuals with migraine, schema modes may become activated before, during, or after headache episodes; the vulnerable mode may be triggered by pain and dependency needs, the critic mode may intensify self-blame for reduced productivity, and avoidant coping modes may lead to withdrawal from social or occupational responsibilities.

Schema therapy is an integrative psychological treatment that combines cognitive, experiential, behavioral, attachment-based, and emotion-focused techniques to modify early maladaptive schemas, schema modes, and dysfunctional coping patterns. Its relevance to emotion regulation lies in its focus on identifying unmet emotional needs, reducing the power of punitive and maladaptive modes, strengthening the healthy adult mode, and replacing rigid coping styles with flexible emotional responses. In recent years, schema therapy has increasingly been applied beyond personality pathology and has been examined in relation to marital problems, depressive symptoms, anxiety disorders, eating-related concerns, body image difficulties, parenting stress, and emotional dysregulation. Studies comparing schema therapy with other evidence-based interventions have generally shown that schema-focused methods can improve emotion regulation, cognitive emotion regulation, distress tolerance, self-regulation, resilience, and interpersonal functioning across clinical and nonclinical samples (Bayat et al., 2025; Moravvaji et al., 2024; Razzaghi et al., 2025).

Research on emotional schema therapy and schema therapy provides further evidence for the importance of schema-focused interventions in improving emotional functioning. Emotional schema therapy has been shown to reduce anxiety symptoms and improve emotion regulation in women with anxiety disorders, suggesting that changing beliefs about emotions and emotional experiences can produce clinically meaningful improvements (Razzaghi et al., 2025). Similar findings have been reported among adolescents with oppositional defiant disorder, where emotional schema therapy improved emotion regulation strategies and helped adolescents respond more adaptively to emotional activation (Ghaitasi & Amani, 2025). In students with exam anxiety, emotional schema therapy improved self-regulation and frustration tolerance, supporting the idea that schema-based emotional interventions can strengthen adaptive responses to stress and performance-related pressure (Mousavi et al., 2024). Although these studies were conducted in populations different from individuals with migraine, they support a broader clinical assumption: when emotional responses are organized around maladaptive schemas, therapeutic work on schemas can facilitate more adaptive emotion regulation.

Schema therapy has also shown positive effects in relational and family contexts, where emotional dysregulation is often embedded in attachment needs, conflict cycles, and maladaptive interpersonal expectations. Studies have demonstrated the effectiveness of schema therapy on emotion regulation and attachment-related variables in women affected by infidelity (Tahavvori et al., 2025), emotion regulation and marital relationship quality in couples affected by infidelity (Pasha et al., 2024), and cognitive emotion regulation and marital forgiveness in conflicting couples (Nosrat Talab Haghi et al., 2024). Other research has shown that schema therapy can improve emotion regulation styles, emotional expression, and marital satisfaction in couples on the brink of divorce (Bibak et al., 2025), as well as cognitive emotion regulation and marital quality of life in betrayed couples when compared with emotion-focused therapy (Keyvani et al., 2025). These findings are important because emotional regulation in migraine is not limited to individual coping; it is also shaped by how patients communicate pain, request support, manage frustration, respond to invalidation, and regulate emotions within family and occupational relationships.

KMAN-CPN KMAN-Counseling & Psychology Nexus
E-ISSN: 3041-9026

Schema-focused approaches have also been applied to conditions characterized by heightened affective vulnerability, impulsivity, self-evaluation problems, and behavioral dysregulation. In comorbid attention-deficit/hyperactivity disorder and borderline personality disorder, schema mechanisms have been described as underlying processes linking emotion dysregulation and impulsivity, highlighting the role of maladaptive schema activation in unstable emotional and behavioral responses (Khosravi, 2025). In mothers of children with attention-deficit/hyperactivity disorder, schema therapy has been reported to improve distress tolerance, resilience, emotion regulation, and parenting styles, suggesting that schema-based interventions may strengthen emotional resources in individuals facing chronic caregiving stress (Rajaeizadeh & Khayatan, 2025). Research on body dysmorphic symptoms and cosmetic surgery applicants has also shown that early maladaptive schemas may be linked to body dysmorphic disorder through rumination and cognitive emotion regulation, reinforcing the importance of repetitive negative thinking as a mediator between schemas and emotional distress (Rashidifar & Karami, 2025). These findings may be conceptually relevant to migraine because recurrent pain can similarly activate rumination, self-focused attention, helplessness, and repeated attempts to control or avoid distressing internal experiences.

The application of schema therapy to health-related psychological problems further supports its relevance for migraine. In women with obesity, schema therapy has been compared with life therapy and shown to influence emotion regulation and attitudes toward eating, indicating that schema-based interventions can address emotional and behavioral processes involved in somatic and lifestyle-related conditions (Mohammadian Amiri et al., 2024). In depressed patients experiencing grief, schema therapy and acceptance and commitment therapy have been compared in improving emotion regulation strategies, suggesting that schema therapy may be useful in clinical states marked by persistent emotional pain, loss, and maladaptive coping (Moravvaji et al., 2024). In major depressive disorder, emotional schema therapy and acceptance and commitment therapy have been compared in relation to distress tolerance and emotion regulation difficulties, again emphasizing that interventions targeting schemas and emotion-related beliefs may reduce affective vulnerability (Bayat et al., 2025). Although migraine is not reducible to depression, anxiety, or grief, many patients with recurrent migraine experience emotional burden, anticipatory distress, perceived helplessness, and functional impairment, making emotion regulation a clinically relevant therapeutic target.

