

Comparing the Effectiveness of Group Schema Therapy and Group Mindfulness-Based Cognitive Therapy on Self-Care Behaviors among Adolescent Girls from Divorced Families

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ABSTRACT

This study aimed to compare the effectiveness of group schema therapy and group mindfulness-based cognitive therapy on self-care behaviors among adolescent girls from divorced families. The present study was applied in purpose and quasi-experimental in method, using a pretest-posttest design with a control group. The statistical population included 13- to 15-year-old adolescent girls from divorced families studying in lower secondary schools in Tabriz during the 2023–2024 academic year. Through purposive sampling, 45 eligible students were selected and randomly assigned to three equal groups: schema therapy, mindfulness-based cognitive therapy, and control, with 15 participants in each group. The experimental groups received their respective interventions in 12 group sessions of 90 minutes over approximately three months, while the control group received no intervention during the study period. Data were collected using the Adolescent Self-Care Questionnaire, which measures physical, psychosocial, and emotional self-care. Data were analyzed using descriptive statistics and analysis of covariance in SPSS version 26. After controlling for pretest scores, schema therapy had a significant effect on physical self-care, $F = 26.123$, $p < .001$, psychosocial self-care, $F = 71.349$, $p < .001$, and emotional self-care, $F = 13.013$, $p = .002$. Mindfulness-based cognitive therapy also had a significant effect on physical self-care, $F = 17.427$, $p = .001$, psychosocial self-care, $F = 8.782$, $p = .009$, and emotional self-care, $F = 62.526$, $p < .001$. The comparison of the two interventions showed no significant difference in physical and psychosocial self-care, but mindfulness-based cognitive therapy was significantly more effective than schema therapy in emotional self-care, $F = 16.838$, $p < .001$. Both group schema therapy and group mindfulness-based cognitive therapy were effective in improving self-care behaviors among adolescent girls from divorced families. However, mindfulness-based cognitive therapy showed greater effectiveness in improving emotional self-care, suggesting its particular usefulness for strengthening adolescents' emotional awareness, self-kindness, and adaptive response to emotional needs.

Keywords: Schema Therapy; Mindfulness-Based Cognitive Therapy; Self-Care Behaviors; Adolescent Girls; Divorced Families.

1. Introduction

Adolescence is a developmental period in which personal identity, autonomy, body awareness, interpersonal sensitivity, and responsibility for daily health-related behaviors become increasingly salient. During this period, self-care behaviors are not limited to physical hygiene or health maintenance; rather, they include a broader set of learned and intentional actions through which adolescents monitor their needs, protect their well-being, manage daily demands, seek supportive relationships, and respond constructively to emotional and social challenges. For adolescent girls, self-care is particularly important because developmental transitions are often accompanied by heightened sensitivity to family relationships, peer evaluation, body-related concerns, academic pressures, and changes in perceived personal competence (Abdoli Arani & Tamanaeifar, 2025; Aboei et al., 2023). When the family environment is stable and responsive, adolescents may gradually internalize patterns of care, responsibility, and self-protection. However, when family structure is disrupted by divorce, the adolescent's opportunity to experience consistent support, predictable caregiving, and secure relational modeling may be weakened, which can reduce the quality of self-care behaviors (Abdoli Arani & Tamanaeifar, 2025; Ghanizadeh Balderlou et al., 2025; Joshua et al., 2025; Tavakolian et al., 2023).

Divorce is not merely a legal termination of marital life; it is a family transition that can alter adolescents' emotional security, relational expectations, routines, and perceived support. Research on divorce among Iranian couples has shown that divorce is associated with complex personal, relational, social, and contextual factors, indicating that its consequences should be understood within the broader ecology of family functioning and cultural expectations (Tavakolian et al., 2023). For adolescents, parental divorce may be experienced as a disruption in family coherence, caregiving continuity, and the sense of belonging. Middle and high school students may respond to divorce through changes in adjustment, school engagement, interpersonal behavior, and self-perception, suggesting that this developmental group requires targeted psychological and educational support (Ousman & Bulut, 2022). Adolescent girls from divorced families may therefore face a double developmental burden: on the one hand, they must negotiate the normative tasks of adolescence, and on the other hand, they must adapt to the emotional and practical consequences of family separation.

The relevance of self-care behaviors in adolescents from divorced families can be understood through the role of family relationships in shaping adolescents' views of themselves and their capacities for responsible behavior. Studies on adolescents in divorced families indicate that the family context continues to be a critical source of adjustment even after the marital relationship has ended (Aryani et al., 2023). Self-care behaviors are closely related to the way individuals experience care, boundaries, responsibility, and emotional support in early and ongoing family relationships. Evidence also suggests that parent-child relationships and the emotional climate of the family are associated with self-care, highlighting the importance of relational experiences in the formation of self-protective and self-maintaining behaviors (Aboei et al., 2023). When adolescents have experienced relational disruption, inconsistency, or reduced emotional availability within the family system, self-care may become fragmented, externally dependent, or insufficiently internalized. In this regard, self-care should be viewed as both a personal behavioral capacity and a relationally influenced developmental outcome.

Self-care behaviors are especially important because they represent a practical and observable domain through which psychological interventions may produce meaningful change in adolescents' daily lives. Unlike abstract psychological constructs that may be difficult for adolescents to recognize directly, self-care is expressed through concrete behaviors such as attending to physical needs, maintaining constructive relationships, using adaptive coping strategies, valuing oneself, and making choices that preserve well-being. The significance of self-care has been emphasized in health psychology, where self-care behaviors have been linked to broader quality-of-life processes and mindful self-attention (Abdoli Arani & Tamanaeifar, 2025). Although some studies have examined self-care in medical or adult populations, its developmental importance among adolescent girls from divorced families deserves greater attention. In this population, self-care behaviors may function as a protective and empowering capacity that helps adolescents move from passive exposure to family stress toward active participation in their own well-being.

