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Investigation the Effectiveness of Schema-Based Parenting on Emotion Regulation and Stress in Mothers of Children Under 6 Years Old

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A B S T R A C T

Objective: This study aimed to examine the effectiveness of schema-based parenting training on emotion regulation and stress in mothers with children under the age of six.

Methods and Materials: This research employed a quantitative method with a pre-test, post-test, and follow-up design, involving two experimental groups and one control group. The statistical population included all mothers with children under six years old in the city of Isfahan. Sampling was done purposefully by visiting kindergartens in Isfahan. Based on the cut-off points of the questionnaires and the inclusion and exclusion criteria, 30 participants were selected and randomly assigned into two groups: one experimental group (15 participants) and one control group (15 participants). Schema-based parenting training sessions (good enough parenting) based on the protocol by Mehrabinia et al. (2022) were conducted for the experimental group, while the control group did not receive any intervention. The research tools included the Abidin Parental Stress Index (1995) - Short Form, and the Shields and Cicchetti Emotion Regulation Checklist (1995). The collected data were analyzed using appropriate statistical tests (Repeated Measures Analysis of Variance and Bonferroni post hoc test) with SPSS software.

Findings: Given that the calculated F values for between-group effects (group membership effect) and within-group effects (time effect), as well as the interaction effect of group and time, were significant at the 99% confidence level ($P < 0.01$), these results indicate a significant difference between the two groups. Furthermore, it suggests that this significant difference exists in at least one of the intervention periods among the research groups. The results of the Bonferroni post hoc test showed a significant difference in the scores of adaptive emotion regulation, instability/negativity, and stress across the research stages between the experimental and control groups ($P < 0.01$). In other words, schema-based

parenting training had a significant positive impact on the research variables (P < 0.01).

Conclusion: These results confirm that this approach can be utilized as an effective strategy in improving parenting abilities and reducing psychological challenges in mothers during the parenting period.

Keywords: *Schema-based parenting, Emotion regulation, Stress.*

1. Introduction

Studies have shown that the parent-child relationship is a vital factor for the psychological adjustment of children. When discussing the parent-child relationship, the definition is often not clearly structured, and the elements and aspects of parent-child relationships are not well defined. Terms such as health or attachment, bonding (Phillips & Mychailyszyn, 2021) are frequently used when discussing parent-child relationships. Empirical studies define the quality of parent-child relationships as the feeling of openness between parents and children, the degree of openness, communication, and discussion (Phillips & Mychailyszyn, 2021; Popov & Ilesanmi, 2015; Ren & Liu, 2022; Sadeghi & Mazaheri, 2007). Problems and perceived conflicts between parents and children, feelings of rejection by parents, hostility/aggression between parents and children, the degree of interest shown by parents, and the time spent with parents (Bao et al., 2023; Bowlby, 2008; Cheraghi & Ebrahimi, 2018).

Sometimes, improper communication between parents and their children leads to behavioral abnormalities in children (Dehghan & Rasooli, 2016; DiMarzio et al., 2022). Therefore, the quality of the parent-child relationship in the early years of childhood lays the foundation for the future cognitive, social, and emotional development of the child (Dehghan & Rasooli, 2016; Holden & Hawk, 2003). In fact, the emotional care provided by the mother creates a situation where the child feels loved by others and expects to be treated as a worthy individual by others. Despite the positive effects of a good relationship, the negative effects of inadequate and unfavorable relationships cannot be ignored. Some of these negative effects include high levels of psychological health problems in parents, reciprocal interactions between parents, bidirectional parent-child communication, and sibling relationships, especially in children under five years old and even during elementary school (Mohajeri et al., 2013).