Within schema therapy, mode-based and contextual formulations may offer two complementary pathways for improving emotion regulation in individuals with migraine. Mode-based schema therapy emphasizes the identification, naming, and modification of activated schema modes, such as the vulnerable child, punitive critic, detached protector, or healthy adult. This approach may help migraine patients recognize whether their emotional response to pain is driven by fear, shame, self-criticism, avoidance, or unmet needs, and may help them shift toward healthier self-soothing, cognitive reappraisal, and interpersonal communication. Contextual schema therapy, by contrast, places greater emphasis on the interaction between schema activation and the environmental, relational, and situational contexts in which emotional distress occurs. In migraine, this contextual orientation is clinically meaningful because attacks are often influenced by stress, interpersonal demands, work pressure, sleep disruption, environmental triggers, and perceived social invalidation. Therefore, contextual schema therapy may help patients identify not only internal schemas but also the external conditions that activate and maintain maladaptive emotional responses.

Despite the growing body of evidence supporting schema therapy and emotional schema therapy for emotion regulation, few studies have directly compared different schema-based approaches in individuals with migraine. Most available evidence has focused on depression, anxiety, marital conflict, infidelity, parenting stress, body-related concerns, adolescent behavioral problems, or other psychological conditions (Ghaitasi & Amani, 2025; Mousavi et al., 2024; Rajaeizadeh & Khayatan, 2025; Tahavvori et al., 2025). Moreover, while previous findings consistently suggest that schemas, schema modes, and emotion regulation difficulties are closely interconnected, the relative effectiveness of mode-based schema therapy and contextual schema therapy remains insufficiently examined in patients whose psychological symptoms are intertwined with recurrent pain. This gap is important because migraine patients may benefit from interventions that both modify internal schema modes and address contextual triggers of emotional dysregulation. Establishing whether these two approaches differ in their effects can help clinicians select more precise and individualized psychological interventions for patients with migraine of psychological origin.

Given the theoretical relationship between maladaptive schemas, schema modes, emotion regulation, and recurrent

stress-related pain, it is necessary to examine whether schema-based interventions can improve adaptive emotional functioning in individuals with migraine. Cognitive reappraisal may be improved by helping patients reinterpret pain-related situations, reduce catastrophic meanings, and activate the healthy adult mode, while expressive suppression may be reduced by increasing emotional awareness, validating unmet needs, and promoting more adaptive expression of distress. Both mode-based schema therapy and contextual schema therapy appear theoretically capable of producing these changes, but their comparative effectiveness requires empirical evaluation. Therefore, the aim of the present study was to compare the effectiveness of mode-based schema therapy and contextual schema therapy on emotion regulation in individuals with migraine.

2. Methods and Materials

2.1. Study Design and Participants

The present study was conducted using a quasi-experimental design with a pretest–posttest control group design and a follow-up phase. The study included two independent variables, namely mode-based schema therapy and contextual schema therapy, and one dependent variable, namely emotion regulation. Assessments were conducted at three time points: pretest, posttest, and three-month follow-up. This design was selected to examine both the immediate and sustained effects of the two therapeutic interventions on emotion regulation in individuals with migraine.

The statistical population consisted of all individuals with migraine headaches of psychological origin who referred to counseling and psychological treatment centers in Tehran in 2024. Participants were selected through purposive sampling based on their scores on the Emotion Regulation Questionnaire. Initially, the questionnaire was distributed among eligible clients, and individuals whose scores were at least one standard deviation above the mean, indicating difficulty in emotion regulation, were identified as initially eligible participants. These individuals were then contacted and invited to participate in an initial clinical interview. During this stage, the diagnosis of migraine with a psychological origin was evaluated based on the International Classification of Headache Disorders, third edition, criteria. The final diagnosis of migraine was confirmed by a neurologist, considering the type of headache, including migraine with or without aura, and its severity, defined as an average pain intensity of at least 4 out of 10 on the Visual Analog Scale. After the objectives of the study were explained and written informed consent was obtained, the eligible participants were randomly assigned to three groups of 12 participants, including two experimental groups and one control group. The final sample consisted of 36 participants.

The inclusion criteria were having migraine headaches of psychological origin based on the diagnostic criteria of the International Classification of Headache Disorders, third edition, and confirmation by a neurologist; headache severity with an average pain intensity of at least 4 out of 10 on the Visual Analog Scale during the previous three months; medication stability, defined as no change in the type or dosage of prescribed migraine medications during the previous three months; no use of narcotic or stimulant substances based on self-report and confirmation during the clinical interview; absence of severe clinical psychological disorders based on a structured diagnostic interview; sufficient willingness and motivation to participate in group therapy sessions; an age range of 18 to 55 years; and having at least a high school diploma. The exclusion criteria included absence from more than two therapy sessions without a valid reason, occurrence of acute psychological crises during the intervention period, diagnosis of another psychiatric disorder during treatment, change in medication regimen or diagnosis of a new type of headache during the study period, initiation of narcotic or stimulant substance use during the study period, and voluntary withdrawal from participation at any stage of the study.

The research procedure was carried out by first referring to psychological clinics in Tehran and obtaining preliminary information from clients who had already received a medical diagnosis of migraine from a physician. Eligible individuals were then contacted, and the aims and procedures of the study were explained. In the next stage, the research questionnaires were administered as the pretest. After the participants were randomly assigned to the three groups, the therapeutic interventions were implemented for the two experimental groups. At the end of the intervention sessions, all three groups completed the research questionnaire again as the posttest. Three months after the end of the intervention, the follow-up assessment was conducted. To observe ethical principles, the therapeutic protocol was also offered to the control group after completion of the study.