One therapeutic approach that may improve self-care behaviors in adolescent girls from divorced families is schema therapy. Schema therapy is an integrative psychological intervention that combines cognitive, behavioral, experiential, attachment-based, and emotion-focused techniques to address maladaptive patterns rooted in

unmet emotional needs and early relational experiences. In children and adolescents, schema therapy is particularly relevant because schemas and schema modes are still developing and may be more open to modification than in adulthood. The rationale and evidence base for schema therapy with children and adolescents emphasize the importance of identifying maladaptive schemas, understanding their developmental origins, and strengthening healthier modes of functioning (Loose, 2023). A systematic review of schema therapy applications in young people also indicates that this approach has growing relevance for youth populations and can be adapted to developmental needs through experiential, creative, and relational techniques (Joshua et al., 2025). For adolescent girls from divorced families, schema therapy may help identify self-defeating beliefs and relational expectations that interfere with self-care, while supporting healthier responses to personal needs.

The theoretical relevance of schema therapy to adolescents from divorced families is further supported by research showing the association between adverse childhood experiences and maladaptive schemas. A systematic review and meta-analysis indicated that childhood abuse and neglect are linked to adolescent maladaptive schemas, suggesting that early relational adversity can influence the cognitive-emotional templates through which adolescents interpret themselves and others (May et al., 2022). Although divorce is not equivalent to abuse or neglect, it may sometimes involve relational instability, perceived abandonment, conflict, or reduced parental availability, all of which may contribute to maladaptive self-understanding and weakened self-care patterns. In this context, schema therapy provides a structured method for helping adolescents recognize unmet needs, distinguish between vulnerable and coping modes, and develop healthier ways of caring for themselves.

Empirical studies also support the use of schema-based interventions with adolescents and related youth populations. Schema mode therapy has been shown to be applicable to adolescents referred to counseling centers, supporting the developmental adaptability of schema-based work (Karimipour et al., 2022). Schema therapy has also been reported as effective in female adolescents, indicating its usefulness for improving adolescent adjustment and social functioning (Khasareh et al., 2023). In adolescents affected by family disruption, schema therapy-based group counseling has been used to reduce psychological problems among adolescents of divorce, supporting its relevance for

this specific population (Monjezi et al., 2024). Furthermore, comparative work among adolescent girls of divorce has shown the potential of schema therapy as a structured group intervention in this population (Monjezi et al., 2023). Studies involving fatherless adolescents and children with disruptive family or developmental challenges also suggest that schema therapy can be meaningfully applied when early relational experiences affect adolescents' self-concept and adaptive functioning (Fereydooni & Sheykhan, 2024; Sanei Abadeh et al., 2023).

Beyond adolescent populations, related schema-based interventions have shown effectiveness in improving adaptive psychological functioning in university students and adolescents, which further supports the broader therapeutic value of schema-oriented approaches. Emotional schema therapy has been used to improve adaptive functioning among university students (Abbady, 2023). Similar schema-based work has been applied among students with academic-related difficulties, suggesting that interventions targeting schemas may help individuals respond more constructively to internal and external demands (Moradpour & Bavi, 2025). Emotional schema therapy has also been studied in adolescents, indicating its relevance for reducing harmful behavioral patterns and strengthening healthier ways of responding to life challenges (Reihani & Ahavan, 2024). These findings collectively suggest that schema-based interventions may contribute to self-care by helping adolescents understand internal needs, challenge maladaptive patterns, and build healthier behavioral responses.

Another intervention with strong relevance for self-care behaviors is mindfulness-based cognitive therapy. Mindfulness-based cognitive therapy integrates mindfulness practices with cognitive principles and helps participants cultivate present-moment awareness, nonjudgmental attention, acceptance of inner experiences, and more intentional responses to daily situations. For adolescents, mindfulness-based approaches are developmentally meaningful because they can be practiced through concrete exercises, bodily awareness, breathing, mindful movement, and attention to everyday activities. A systematic review of mindfulness-based interventions in child and adolescent populations emphasized the developmental relevance of mindfulness practices and the need to adapt such programs to the cognitive, emotional, and social capacities of young participants (Porter et al., 2022). Mindfulness-based cognitive therapy for children has also been proposed as a structured intervention that can be adapted for

developmental needs, showing the increasing scientific interest in mindfulness-oriented approaches for younger populations (Kholghi et al., 2025).

Mindfulness-based cognitive therapy may improve self-care behaviors by helping adolescents become more aware of their physical, emotional, and interpersonal needs. Many adolescents, especially those living with the consequences of family divorce, may respond to discomfort through avoidance, impulsive behavior, self-neglect, or dependence on external reassurance. Mindfulness practices can interrupt these automatic patterns by strengthening attention to the present moment and creating space between experience and response. Studies have shown that mindfulness training can be effective in adolescents and can support healthier developmental functioning (Navidi Moghadam, 2025). Mindfulness-based cognitive therapy has also been applied among adolescents and has demonstrated therapeutic value in strengthening positive psychological functioning (Farrashzadehjeldar & Mohammadzadeh Admolaee, 2025). In the context of self-care, such findings suggest that mindfulness-based cognitive therapy may help adolescent girls notice their needs more clearly, respond with greater kindness toward themselves, and engage more consistently in behaviors that protect their well-being.

The relevance of mindfulness for children and adolescents from divorced families is particularly important. Child-centered mindfulness therapy has been examined among children with divorced parents and has shown usefulness in supporting adaptive functioning in this population (Mohammad et al., 2023). Group mindfulness training has also been applied among adolescents of divorce, indicating that mindfulness-based interventions can be implemented in group formats for youth who have experienced family separation (Abbasi et al., 2023). These findings are important because adolescents from divorced families may benefit not only from individual insight but also from a group environment in which they learn shared practices, experience acceptance, and recognize that their difficulties are not unique or isolating. Group mindfulness-based cognitive therapy can therefore create a supportive therapeutic space for strengthening self-awareness and self-care.

Mindfulness-based approaches have also shown beneficial effects in broader youth and young adult samples. Mindfulness-based interventions have been used to improve adaptive management of inner experiences among college students, indicating that mindfulness can support the development of healthier daily functioning in emerging

developmental groups (Jia-Yuan et al., 2022). Research has also highlighted the role of mindfulness in adolescent psychological well-being and related self-directed capacities, suggesting that mindfulness may help adolescents cultivate a more accepting and flexible relationship with themselves (Yousefi Afrashteh & Hasani, 2022). Although these studies do not all focus specifically on self-care behaviors among adolescent girls from divorced families, they provide conceptual and empirical support for the idea that mindfulness-based cognitive therapy may foster the awareness, intentionality, and self-kindness required for effective self-care.

Comparative research between schema-based approaches and mindfulness-based cognitive therapy is still developing, but existing studies suggest that both interventions may be useful while operating through different mechanisms. Schema therapy may improve self-care by addressing deep patterns of unmet needs, maladaptive beliefs, and coping modes, whereas mindfulness-based cognitive therapy may improve self-care by increasing present-moment awareness, acceptance, and intentional action. Comparative studies have examined schema-oriented and mindfulness-oriented interventions in different clinical and nonclinical groups, indicating that both approaches can produce meaningful therapeutic change (Ghanizadeh Balderlou et al., 2025; Zarei et al., 2023). However, direct comparison of these two group interventions in adolescent girls from divorced families remains limited, especially when the outcome is self-care behaviors. This gap is important because self-care is a practical developmental outcome that may show how therapeutic change is translated into daily life.

Despite the growing evidence supporting schema therapy and mindfulness-based cognitive therapy, the literature still shows several important limitations. First, many studies have focused on general psychological outcomes rather than self-care behaviors as a central outcome. Second, fewer studies have examined adolescent girls from divorced families, even though this group may face unique relational and developmental vulnerabilities. Third, limited research has directly compared group schema therapy and group mindfulness-based cognitive therapy within the same quasi-experimental design. Fourth, because schema therapy and mindfulness-based cognitive therapy are theoretically distinct, comparing them can help clarify whether one approach is more effective than the other for specific dimensions of self-care. Addressing these limitations can contribute to the design of school-based and counseling interventions that are both developmentally appropriate and

responsive to the needs of adolescents living after parental divorce.

Therefore, the aim of the present study was to compare the effectiveness of group schema therapy and group mindfulness-based cognitive therapy on self-care behaviors among adolescent girls from divorced families.

2. Methods and Materials

2.1. Study Design and Participants

The present study was applied in terms of purpose, quantitative in terms of data type, and quasi-experimental in terms of implementation method. The research was conducted using a pretest–posttest design with a control group. The statistical population consisted of all 13- to 15-year-old adolescent girls from divorced families studying in lower secondary schools in Tabriz during the 2023–2024 academic year. In the first stage, after obtaining the required permissions from the General Department of Education and coordinating with school authorities, District 1 of Tabriz was selected from among the educational districts of the city. Then, considering geographical location and the need to achieve relative homogeneity in the participants' social, economic, and cultural background, three schools were randomly selected. With the cooperation of school principals and counselors, adolescent girls from divorced families were identified while observing ethical principles, confidentiality, and respect for students' privacy. Initially, 84 eligible students were identified, and after informing parents, obtaining parental permission, and receiving students' informed assent, the pretest was administered. Based on the self-care assessment results and the inclusion criteria, 45 eligible adolescents were selected through purposive sampling and then randomly assigned to three groups: the schema therapy group, the mindfulness-based cognitive therapy group, and the control group, with 15 participants in each group. The inclusion criteria were being female, being between 13 and 15 years of age, studying at the lower secondary level, having experienced the legal divorce of parents at least two years before participation, obtaining a low score on the self-care behaviors questionnaire, and providing informed consent for participation in the study. The exclusion criteria included unwillingness to continue participation, incomplete completion of questionnaires, absence from more than two intervention sessions, simultaneous participation in another educational or therapeutic program, and use of psychiatric medication. The two experimental groups received their respective

interventions in group format, while the control group received no intervention during the research period and was placed on a waiting list. After completion of the intervention programs, the posttest was administered to all three groups under similar conditions.

2.2. Measures

Adolescent Self-Care Questionnaire was used to measure self-care behaviors among participants. This questionnaire was developed and standardized in 2018 based on Orem's self-care theory among 861 male and female high school students in Hormozgan Province. The instrument is a paper-and-pencil self-report scale consisting of 48 items scored on a five-point Likert scale ranging from 0 to 4, where 0 indicates "never," 1 indicates "rarely," 2 indicates "sometimes," 3 indicates "often," and 4 indicates "always." The questionnaire includes three dimensions of self-care behaviors: physical self-care, psychosocial self-care, and emotional self-care. Items 1 to 17 assess physical self-care, items 18 to 35 assess psychosocial self-care, and items 36 to 48 assess emotional self-care. The total score ranges from 0 to 192, with higher scores indicating a higher level of self-care behaviors and lower scores indicating a lower level of self-care behaviors. The score range for physical self-care is 0 to 68, for psychosocial self-care 0 to 72, and for emotional self-care 0 to 52. The validity of the questionnaire was confirmed by its developer through construct validity procedures and expert judgment. Its reliability was also reported as satisfactory using Cronbach's alpha, with an alpha coefficient of .92 for the total questionnaire, .91 for physical self-care, .84 for psychosocial self-care, and .87 for emotional self-care. In the present study, this questionnaire was administered at the pretest and posttest stages to evaluate changes in adolescents' self-care behaviors after the interventions.

2.3. Interventions

The schema therapy intervention was implemented in a group format based on the Loose protocol. The program consisted of 12 sessions, each lasting 90 minutes, conducted over approximately three months. The intervention began with establishing a therapeutic relationship, introducing group members, explaining group rules, emphasizing confidentiality, strengthening motivation for participation, and clarifying the goals and structure of treatment. Initial sessions focused on helping participants understand basic psychological needs, the concept of schemas, developmental

roots of schemas, and the ways in which schemas influence interpretation of events and behavioral responses. Metaphorical stories, visual tools, and imagery exercises such as the safe bubble and safe place were used to make the concepts understandable and developmentally appropriate for adolescent participants. In the middle sessions, participants were introduced to schema modes through drawing, worksheets, imagery, and experiential exercises. Techniques such as the inner house, chair work, mode worksheets, mode masks, and interviews with maladaptive modes were used to help participants recognize emotional and behavioral patterns that may interfere with adaptive self-care. Later sessions emphasized supporting the vulnerable child mode, identifying unmet needs, developing self-compassion, strengthening healthy modes, managing anger-related reactions, and practicing healthier responses in activating situations. Techniques such as imagery rescripting, limited reparenting in imagery, treasure box exercises, anger balloon exercises, and educational response cards were used to consolidate learning. The final session was devoted to reviewing the content of previous sessions, discussing homework, strengthening the wise and healthy mode, summarizing acquired skills, and closing the group process through symbolic transitional exercises.