2.2. Measures

The Emotion Regulation Questionnaire was used to assess emotion regulation. This questionnaire was developed

KMAN-CPN KMAN-Counseling & Psychology Nexus E-ISSN: 3041-9026

by Gross and John (2003) to measure individual differences in the use of two major emotion regulation strategies: cognitive reappraisal and expressive suppression. The questionnaire consists of 10 items and includes two subscales. The cognitive reappraisal subscale includes items 1, 3, 5, 7, 8, and 10, while the expressive suppression subscale includes items 2, 4, 6, and 9. Items are scored on a seven-point Likert scale ranging from "strongly disagree" with a score of 1 to "strongly agree" with a score of 7. Higher scores indicate greater use of the corresponding emotion regulation strategy. In a clinical sample of 531 individuals with different mental health diagnoses, Heekerens et al. (2025) confirmed the two-factor structure of the questionnaire and reported satisfactory internal consistency for both subscales. In Iran, Norouzi et al. (2024) examined the psychometric properties of the Persian version of the questionnaire and reported Cronbach's alpha coefficients above .70 for both subscales. In addition, Mostafavi and Hashemi (2025) showed that the Persian version of the Emotion Regulation Questionnaire has adequate internal consistency, with a Cronbach's alpha coefficient of .88 for the total scale and coefficients ranging from .61 to .81 for the subscales.

The Visual Analog Scale was used to assess the severity of migraine pain as part of the eligibility assessment. In this scale, participants rate the average intensity of their pain on a continuum from 0 to 10, where 0 indicates no pain and 10 indicates the most severe pain imaginable. In the present study, an average pain intensity score of at least 4 out of 10 during the previous three months was considered one of the criteria for inclusion in the study. This measure was used to ensure that participants experienced clinically relevant migraine pain severity before entering the intervention phase.

The clinical diagnostic interview was used to evaluate psychological and psychiatric eligibility criteria and to confirm that participants did not present with severe clinical psychological disorders that could interfere with participation in the study. The interview also assessed substance use, medication stability, motivation for participation in group therapy, and possible exclusion criteria. In addition, the diagnosis of migraine was reviewed according to the International Classification of Headache Disorders, third edition, and the final diagnosis was confirmed by a neurologist before random assignment.

2.3. Interventions

The mode-based schema therapy protocol was implemented for Experimental Group A based on the therapeutic package developed by Farrell and Shaw (2014). This intervention consisted of eight weekly 90-minute group sessions. The main content of the protocol was based on the therapeutic alliance, identification and tracking of schema modes, limited reparenting, and the use of cognitive, experiential, and behavioral pattern-breaking strategies. In the first session, participants became familiar with the structure of the intervention, the biopsychosocial model of migraine, and the basic concepts of schemas and schema modes. The therapist introduced the relationship between emotion, schema modes, and migraine attacks. In the second session, the most active early maladaptive schemas, such as emotional deprivation, defectiveness/shame, and dependence/incompetence, were identified, and their activation in response to migraine pain was examined. In the third session, participants were introduced to mentalization and its relationship with pain, with emphasis on differentiating emotional experience from cognitive processing of one's own and others' emotions. The fourth session focused on working with activated schemas and emotions, particularly recognizing the punitive or critical mode and validating the vulnerable child mode during pain experiences. In the fifth session, the therapist worked on core schemas that disrupt emotion regulation, such as mistrust/abuse and insufficient self-control, and helped participants practice realistic limit-setting and acceptance of pain-related vulnerability. The sixth session focused on improving mentalization in interpersonal contexts, particularly when family members, employers, or others respond inadequately to migraine attacks. Role-playing was used to strengthen adaptive coping and communication of emotional and physical needs. The seventh session emphasized mode shifting and active coping with migraine-related triggers through the healthy adult mode, helping participants recognize whether their responses to pain were driven by the vulnerable child mode, punitive critic mode, or maladaptive coping modes. The final session integrated schemas and schema modes, reviewed changes achieved during treatment, identified warning signs of schema activation, and developed a relapse-prevention plan based on mentalization, acceptance of pain without judgment, and strengthening of the healthy adult mode.

The contextual schema therapy protocol was implemented for Experimental Group B based on the

KMAN-CPN KMAN-Counseling & Psychology Nexus E-ISSN: 3041-9026

therapeutic model proposed by Roediger, Stevens, and Brockman (2018). This intervention also consisted of eight weekly 90-minute group sessions, making the two experimental groups equivalent in terms of number and duration of sessions. The contextual protocol emphasized the interaction between the individual and environmental contexts, particularly migraine-related triggers and emotion-eliciting situations. In the first session, participants were introduced to the contextual approach, the psychological and environmental dimensions of migraine, and the initial case formulation of schemas related to pain triggers. The second session focused on identifying schemas and emotional states activated during migraine attacks, including defectiveness/shame and dependence/incompetence schemas that may be intensified by pain or migraine-related limitations. In the third session, the developmental and contextual roots of schemas were explored, with attention to early environments and unmet emotional needs. Guided imagery techniques were used to help participants understand the connection between unmet needs and current contextual triggers. The fourth session focused on limiting and replacing punitive or critical mode responses and teaching initial emotion regulation techniques through activation of the healthy adult mode. The fifth session involved direct schema intervention and emotional work, particularly with schema modes activated before or during migraine attacks. Mode-dialogue techniques were used to reduce unpleasant emotional intensity, such as fear of pain or perceived helplessness. The sixth session addressed maladaptive contexts and interpersonal patterns that maintain schemas, such as avoidance of social activities due to fear of migraine attacks, and participants were guided to design new behavioral strategies for interacting with their environment in less schema-triggering ways. The seventh session integrated and expanded emotion regulation skills, including distress tolerance and self-compassion in response to pain, and focused on caring for the vulnerable child mode when facing physical limitations caused by migraine. The eighth session was devoted to termination, review of progress, maintenance planning, relapse prevention, and strengthening of the healthy adult mode for the regular management of migraine triggers and symptoms.