The mindfulness-based cognitive therapy intervention was implemented in a group format based on the Segal and Teasdale protocol. This program also consisted of 12 sessions, each lasting 90 minutes, conducted over approximately three months. The intervention began with explaining the general framework of the sessions, emphasizing confidentiality and respect for participants' personal experiences, introducing members to one another, and presenting the basic principles of mindfulness. Early sessions focused on experiential awareness through exercises such as the raisin exercise, body scan, short breathing practices, mindful attention to daily activities, and seated meditation with attention to breathing. Participants were encouraged to practice presence in the moment and to complete daily mindfulness exercises as homework. In the following sessions, the intervention focused on identifying thoughts, emotions, and bodily sensations, differentiating thoughts from feelings, recognizing pleasant and unpleasant experiences, and practicing the three-minute breathing space. Exercises such as mindful movement, mindful seeing and hearing, observing thoughts, watching thoughts as bubbles, and meeting the unkind mind were used to help participants relate to internal experiences with greater awareness and less automatic reactivity. Middle sessions

emphasized recognizing that thoughts are not facts, responding rather than reacting, becoming aware of emotional patterns, and applying mindful breathing during difficult experiences. Later sessions focused on self-care-oriented daily activities, open awareness, kindness toward oneself and others, compassionate responses, mindful awareness of emotions, alternative perspectives in the face of negative thoughts, gentle yoga movements, and dialogue with feelings. The final sessions reviewed the participants' experiences, encouraged continuation of mindfulness practices in daily life, discussed personal symbols of mindfulness, and concluded the program with final reflection and meditation.

2.4. Data Analysis

Data analysis was conducted using SPSS version 26. Descriptive statistics, including frequency, mean, and standard deviation, were used to describe the demographic characteristics of the participants and the pretest and posttest scores of self-care behaviors across the schema therapy, mindfulness-based cognitive therapy, and control groups. Before testing the main research hypothesis, the assumptions required for covariance analysis were examined, including normality of score distribution, homogeneity of variances, homogeneity of regression slopes, and the linear relationship between pretest and posttest scores. To compare the effectiveness of the two group interventions on self-care behaviors while controlling for pretest scores, analysis of covariance was used. The pretest score of self-care behaviors was entered as the covariate, group membership was entered as the independent variable, and the posttest score of self-care behaviors was entered as the dependent variable. When necessary, post hoc comparisons were used to determine the differences between the schema therapy group, the mindfulness-based cognitive therapy group, and the control group. The significance level for all statistical tests was set at .05.

3. Findings and Results

The statistical sample consisted of 45 adolescent girls from divorced families studying in lower secondary schools in Tabriz during the 2023–2024 academic year. All participants were female and were within the age range of 13 to 15 years. The participants were assigned to three equal groups, including the mindfulness-based cognitive therapy group, the schema therapy group, and the control group, with 15 participants in each group. All participants had

experienced parental divorce at least two years before entering the study and completed the self-care behaviors questionnaire at both the pretest and posttest stages. The

control group received no intervention during the study period, while the two experimental groups participated in their respective group-based therapeutic programs.

Table 1

Descriptive Statistics of Self-Care Behaviors in the Pretest and Posttest by Group

Measurement Stage	Self-Care Dimension	Mindfulness-Based Cognitive Therapy M	Mindfulness-Based Cognitive Therapy SD	Schema Therapy M	Schema Therapy SD	Control Group M	Control Group SD
Pretest	Physical self-care	34.20	4.739	34.33	6.218	34.20	4.057
Pretest	Psychosocial self-care	36.27	7.741	37.47	7.745	35.67	8.406
Pretest	Emotional self-care	26.47	7.643	26.00	7.201	26.40	7.018
Posttest	Physical self-care	42.60	5.369	39.87	9.508	26.27	7.977
Posttest	Psychosocial self-care	51.20	16.170	56.93	7.968	36.47	4.824
Posttest	Emotional self-care	48.73	8.523	40.20	3.364	35.07	3.262

As shown in Table 1, the pretest mean scores of the three groups were relatively close across the dimensions of self-care behaviors, indicating that the groups were generally comparable before the interventions. In the posttest stage, both experimental groups showed increases in physical, psychosocial, and emotional self-care scores compared with their pretest scores. The mindfulness-based cognitive therapy group showed increases from 34.20 to 42.60 in physical self-care, from 36.27 to 51.20 in psychosocial self-care, and from 26.47 to 48.73 in emotional self-care. The schema therapy group also showed increases from 34.33 to 39.87 in physical self-care, from 37.47 to 56.93 in psychosocial self-care, and from 26.00 to 40.20 in emotional self-care. In contrast, the control group did not show the same pattern of improvement, particularly in physical self-care, which decreased from 34.20 to 26.27. These descriptive findings suggest that both interventions were associated with improvement in self-care behaviors, although the statistical significance of these differences was examined through covariance analysis.

Before conducting the covariance analyses, the assumptions of the statistical tests were examined. The

normality of the distribution of self-care scores was assessed using the Kolmogorov–Smirnov test, and the results indicated that the significance levels for physical, psychosocial, and emotional self-care at the pretest and posttest stages were greater than .05 across the study groups. Therefore, the assumption of normality was supported. Levene’s test was used to examine the homogeneity of error variances, and the results for the self-care dimensions were nonsignificant in the analyses comparing schema therapy with the control group, mindfulness-based cognitive therapy with the control group, and the two experimental groups with each other. Thus, the assumption of homogeneity of variances was met. In the multivariate comparison of the two experimental groups, Box’s M test was significant, indicating that the assumption of equality of covariance matrices was not fully met; therefore, Pillai’s Trace was used as the more robust multivariate statistic for interpreting the overall group effect. Based on these assumption checks, analysis of covariance was considered appropriate for testing the study hypotheses concerning self-care behaviors.

Table 2

Analysis of Covariance for the Effectiveness of Each Intervention on Self-Care Behaviors After Controlling for Pretest Scores

Intervention Comparison	Self-Care Dimension	Sum of Squares	df	Mean Square	F	p	η^2
Schema Therapy vs. Control	Physical self-care	1452.010	1	1452.010	26.123	< .001	.620
Schema Therapy vs. Control	Psychosocial self-care	2531.114	1	2531.114	71.349	< .001	.817
Schema Therapy vs. Control	Emotional self-care	165.794	1	165.794	13.013	.002	.449
Mindfulness-Based Cognitive Therapy vs. Control	Physical self-care	430.310	1	430.310	17.427	.001	.521
Mindfulness-Based Cognitive Therapy vs. Control	Psychosocial self-care	1475.059	1	1475.059	8.782	.009	.354
Mindfulness-Based Cognitive Therapy vs. Control	Emotional self-care	1482.439	1	1482.439	62.526	< .001	.796

The results presented in Table 2 show that, after controlling for pretest scores, schema therapy had a statistically significant effect on all dimensions of self-care behaviors among adolescent girls from divorced families. The effect was significant for physical self-care, $F = 26.123$, $p < .001$, $\eta^2 = .620$; psychosocial self-care, $F = 71.349$, $p < .001$, $\eta^2 = .817$; and emotional self-care, $F = 13.013$, $p = .002$, $\eta^2 = .449$. These findings indicate that schema therapy significantly improved self-care behaviors compared with the control group. The results also show that mindfulness-

based cognitive therapy had a statistically significant effect on all dimensions of self-care behaviors. The effect was significant for physical self-care, $F = 17.427$, $p = .001$, $\eta^2 = .521$; psychosocial self-care, $F = 8.782$, $p = .009$, $\eta^2 = .354$; and emotional self-care, $F = 62.526$, $p < .001$, $\eta^2 = .796$. Therefore, both group schema therapy and group mindfulness-based cognitive therapy were effective in improving self-care behaviors compared with the control condition.

Table 3

Analysis of Covariance Comparing the Effectiveness of Schema Therapy and Mindfulness-Based Cognitive Therapy on Self-Care Behaviors After Controlling for Pretest Scores

Self-Care Dimension	Sum of Squares	df	Mean Square	F	p	η^2
Physical self-care	51.524	1	51.524	1.056	.314	.041
Psychosocial self-care	225.585	1	225.585	1.510	.231	.057
Emotional self-care	500.221	1	500.221	16.838	< .001	.402

The results of the comparison between the two experimental groups showed that the overall multivariate difference between schema therapy and mindfulness-based cognitive therapy was significant based on Pillai's Trace, Pillai's Trace = .406, $F = 5.24$, $p = .007$, $\eta^2 = .406$. The univariate results reported in Table 3 indicate that the two interventions did not differ significantly in their effects on physical self-care, $F = 1.056$, $p = .314$, $\eta^2 = .041$, or psychosocial self-care, $F = 1.510$, $p = .231$, $\eta^2 = .057$. However, a statistically significant difference was observed between the two interventions in emotional self-care, $F = 16.838$, $p < .001$, $\eta^2 = .402$. Based on the descriptive means, this difference was in favor of mindfulness-based cognitive therapy, as the posttest mean of emotional self-care in the mindfulness-based cognitive therapy group was higher than that of the schema therapy group. Therefore, while both interventions were effective in improving self-care behaviors, mindfulness-based cognitive therapy showed greater effectiveness than schema therapy in improving emotional self-care, whereas the two interventions were not significantly different in physical and psychosocial self-care.

4. Discussion

The present study aimed to compare the effectiveness of group schema therapy and group mindfulness-based cognitive therapy on self-care behaviors among adolescent girls from divorced families. The findings showed that both

schema therapy and mindfulness-based cognitive therapy significantly improved self-care behaviors compared with the control group after controlling for pretest scores. More specifically, both interventions were effective in improving physical self-care, psychosocial self-care, and emotional self-care. These findings indicate that structured group interventions can strengthen adolescents' practical capacity to attend to their personal needs, maintain healthier daily routines, respond more constructively to interpersonal demands, and develop more adaptive ways of caring for themselves. This result is important because adolescent girls from divorced families may experience disruptions in family routines, perceived support, and internalized models of care, which can weaken self-care behaviors. In this regard, the present findings are consistent with studies emphasizing that parental divorce can influence students' developmental functioning and that adolescents from divorced families require targeted psychological support (Aryani et al., 2023; Ousman & Bulut, 2022). The finding is also aligned with evidence showing that family emotional climate and parent-child relationships are associated with self-care-related functioning, suggesting that self-care in adolescence is not merely an individual habit but also a developmental outcome shaped by relational experience (Aboei et al., 2023).

The significant effectiveness of schema therapy on self-care behaviors can be explained by the core mechanisms of schema-focused intervention. Schema therapy helps

adolescents identify unmet emotional needs, recognize maladaptive self-perceptions, and replace rigid coping patterns with healthier responses. In adolescent girls from divorced families, some self-care difficulties may be rooted in internalized beliefs such as not being worthy of care, feeling unsupported, or responding to needs through avoidance rather than constructive action. Through experiential techniques, group dialogue, imagery, mode work, and strengthening of healthy modes, schema therapy provides a corrective therapeutic context in which adolescents can recognize their needs and learn to respond to them more adaptively. This interpretation is consistent with the developmental rationale of schema therapy for children and adolescents, which emphasizes the importance of addressing early maladaptive patterns while strengthening healthier modes of functioning (Loose, 2023). It is also supported by systematic evidence indicating that schema therapy is increasingly applicable to young populations and can be adapted to adolescents through developmentally appropriate and relationally sensitive methods (Joshua et al., 2025).