The control group did not receive any psychological intervention during the main study period and was placed on a waiting list. Participants in the control group completed the research assessments at the same three time points as the experimental groups, namely pretest, posttest, and three-month follow-up. After the completion of the research process and in accordance with ethical considerations, the therapeutic protocol was offered to the control group.

2.4. Data Analysis

Data were analyzed using descriptive and inferential statistical methods in SPSS version 24. Descriptive statistics, including mean and standard deviation, were used to summarize participants' scores on emotion regulation and its subscales across the three assessment stages. Inferential analysis was conducted using repeated-measures analysis of variance to examine within-group changes over time, between-group differences, and the interaction effect of time and group. This analysis made it possible to determine whether changes in emotion regulation differed significantly across the mode-based schema therapy, contextual schema therapy, and control groups from pretest to posttest and follow-up.

Before conducting repeated-measures analysis of variance, the required statistical assumptions were examined. The normality of the distribution of the data was evaluated using the Shapiro–Wilk test. Homogeneity of variances across groups was assessed using Levene's test. The assumption of sphericity was examined using Mauchly's test. When the relevant assumptions were met, the standard repeated-measures analysis of variance results were interpreted. Statistical significance was considered at the conventional alpha level, and the stability of treatment effects was evaluated by comparing posttest and three-month follow-up scores.

3. Findings and Results

The participants in the present study consisted of 36 individuals with migraine of psychological origin who were assigned to three groups: mode-based schema therapy, contextual schema therapy, and control. The mean age of participants in the mode-based schema therapy, contextual schema therapy, and control groups was 33.73, 33.75, and 36.33 years, respectively. Regarding gender distribution, the mode-based schema therapy group included 5 women (41.7%) and 7 men (58.3%), the contextual schema therapy group included 7 women (58.3%) and 5 men (41.7%), and the control group included 6 women (50.0%) and 6 men (50.0%). Therefore, the three groups were relatively comparable in terms of age and gender composition.

Table 1

Descriptive Statistics of Emotion Regulation Dimensions by Assessment Stage and Group

Variable	Group	Pretest M	Pretest SD	Posttest M	Posttest SD	Follow-up M	Follow-up SD
Cognitive reappraisal	Mode-based schema therapy	14.17	0.77	20.33	0.90	20.67	1.06
Cognitive reappraisal	Contextual schema therapy	14.75	1.03	20.92	0.62	21.75	0.50
Cognitive reappraisal	Control	16.50	1.16	14.58	1.08	15.50	1.16
Expressive suppression	Mode-based schema therapy	20.83	1.20	14.33	0.84	14.75	0.97
Expressive suppression	Contextual schema therapy	18.92	1.57	13.50	1.38	14.33	1.25
Expressive suppression	Control	18.17	1.57	18.58	1.56	18.33	1.56

As shown in Table 1, the mean scores of cognitive reappraisal increased from pretest to posttest and follow-up in both intervention groups, whereas no similar improvement was observed in the control group. In the mode-based schema therapy group, the mean cognitive reappraisal score increased from 14.17 at pretest to 20.33 at posttest and 20.67 at follow-up. In the contextual schema therapy group, the mean score increased from 14.75 at pretest to 20.92 at posttest and 21.75 at follow-up. In contrast, the control group showed a decrease from 16.50 at pretest to 14.58 at posttest, followed by a slight increase to 15.50 at follow-up. Regarding expressive suppression, both intervention groups showed a reduction from pretest to posttest and follow-up. In the mode-based schema therapy group, the mean expressive suppression score decreased from 20.83 at pretest to 14.33 at posttest and remained relatively stable at follow-up. In the contextual schema therapy group, the mean score decreased from 18.92 at pretest to 13.50 at posttest and remained lower than baseline at follow-up. The control group showed no meaningful change across the three assessment stages. Overall, the descriptive findings indicate improvement in adaptive emotion regulation and reduction in maladaptive emotion regulation strategies in both intervention groups, with relative stability of changes at the three-month follow-up.

Before conducting repeated-measures analysis of variance, the statistical assumptions were examined. The Shapiro–Wilk test was used to assess the normality of the data distribution. The results showed that the significance values for cognitive reappraisal and expressive suppression were greater than .05 in all three groups, indicating that the normality assumption was met. Levene's test was used to examine the homogeneity of variances across groups at the pretest, posttest, and follow-up stages. The results showed that the variance of the groups was homogeneous for both dependent variables at all measurement stages ($p > .05$). Therefore, the assumptions required for conducting parametric repeated-measures analysis of variance were satisfied.

Table 2

Repeated-Measures Analysis of Variance for Emotion Regulation Dimensions

Variable	Source of variation	SS	df	MS	F	p	Partial η^2
Cognitive reappraisal	Time	328.90	1.17	280.40	44.69	.0001	.57
Cognitive reappraisal	Group membership	270.57	2	135.28	5.35	.010	.24
Cognitive reappraisal	Time × group membership	316.92	2.34	135.09	21.53	.0001	.56
Expressive suppression	Time	324.66	1.40	230.56	85.22	.0001	.72
Expressive suppression	Group membership	141.55	2	70.77	1.14	.330	.06
Expressive suppression	Time × group membership	198.27	2.81	70.40	26.02	.0001	.61

The results of repeated-measures analysis of variance presented in Table 2 showed that the main effect of time was significant for both cognitive reappraisal and expressive suppression ($p < .01$). This finding indicates that scores on both dimensions of emotion regulation changed significantly across the pretest, posttest, and follow-up stages. The interaction effect of time and group membership was also significant for cognitive reappraisal and expressive suppression ($p < .01$), indicating that the pattern of change over time differed significantly among the mode-based schema therapy, contextual schema therapy, and control groups. The main effect of group membership was significant only for cognitive reappraisal ($p < .05$), while it was not significant for expressive suppression ($p > .05$). The

KMAN-CPN KMAN-Counseling & Psychology Nexus
E-ISSN: 3041-9026

partial eta-squared values indicated moderate to large effects, particularly for the time effect and the time × group interaction effect, suggesting that both therapeutic interventions had meaningful effects on changes in emotion regulation dimensions over time.