The effectiveness of schema therapy in this study is also in line with previous research on schema-based interventions among adolescents and young people. Studies have shown that schema therapy and schema mode therapy can be useful for adolescents referred to counseling centers and for female adolescents experiencing adjustment difficulties (Karimipour et al., 2022; Khasareh et al., 2023). The present results are also consistent with research on adolescents of divorce, where schema therapy-based group counseling has been shown to improve psychological functioning in this population (Monjezi et al., 2024). Similarly, comparative research among adolescent girls of divorce has supported the usefulness of schema therapy in group-based interventions (Monjezi et al., 2023). The results can also be understood in light of evidence that maladaptive schemas are associated with adverse developmental experiences, suggesting that adolescents who have experienced relational disruptions may benefit from interventions that directly address internalized relational meanings and self-directed behavioral patterns (May et al., 2022). In this sense, schema therapy may improve self-care behaviors by helping adolescents move from unmet needs and maladaptive coping toward healthier recognition of the self as worthy of protection, attention, and care.

The significant effectiveness of mindfulness-based cognitive therapy on self-care behaviors can be explained through the central role of awareness, acceptance, and

intentional response in self-care. Mindfulness-based cognitive therapy trains participants to observe bodily sensations, thoughts, feelings, and daily experiences without immediate avoidance or automatic reaction. For adolescent girls from divorced families, this skill may be especially valuable because self-care often requires noticing one's own needs before they become neglected, suppressed, or expressed through maladaptive behavior. Practices such as body scan, mindful breathing, three-minute breathing space, mindful walking, and compassionate attention to oneself can help adolescents develop a more immediate and respectful relationship with their physical and emotional states. This interpretation is consistent with systematic evidence showing that mindfulness-based interventions are suitable for child and adolescent populations when adapted to developmental needs (Porter et al., 2022). It also aligns with recent work emphasizing the structured application of mindfulness-based cognitive therapy for children and adolescents (Kholghi et al., 2025).

The present finding regarding mindfulness-based cognitive therapy is also supported by previous empirical studies. Mindfulness training has been shown to be effective among adolescents and to support healthier developmental functioning (Navidi Moghadam, 2025). Mindfulness-based cognitive therapy has also been reported as beneficial for adolescents, indicating that such interventions can strengthen adaptive personal functioning during this sensitive developmental period (Farrashzadehjelodar & Mohammadzadeh Admolaee, 2025). Moreover, mindfulness-oriented interventions have been used with children and adolescents from divorced families, supporting their relevance for populations affected by family separation (Abbasi et al., 2023; Mohammad et al., 2023). The present findings are also consistent with research showing that mindfulness is associated with adolescent well-being through self-directed and flexible psychological processes (Yousefi Afrashteh & Hasani, 2022). In addition, mindfulness-based intervention research among young people has shown that systematic attention training can improve adaptive management of inner experiences, which may indirectly strengthen self-care in daily life (Jia-Yuan et al., 2022). From this perspective, mindfulness-based cognitive therapy may improve self-care by helping adolescents pause, observe their needs, and choose behaviors that are more consistent with health, self-respect, and personal well-being.

The comparison between the two experimental groups showed that schema therapy and mindfulness-based

cognitive therapy did not differ significantly in their effects on physical self-care and psychosocial self-care. This finding suggests that both interventions were similarly useful in improving these two dimensions of self-care behaviors. Physical self-care may improve through both approaches because each intervention, despite different theoretical foundations, increases adolescents' attention to personal needs and daily responsibility. Schema therapy may do this by strengthening the healthy mode and helping adolescents reinterpret care for the body as a legitimate personal need. Mindfulness-based cognitive therapy may do this through body awareness, mindful routines, and present-moment attention to physical sensations. Similarly, psychosocial self-care may improve in both groups because both interventions were delivered in group format, allowing participants to practice communication, shared reflection, acceptance, and interpersonal learning. Thus, the lack of significant difference between the two approaches in these dimensions does not indicate weak intervention effects; rather, it suggests that both methods may be clinically valuable for improving practical and social aspects of self-care among adolescent girls from divorced families.

However, the results showed a significant difference between the two interventions in emotional self-care, with mindfulness-based cognitive therapy producing greater improvement than schema therapy. This finding may be explained by the fact that mindfulness-based cognitive therapy directly and repeatedly trains participants to observe emotional experiences, tolerate unpleasant inner states, respond with kindness, and replace automatic reactions with intentional responses. Emotional self-care requires the adolescent to notice feelings, accept emotional experience without excessive self-criticism, and choose self-protective responses rather than avoidance or suppression. The mindfulness-based protocol used in the present study included repeated practices such as breathing space, body scan, mindful awareness of feelings, compassionate response, and exercises focused on responding rather than reacting. Therefore, it is understandable that this intervention had a stronger effect on emotional self-care. This result is consistent with comparative studies indicating that mindfulness-based cognitive therapy and schema-based interventions may both be effective but may differ in their specific areas of impact depending on the nature of the outcome and the mechanisms activated by the intervention (Ghanizadeh Balderlou et al., 2025; Zarei et al., 2023). The result is also compatible with evidence emphasizing the role of self-care behaviors in broader health-related functioning

and mindful self-attention (Abdoli Arani & Tamanaeifar, 2025).

Although schema therapy also significantly improved emotional self-care, mindfulness-based cognitive therapy may have been more immediately connected to this dimension because emotional self-care is closely related to awareness of inner experience in the present moment. Schema therapy often works through deeper restructuring of long-standing patterns, unmet needs, and schema modes, which may require more time for full consolidation. In contrast, mindfulness-based cognitive therapy provides adolescents with concrete and repeatable practices that can be used immediately when difficult feelings arise. This may make mindfulness-based cognitive therapy especially effective for emotional self-care during the short-term posttest phase. Nevertheless, the effectiveness of schema therapy remains clinically important because it may address the deeper relational and developmental foundations of self-care. Prior studies on emotional schema therapy and schema-focused interventions support the value of schema-based work for improving adaptive functioning in youth and young adult populations (Abbady, 2023; Moradpour & Bavi, 2025; Reihani & Ahavan, 2024). Similarly, research on schema therapy among fatherless adolescents and children with developmental and behavioral difficulties supports the relevance of this approach for populations whose early relational experiences may influence self-directed care and adaptive behavior (Fereydooni & Sheykhan, 2024; Sanei Abadeh et al., 2023).

5. Conclusion

Overall, the findings of the present study suggest that both group schema therapy and group mindfulness-based cognitive therapy can be considered effective interventions for improving self-care behaviors among adolescent girls from divorced families. The results support the view that self-care behaviors can be improved through interventions that either address deeper developmental patterns and unmet needs or cultivate present-moment awareness and compassionate self-attention. The superiority of mindfulness-based cognitive therapy in emotional self-care highlights the particular relevance of mindfulness practices for helping adolescents relate to their inner experiences with acceptance and care. At the same time, the effectiveness of schema therapy across all dimensions indicates that schema-focused group work can also strengthen adolescents' capacity for self-care by modifying maladaptive patterns and

supporting healthier self-directed behavior. These findings contribute to the literature by focusing specifically on self-care behaviors as a practical and developmentally meaningful outcome in adolescent girls from divorced families.

One limitation of the present study was its quasi-experimental design and relatively small sample size, which may limit the generalizability of the findings to broader adolescent populations. The participants were selected from lower secondary schools in one district of Tabriz, and all were adolescent girls from divorced families; therefore, the findings may not be directly generalizable to boys, adolescents from other age groups, students from other cities, or adolescents with different family structures. Another limitation was the use of self-report measurement, which may be influenced by response tendencies, social desirability, or participants' subjective interpretation of self-care behaviors. In addition, the study assessed outcomes only at the pretest and posttest stages, and the absence of a follow-up assessment limits conclusions about the durability of the intervention effects over time.

Future research is suggested to replicate this study with larger samples and in different geographical, cultural, and educational contexts to increase the external validity of the findings. It is also recommended that future studies include both male and female adolescents and compare different age groups to determine whether developmental stage influences responsiveness to schema therapy and mindfulness-based cognitive therapy. Future studies may also use follow-up assessments to examine the stability of intervention effects after several months. In addition, using multi-informant assessment methods, such as parent, counselor, or teacher reports alongside adolescent self-reports, may provide a more comprehensive understanding of changes in self-care behaviors. Researchers may also examine which specific components of each intervention are most strongly associated with improvements in physical, psychosocial, and emotional self-care.

In practice, the findings suggest that school counselors, clinical psychologists, and adolescent mental health professionals can use group schema therapy and group mindfulness-based cognitive therapy as structured interventions to strengthen self-care behaviors among adolescent girls from divorced families. Mindfulness-based cognitive therapy may be especially useful when the primary goal is to improve emotional self-care, self-kindness, and mindful response to difficult inner experiences. Schema therapy may be particularly useful when adolescents show

persistent maladaptive patterns related to unmet needs, negative self-perceptions, or difficulties in recognizing themselves as worthy of care. Schools and counseling centers can integrate developmentally appropriate group programs into preventive and supportive services for adolescents affected by parental divorce, while ensuring confidentiality, parental consent, and a safe group environment.

Authors' Contributions

Authors equally contributed to this article.

Declaration

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

Transparency Statement

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

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

References

- Abbadly, A. (2023). The Effectiveness of Emotional Schema Therapy on Improving Emotion Regulation and Reducing Neurotic Perfectionism among University Students. *Information Sciences Letters*, 12(4), 1853-1862. <https://doi.org/10.18576/isl/120410>
- Abbasi, M., Bagheri, K., Jafari, Z., Jafari Moghadam, S., & Daemi Juybari, S. (2023). The Effectiveness of Group Mindfulness Training on Psychological Flexibility and Perceived Stress in