Table 3

Bonferroni Post Hoc Comparisons of Emotion Regulation Dimensions Across Assessment Stages

Variable	Group	Pretest–posttest mean difference	p	Pretest–follow-up mean difference	p	Posttest–follow-up mean difference	p
Cognitive reappraisal	Mode-based schema therapy	-5.66	.0001	-6.00	.0001	-0.33	.990
Cognitive reappraisal	Contextual schema therapy	-6.16	.0001	-7.00	.0001	-0.83	.057
Cognitive reappraisal	Control	1.917	.182	1.00	.770	-0.91	.062
Expressive suppression	Mode-based schema therapy	6.50	.0001	6.08	.0001	-0.41	.670
Expressive suppression	Contextual schema therapy	5.41	.0001	4.58	.0001	-0.83	.056
Expressive suppression	Control	-0.417	1.000	-0.167	1.000	0.250	1.000

The Bonferroni post hoc comparisons presented in Table 3 showed that, in both intervention groups, cognitive reappraisal and expressive suppression changed significantly from pretest to posttest and from pretest to follow-up ($p < .01$). Specifically, cognitive reappraisal increased significantly after the interventions and remained higher at the three-month follow-up, while expressive suppression decreased significantly after the interventions and remained lower at follow-up. However, the differences between posttest and follow-up were not statistically significant in either intervention group, indicating that the therapeutic effects were maintained over time. In the control group, no significant differences were observed between pretest and posttest, pretest and follow-up, or posttest and follow-up for either cognitive reappraisal or expressive suppression. Additional pairwise comparisons between groups indicated that both mode-based schema therapy and contextual schema therapy differed significantly from the control group in cognitive reappraisal, whereas no significant difference was observed between the two intervention groups. Therefore, both interventions were effective in improving emotion regulation among individuals with migraine, and their effects remained stable at the three-month follow-up.

4. Discussion

The present study aimed to compare the effectiveness of mode-based schema therapy and contextual schema therapy on emotion regulation in individuals with migraine of psychological origin. The findings showed that both therapeutic interventions produced significant improvements in emotion regulation compared with the control group. More specifically, the results indicated that cognitive reappraisal increased significantly from pretest to posttest and from pretest to the three-month follow-up in both intervention groups, whereas expressive suppression decreased significantly across the same intervals. The significant time effect and the significant time × group interaction effect for both dimensions of emotion regulation demonstrated that the observed changes were not merely the result of repeated measurement or natural fluctuation over time, but were meaningfully associated with participation in the schema-based interventions. The post hoc results further showed that the treatment effects remained stable at the follow-up stage, as there were no significant differences between posttest and follow-up scores in either intervention group. However, no significant difference was found between mode-based schema therapy and contextual schema therapy, suggesting that both approaches were similarly effective in improving emotion regulation among individuals with migraine.

The significant improvement in cognitive reappraisal can be explained by the central mechanisms of schema therapy. Cognitive reappraisal requires the individual to reinterpret emotional and stressful situations in a more flexible and adaptive manner. In migraine patients, pain-related events may easily activate catastrophic interpretations, helplessness, self-blame, fear of recurrence, and beliefs about vulnerability or incapacity. Both mode-based schema therapy and contextual schema therapy help clients identify

KMAN-CPN KMAN-Counseling & Psychology Nexus E-ISSN: 3041-9026

the schemas and schema modes that organize these meanings and replace them with healthier interpretations. Through experiential work, cognitive restructuring, emotional validation, limited reparenting, and strengthening of the healthy adult mode, patients learn to distance themselves from punitive or vulnerable modes and to reinterpret migraine-related distress with greater self-understanding. This finding is consistent with theoretical work indicating that schema-based processing is closely related to emotion regulation processes in anxiety and emotional disorders (Mennin & Fresco, 2024). It is also aligned with meta-analytic evidence showing that early maladaptive schemas are associated with emotion regulation difficulties and alexithymia, which suggests that modifying schema structures can improve the capacity to understand and regulate emotional experience (Pilkington et al., 2024).

The reduction in expressive suppression in both intervention groups is also clinically meaningful. Expressive suppression is often a rigid coping response through which individuals attempt to hide, inhibit, or control emotional expression after emotional arousal has already occurred. In patients with migraine, suppression may be reinforced by fear of burdening others, shame about physical limitations, perceived invalidation, or beliefs that emotional expression is unacceptable. Schema therapy directly addresses these underlying beliefs by helping patients recognize unmet emotional needs, identify the origin of self-silencing patterns, and express needs in more adaptive ways. This explanation is supported by studies showing that schema therapy can improve emotion regulation styles and emotional expression in couples experiencing severe relational distress (Bibak et al., 2025), as well as studies demonstrating the effectiveness of schema therapy on emotion regulation in women affected by infidelity (Tahavvori et al., 2025) and couples affected by infidelity (Pasha et al., 2024). Although those studies were conducted in interpersonal and marital contexts, their findings support the present result because they show that schema therapy can reduce maladaptive emotional inhibition and strengthen healthier emotional expression.