- Adolescents of Divorce. *Health Nexus*, 1(4), 99-106. <https://doi.org/10.61838/kman.hn.1.4.12>
- Abdoli Arani, F., & Tamanaeifar, M. R. (2025). Developing a Relational Model of Quality of Life, Mindfulness, and Self-Compassion with the Mediating Role of Self-Care Behaviors in Dialysis Patients. *Scientific Journal of Health Psychology*, 14(2), 45-62.
- Aboei, A., Asi Haddad, F., & Azizi, M. (2023). Prediction of Self-Care Based on Parent-Child Relationship and Family Emotional Climate in Women during Childhood. *Payesh*, 22(2), 223-232. <https://doi.org/10.52547/payesh.22.2.223>
- Aryani, E., Hadi, A., Ningsih, R., Dian Saputri, N., Laras, P., & Nurbaiti, A. (2023). Self-Regulation and Resilience in Adolescents in Divorced Families. Proceedings of the 1st Annual International Conference: A Transformative Education: Foundation and Innovation in Guidance and Counseling,
- Farrashzadehjeldar, R., & Mohammadzadeh Admolaee, R. (2025). The Effectiveness of Mindfulness-Based Cognitive Therapy on Psychological Flexibility and Zest for Life in Adolescents. *Journal of Adolescent and Youth Psychological Studies*, 6(6), 1-6. <https://doi.org/10.61838/kman.jayps.6.6.1>
- Fereydooni, F., & Sheykhani, R. (2024). The Effectiveness of Schema Therapy on Depression, Self-Esteem, and Distress Tolerance in Fatherless Depressed Adolescents. *Journal of Adolescent and Youth Psychological Studies*, 5(8), 87-96. <https://doi.org/10.61838/kman.jayps.5.8.10>
- Ghanizadeh Balderlou, K., Moheb, N., Alivandi Vafa, M., & Azmoodeh, M. (2025). Comparison of the Effectiveness of Emotional Schema Therapy and Mindfulness-Based Cognitive Therapy on Cognitive Emotion Regulation, Intolerance of Uncertainty, and Psychological Flexibility in Individuals with Generalized Anxiety Disorder. *Applied Psychological Research Quarterly*, 1(4), 123-143.
- Jia-Yuan, Z., Xiang-Zi, J., Yi-Nan, F., & Yu-Xia, C. (2022). Emotion Management for College Students: Effectiveness of a Mindfulness-Based Emotion Management Intervention on Emotional Regulation and Resilience of College Students. *The Journal of Nervous and Mental Disease*, 210(9), 716-722. <https://doi.org/10.1097/NMD.0000000000001484>
- Joshua, P. R., Lewis, V., Kelty, S. F., & Boer, D. P. (2025). Applications of Schema Therapy in Young People: A Systematic Review. *Cognitive behaviour therapy*, 1-23. <https://doi.org/10.1080/16506073.2025.2522375>
- Karimipour, A., Asgari, P., Makvandi, B., & Johari Fard, R. (2022). Effectiveness of Schema Mode Therapy for Children and Adolescents in Internalizing Behavior Problems among Adolescents Referred to Consulting Centers in Ahvaz, Iran. *Razavi International Journal of Medicine*, 10(3), 41-49.
- Khasareh, H., Pouladi Reyshahri, A., & Mohammadi, S. Y. (2023). The Effectiveness of Schema Therapy on Resilience and Social Adjustment in Female Adolescents in Kerman. *Journal of Modern Psychological Researches*, 17(68), 115-122.
- Kholghi, H., Habibi Asgarabad, M., Abolmaali Alhosseini, K., Dehghani, F., & Semple, R. J. (2025). The Effectiveness of Mindfulness-Based Cognitive Therapy for Children on Anxiety, Attentional Control, and Emotion Regulation in Children: A Study Protocol. *Frontiers in Pediatrics*, 13, 1459434. <https://doi.org/10.3389/fped.2025.1459434>
- Loose, C. (2023). *Schema Therapy for Children and Adolescents: Rationale and Evidence Base*.
- May, T., Younan, R., & Pilkington, P. D. (2022). Adolescent Maladaptive Schemas and Childhood Abuse and Neglect: A Systematic Review and Meta-Analysis. *Clinical Psychology & Psychotherapy*, 29(4), 1159-1171. <https://doi.org/10.1002/cpp.2712>
- Mohammad, Y., Sovabi Neyri, V., & Shayanfar, S. (2023). The Effectiveness of Child-Centered Mindfulness Therapy on Emotion Regulation and Self-Concept Improvement in Children with Divorced Parents. *Child Mental Health Quarterly*, 10(2), 51-60. <https://doi.org/10.61186/jcmh.10.2.5>
- Monjezi, F., Asadpour, E., Rasouli, M., & Zaharakar, K. (2023). Comparison of the Effects of Schema Therapy and Cognitive Behavioral Therapy on Cognitive Emotion Regulation in Adolescent Girls of Divorce. *Applied Psychology Quarterly*, 17(2), 91-113.
- Monjezi, F., Asadpour, E., Rasouli, M., & Zaharakar, K. (2024). The Effect of Schema Therapy-Based Group Counseling on Reducing the Psychological Distress of Adolescents of Divorce. *Journal of Applied Psychological Research*, 15(3), 161-179. <https://doi.org/10.22059/japr.2024.344238.644299>
- Moradpour, A., & Bavi, S. (2025). The Effectiveness of Emotional Schema Therapy on Academic Self-Efficacy, Test Anxiety, Distress Tolerance, and Academic Resilience in Students with Test Anxiety. *Educational Research in Medical Sciences*, 14(1), e160978. <https://doi.org/10.5812/ermsj-160978>
- Navidi Moghadam, M. (2025). The Effects of Mindfulness Training on Resilience and Emotional Regulation in Adolescents: A Quasi-Experimental Study. *International Journal of Body, Mind and Culture*, 12, 166-173. <https://doi.org/10.61838/ijbmc.v12i3.799>
- Ousman, Y. I., & Bulut, S. (2022). The Impact of Divorce on Middle and High School Students. *Journal of Psychology & Clinical Psychiatry*, 13(3), 66-69. <https://doi.org/10.15406/jpcpy.2022.19.00716>
- Porter, B., Oyanadel, C., Saez-Delgado, F., Andaur, A., & Penate, W. (2022). Systematic Review of Mindfulness-Based Interventions in Child-Adolescent Populations: A Developmental Perspective. *European Journal of Investigation in Health, Psychology and Education*, 12, 1220-1243. <https://doi.org/10.3390/ejihpe12080085>
- Reihani, S., & Ahavan, M. (2024). The Effectiveness of Emotional Schema Therapy on Emotion Regulation and Reducing Risky Behaviors in Adolescents. *Behavioral Sciences Research*, 22(1), 137-149.
- Sanei Abadeh, S. N., Sajadian, I., & Bahramipour Esfahani, M. (2023). The Effectiveness of Schema Therapy on Emotion Regulation and Social Competence in Children with Disruptive Mood Dysregulation Disorder. *Pajouhan Scientific Journal*, 21(3), 213-223. <https://doi.org/10.61186/psj.21.3.213>
- Tavakolian, N., Madadzadeh, F., Taheri Soodejani, M., & Lotfi, M. H. (2023). Identifying Factors Related to Divorce in Iranian Couples: A Case Study in Yazd, Iran. *Journal of Community Health Research*, 12(2), 228-235. <https://doi.org/10.18502/jchr.v12i27.14418>
- Yousefi Afrashteh, M., & Hasani, F. (2022). Mindfulness and Psychological Well-Being in Adolescents: The Mediating Role of Self-Compassion, Emotional Dysregulation, and Cognitive Flexibility. *Borderline personality disorder and emotion dysregulation*, 9(1), 1-11. <https://doi.org/10.1186/s40479-022-00192-y>
- Zarei, M., Bahrainian, S. A., Ahi, G., & Mansouri, A. (2023). Comparison of the Effectiveness of Mindfulness-Based Cognitive Therapy and Schema Therapy on Emotion Regulation and Distress Tolerance in Women with Obsessive-Compulsive Symptoms. *Research in Psychological Health*, 17(4), 82-100.