The effectiveness of mode-based schema therapy in the present study may be attributed to its emphasis on identifying and modifying schema modes that are activated during migraine-related distress. Individuals with migraine may experience rapid shifts among vulnerable child mode, punitive critic mode, detached protector mode, and overcompensatory coping modes. For example, during a migraine attack, the vulnerable child mode may be associated with helplessness and fear, while the punitive critic mode may produce self-blame for reduced functioning. In response, the detached protector mode may lead to emotional withdrawal, avoidance, or suppression of needs. Mode-based schema therapy helps patients identify these internal states, name them, understand their developmental roots, and gradually shift toward the healthy adult mode. This mechanism is consistent with findings showing that schema modes are associated with social maladjustment through the mediating role of emotion regulation difficulties (Sepidkar et al., 2024). Therefore, by modifying schema mode activation, mode-based schema therapy can improve both cognitive reappraisal and emotional expression in migraine patients.

The effectiveness of contextual schema therapy can be explained by its focus on the interaction between schemas and the environmental, interpersonal, and situational contexts in which emotional dysregulation occurs. Migraine is strongly influenced by contextual stressors such as work pressure, interpersonal demands, family expectations, sleep disruption, emotional conflict, and perceived lack of support. Contextual schema therapy helps patients identify how specific contexts activate maladaptive schemas and how behavioral patterns maintain those schemas. For instance, a patient who avoids social interaction due to fear of migraine may strengthen schemas of vulnerability, defectiveness, or dependence. By changing the patient's interaction with the environment, contextual schema therapy may reduce schema activation and facilitate more adaptive emotion regulation. This interpretation is consistent with research indicating that maladaptive schemas and parenting styles play a causal role in cognitive emotion regulation (Razavi et al., 2024), and that early maladaptive schemas mediate the relationship between anxious attachment and emotion regulation difficulties in young adults (Çoban & Şirin, 2025). These studies support the view that emotion regulation problems are not isolated intrapsychic events but are embedded in developmental and relational contexts.

The lack of a significant difference between mode-based schema therapy and contextual schema therapy is another important finding. This result suggests that although the two approaches differ in emphasis, they may operate through overlapping mechanisms of change. Both interventions target maladaptive schemas, increase emotional awareness, reduce rigid coping styles, and strengthen healthier self-regulatory capacities. Both also encourage patients to recognize the connection between emotional activation and maladaptive interpretations, whether through schema modes

or contextual triggers. The absence of superiority of one approach over the other may therefore reflect shared therapeutic components, including schema identification, cognitive reappraisal, experiential processing, behavioral pattern-breaking, and development of the healthy adult mode. Similar patterns have been observed in comparative studies in which schema therapy and other emotion-focused or acceptance-based interventions improved emotion regulation without necessarily producing large differences between active treatments (Bayat et al., 2025; Keyvani et al., 2025; Moravvaji et al., 2024). In this regard, the present findings support the idea that schema-based interventions may be broadly effective for emotion regulation, even when their technical emphasis differs.

The findings are also consistent with studies showing that schema-based interventions improve emotion regulation across diverse clinical and psychosocial populations. For example, emotional schema therapy has been shown to improve emotion regulation strategies in adolescents with oppositional defiant disorder (Ghaitasi & Amani, 2025), reduce anxiety symptoms and improve emotion regulation in women with anxiety disorders (Razzaghi et al., 2025), and improve self-regulation and frustration tolerance in female students with exam anxiety (Mousavi et al., 2024). These studies support the present findings because they indicate that interventions targeting emotional schemas can improve regulatory capacities in conditions characterized by emotional reactivity, distress, and maladaptive coping. The present study extends this literature by applying schema-based interventions to individuals with migraine, a condition in which emotional dysregulation may interact with pain perception, physiological arousal, and functional impairment.

The present results are further supported by research showing that schema therapy can improve emotion regulation in populations exposed to chronic relational or caregiving stress. For example, schema therapy has been reported to improve distress tolerance, resilience, emotion regulation, and parenting styles in mothers of children with attention-deficit/hyperactivity disorder (Rajaeizadeh & Khayatan, 2025). Similarly, schema-focused interventions have shown effectiveness in improving cognitive emotion regulation in conflicting couples (Nosrat Talab Haghi et al., 2024) and betrayed couples (Keyvani et al., 2025). These findings are relevant because migraine patients often face repeated stressors, role disruption, and interpersonal misunderstanding related to their symptoms. When individuals repeatedly experience pain and reduced functioning, maladaptive schemas may become more active, and emotion regulation may become more difficult. By strengthening adaptive responses to emotional and interpersonal stress, schema therapy may reduce the psychological burden associated with migraine.

The findings are also compatible with studies linking schema mechanisms to impulsivity, rumination, and cognitive-emotional vulnerability. Khosravi showed that schema mechanisms underlie emotion dysregulation and impulsivity in comorbid attention-deficit/hyperactivity disorder and borderline personality disorder, emphasizing that maladaptive schemas can intensify unstable emotional responses (Khosravi, 2025). Rashidifar and Karami reported that rumination and cognitive emotion regulation mediate the relationship between early maladaptive schemas and body dysmorphic symptoms among cosmetic surgery applicants (Rashidifar & Karami, 2025). These findings help explain why schema therapy may be useful for migraine patients: recurrent pain may activate rumination, fear of future attacks, self-focused attention, and maladaptive interpretations of bodily sensations. By modifying schema-driven interpretations and reducing repetitive negative emotional processing, both mode-based and contextual schema therapy may help patients regulate emotional responses more effectively.

The stability of treatment effects at the three-month follow-up suggests that the interventions produced changes that were maintained beyond the immediate posttest phase. This stability may be due to the fact that schema therapy does not merely teach surface-level coping skills; rather, it works with deeper cognitive-emotional structures and repeated coping patterns. When patients learn to recognize schema activation, respond through the healthy adult mode, and use more adaptive forms of cognitive reappraisal, these skills may remain accessible after the end of therapy. The sustained reduction in expressive suppression also suggests that patients may have become more capable of acknowledging emotional needs and responding to distress without rigid inhibition. These results are consistent with prior findings indicating that schema therapy can produce meaningful improvements in emotion regulation and related psychological outcomes across different populations, including women with obesity (Mohammadian Amiri et al., 2024), depressed patients with grief (Moravvaji et al., 2024), and individuals with major depressive disorder (Bayat et al., 2025).

KMAN-CPN KMAN-Counseling & Psychology Nexus
E-ISSN: 3041-9026

5. Conclusion

Overall, the results of the present study indicate that both mode-based schema therapy and contextual schema therapy are effective interventions for improving emotion regulation in individuals with migraine of psychological origin. The increase in cognitive reappraisal and the decrease in expressive suppression suggest that these interventions can strengthen adaptive emotional processing and reduce maladaptive inhibition of emotional expression. The findings are theoretically consistent with schema models of emotional dysregulation and empirically aligned with previous studies showing the effectiveness of schema-focused approaches in improving emotion regulation across anxiety, depression, interpersonal distress, caregiving stress, body-related concerns, and behavioral problems (Ghaitasi & Amani, 2025; Mennin & Fresco, 2024; Pilkington et al., 2024; Razzaghi et al., 2025). The lack of a significant difference between the two interventions suggests that therapists may choose either approach based on patient characteristics, treatment goals, therapist competence, and clinical context. For migraine patients whose distress is primarily experienced as rapidly shifting internal states, a mode-based approach may be especially useful; for patients whose emotional dysregulation is strongly linked to environmental triggers and interpersonal contexts, a contextual schema therapy approach may be particularly appropriate.

One limitation of the present study was the relatively small sample size, which may reduce the statistical power of the findings and limit the generalizability of the results to broader migraine populations. The study was also conducted only among individuals referring to psychological and counseling centers in Tehran, which may restrict the applicability of the findings to patients from other cultural, geographical, or clinical contexts. Another limitation was the reliance on self-report measures for assessing emotion regulation, because self-report instruments may be influenced by response bias, social desirability, or participants' subjective interpretation of items. In addition, the follow-up period was limited to three months, and therefore the long-term durability of the intervention effects remains uncertain. Finally, although migraine diagnosis was medically confirmed, the study did not include objective neurological or physiological indices, such as headache frequency diaries, medication use records, or biological stress markers, which could have provided a more comprehensive evaluation of treatment outcomes.

Future studies are suggested to replicate this research with larger sample sizes and more diverse clinical populations in different cities and healthcare settings. It is also recommended that future research include longer follow-up periods, such as six months or one year, to examine the durability of schema-based treatment effects over time. Researchers may also benefit from using mixed-method designs that combine quantitative measures with qualitative interviews in order to explore how patients experience emotional change, schema modification, and coping with migraine after treatment. Future studies should compare mode-based and contextual schema therapy with other active psychological interventions, such as cognitive-behavioral therapy, acceptance and commitment therapy, mindfulness-based interventions, or emotion-focused therapy. In addition, future research should include migraine-related clinical outcomes, such as attack frequency, pain intensity, medication use, disability, sleep quality, and quality of life, so that the psychological and medical benefits of schema-based interventions can be evaluated more comprehensively.

From a practical perspective, the findings suggest that schema-based interventions can be used as complementary psychological treatments alongside routine medical care for individuals with migraine of psychological origin. Clinicians working with migraine patients are encouraged to assess early maladaptive schemas, schema modes, emotional inhibition, cognitive reappraisal capacity, and interpersonal patterns that may intensify pain-related distress. Mode-based schema therapy may be useful when patients experience strong internal self-criticism, helplessness, emotional vulnerability, or avoidant coping during migraine attacks, while contextual schema therapy may be particularly useful when symptoms are closely connected to environmental triggers, relational stress, and maladaptive behavioral patterns. Treatment programs for migraine patients should therefore include psychoeducation about the relationship between emotion and pain, training in adaptive emotion regulation, strengthening of the healthy adult mode, and relapse-prevention planning. Integrating psychological interventions with medical treatment may help patients manage not only headache symptoms but also the emotional and functional burden associated with recurrent migraine.

Authors' Contributions

Authors equally contributed to this article.

Declaration

KMAN-CPN KMAN-Counseling & Psychology Nexus E-ISSN: 3041-9026

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 would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

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

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. This study was approved by the Ethics Committee of Islamic Azad University, Bojnourd Branch, Iran, under the ethics code IR.IAU.BOJNOURD.REC.1405.001.

References

Babahasani, K., Amini, N., Shafieabadi, A., & Direh, E. (2020). The effectiveness of existential group therapy on the experience and perception of suffering, emotion regulation, and well-being in migraine patients. *Social Psychology*, *8*(Special Issue), 295-309. https://sanad.iau.ir/Journal/psychology/Article/924830

Bayat, M., Basharpoor, S., Aghajani, S., & Mikaeili, N. (2025). Comparison of the Effectiveness of Emotional Schema Therapy and Acceptance and Commitment Therapy on Distress Tolerance and Emotion Regulation Difficulties in Individuals with Major Depressive Disorder. *Journal of Psychological Science*, *24*(150), 59-81.

Bibak, M., Hossein Abasi, N., Eteshamzadeh, P., Alipour, H. G., & Aqa Amiri, M. (2025). The Efficacy of Schema Therapy on Emotion Regulation Styles, Emotional Expression, and Marital Satisfaction of Couples on the Brink of Divorce. *Iranian Nursing Research Journal*, *20*(2), 64-78. https://ijnr.ir/browse.php?a_code=A-10-2074-6&sid=1&slc_lang=en

Çoban, R., & Şirin, H. D. (2025). Investigating the mediating role of early maladaptive schemas in the relationship between anxious attachment and emotion regulation difficulties in young adults. *Journal of Social Sciences Research / Sosyal Bilimler Araştırmaları Dergisi*, *15*(3). https://doi.org/10.48146/odusobiad.1741033

Ghaitasi, J., & Amani, A. (2025). The Effectiveness of Emotional Schema Therapy on Emotion Regulation Strategies in Adolescents with Oppositional Defiant Disorder. *Research in Clinical Psychology and Counseling*, *14*(2), 5-28. https://doi.org/10.22067/tpccp.2024.77697.1316

Keyvani, M., Panah Ali, A., Livarjani, S., & Khademi, A. (2025). Comparison of the Effectiveness of Schema Therapy and Emotion-Focused Therapy on Early Maladaptive Schemas, Marital Quality of Life, and Cognitive Emotion Regulation in Betrayed Couples. *Quarterly Journal of New Psychological Research*, *20*(79), 131-145.

Khosravi, M. (2025). Schema Mechanisms Underlying Emotion Dysregulation and Impulsivity in Comorbid Attention-Deficit/Hyperactivity Disorder and Borderline Personality Disorder. *Clinical Psychology & Psychotherapy*, *32*(6). https://doi.org/10.1002/cpp.70206

Mennin, D. S., & Fresco, D. M. (2024). *Emotion Regulation and Schema-Based Processing in Anxiety Disorders*. Oxford University Press.

Mohammadian Amiri, A., Hassanzadeh, R., & Heydari, S. (2024). Comparison of the Effectiveness of Schema Therapy and Life Therapy on Emotion Regulation and Attitudes Towards Eating in Women with Obesity. *Health Nexus*, *2*(2), 68-76. https://doi.org/10.61838/kman.hn.2.2.8

Moravvaji, M., Bagherzadeh Golmakani, Z., & Akbarzadeh, M. (2024). Comparing the Effectiveness of Schema Therapy and Acceptance and Commitment Therapy on Improving Emotion Regulation Strategies in Depressed Patients with Grief. *Journal of Clinical Psychology*, *16*(1), 65-76.

Mousavi, S., Heidari, A., Safarzadeh, S., Asgari, P., & Talebzadeh Shoushtari, M. (2024). The Effectiveness of Emotional Schema Therapy on Self-Regulation and Frustration Tolerance in Female Students with Exam Anxiety. *Women's Health Bulletin*.

Nosrat Talab Haghi, A., Jajarmi, M., & Bakhshipour, A. (2024). Comparing the Effectiveness of Emotionally Focused Couple Therapy and Schema Therapy on Marital Forgiveness and Cognitive Emotion Regulation in Conflicting Couples. *Rooyesh-e-Ravanshenasi Journal*, *13*(12), 157-166. https://frooyesh.ir/browse.php?a_id=5917&slc_lang=en&sid=1&printcase=1&hbnr=1&hmb=1

Pasha, D., Hatamipour, K., & Nezhad, M. R. (2024). Effectiveness of Schema Therapy on Marital Relationship Quality and Emotion Regulation in Couples Affected by Infidelity. *Jarac*, *6*(2), 71-78. https://doi.org/10.61838/kman.jarac.6.2.9

Pilkington, P. D., Karantzas, G. C., Faustino, B., & Pizarro-Campagna, E. (2024). Early maladaptive schemas, emotion regulation difficulties and alexithymia: A systematic review and meta-analysis. *Clinical Psychology & Psychotherapy*, *31*(1), e2914. https://doi.org/10.1002/cpp.2914

Rajaeizadeh, M. S., & Khayatan, F. (2025). Effectiveness of Schema Therapy on Distress Tolerance, Resilience, Emotion Regulation, and Parenting Styles in Mothers of Children with Attention-Deficit/Hyperactivity Disorder. *Rooyesh-e-Ravanshenasi*, *14*(2), 123-134.

Rashidifar, M., & Karami, M. (2025). Early Maladaptive Schemas, Body Dysmorphic Disorder and the Mediation Role of Rumination and Emotional Cognitive Regulation: A Focus on Cosmetics Surgery Applicants. Proceedings of the International Conference on Research in Psychology,

Razavi, S., Khajehpour, L., & Moltafet, G. (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

Razzaghi, M., Zemestani, M., & Mashhadi, A. (2025). Effectiveness of Emotional Schema Therapy on Anxiety

Symptoms, Emotion Regulation, and Marital Satisfaction in Women with Anxiety Disorders: A Preliminary Study. *International Journal of Cognitive Behavior Therapy*, *18*, 334-358. https://doi.org/10.1007/s41811-025-00238-3

Sepidkar, Y., Zenoozian, S., & Ahmadi, F. (2024). Schema Modes and Social Maladjustment: The Mediating Role of Difficulty in Emotion Regulation. *Heliyon*, *10*(22), e40219. https://doi.org/10.1016/j.heliyon.2024.e40219

Shahverdi, A., Omidi, M., & Nik, M. M. (2023). Effect of Mindfulness-Based Cognitive Therapy on Cognitive Emotion Regulation, Psychosomatic Symptom Severity of Migraine, and Stress Coping Styles of Women With Migraine. *Iranian Journal of Psychiatry and Clinical Psychology*, *29*(1), 18-31. https://doi.org/10.32598/ijpcp.29.1.4414.1

Tahavvori, Z., Lashgari, M., & Taher, M. (2025). Effectiveness of Emotion-Focused Therapy and Schema Therapy on Attachment Styles and Emotion Regulation in Women Affected by Infidelity. *Applied Family Therapy Journal (AFTJ)*, *6*(5), 1-10. https://doi.org/10.61838/kman.aftj.4389

Zabardast, A., & Shafiei Tabar, M. (2019). Positive and Negative Affect, Cognitive Emotion Regulation Strategies, and Alexithymia in Girls with Migraine Headache. *Quarterly Journal of Child Mental Health*, *6*(2), 180-193.