Stress is a condition that arises from the conflict between the individual and the environment, causing a mismatch between the demands of a situation and the individual's biological, psychological, and social resources (Clauser et al., 2020; Cooper et al., 2009; Crowell et al., 2019). Although this term is frequently used in daily life, a precise definition has not yet been provided (Dąbrowska & Pisula, 2010; Dong et al., 2022; Goldberg & Smith, 2014; Golfenshtein et al., 2016). Some people refer to stress as the quality of an external stimulus, while others refer to it as the response to the stimulus. Some also consider stress to be the product of the interaction between the stimulus and the response. Today, most health psychologists follow the third approach and believe that stress is a process involving an environmental event (stressor), individual evaluation (whether it is difficult or threatening), organismal responses (physiological, emotional, cognitive, and behavioral), and re-evaluations following the responses and changes in the stressor (Crowell et al., 2019; Fassbinder et al., 2016).

In general, parental stress refers to the conditions or situations in which parents face environmental demands and requirements that exceed their social and personal resources. Among parents, mothers experience higher levels of stress, which is associated with their life satisfaction and physical illnesses (Neece et al., 2012; Raikes & Thompson, 2005). During the early years of life, as mothers guide their young children from complete dependence in infancy to the early stages of autonomy, the style of child care becomes important and can have direct and lasting effects on the child's social functioning in areas such as moral development, peer play, and academic achievement. Therefore, it is essential to be sensitive to psychological problems such as stress and depression in parents, especially mothers, because there is a bidirectional relationship between parent-child interaction and child behavioral problems and maternal stress. Parental stress has a significant impact on maternal and child health and interaction (Pourebrahim & Doniamaly, 2021; Putnick et al., 2008). In fact, parenting is a stressful phenomenon and can naturally lead to frequent and significant impairments in the ability to mentalize for many individuals. Intense feelings of guilt, humiliation, anxiety, overprotectiveness, love, frustration, and anger are common emotions in parenting experiences, which can make mothers curious about their experiences, especially in extreme cases (Chaplin et al., 2021; Dąbrowska & Pisula, 2010).

Stress in single-parent life manifests as work-life conflict, combining financial pressure and the pressure of fulfilling

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the parenting role, inadequate social support for single-parent families, and child misconduct in adolescence, chronic psychological pressure due to economic problems, and reduced perceived social support and increased psychological problems (Dąbrowska & Pisula, 2010; Dong et al., 2022). Stress symptoms are often interpreted as signs of harmful and dangerous effects of worry, which reinforces negative beliefs and immediately increases the level of stress (Han & Lee, 2019; Hassall et al., 2005; Lee & Chiang, 2018).

In facing stressful conditions such as parenting, individuals use various emotion regulation strategies. Emotion is the first organizing element of behavior in attachment. Emotions provide individuals with an opportunity to express their feelings about anything, and this emotional expression acts as a link between internal experiences and the external world (Saadati et al., 2020; Vismara et al., 2021), which interacts reciprocally with cognition and helps individuals evaluate situations related to personal values, needs, goals, or interests (Moreira & Canavarro, 2018; Pourebrahim & Doniamaly, 2021). During child-rearing, mothers experience various emotional, psychological, and marital problems that reduce interaction with the child, leading to feelings of guilt and problems such as depression, stress, and emotion regulation issues (Aghaziarati et al., 2022; Aghaziarati et al., 2023). On the other hand, the inability to regulate emotions in mothers can fundamentally disrupt the psychological functioning of family members in terms of thinking, mood, behavior, coping with emotional and psychological problems, and parenting. Since emotion is an inseparable part of every human's life, emotion regulation is one of the important variables, especially in the parent-child relationship. Emotion regulation can be defined as the processes through which individuals influence what emotions they have, when they have them, and how they experience and express them (Dennis, 2006; Ferreira et al., 2024). According to the theoretical model, emotion regulation is a unique process for modifying emotional experiences to achieve social desirability and to be in a physical and psychological state ready to respond appropriately to external and internal demands. Emotion regulation involves "organizing and regulating" emotional processes for adaptive functioning, and therefore, emotional dysregulation refers to regulatory processes that ultimately disrupt adaptive functioning (Keleynikov et al., 2023; McNeil & Repetti, 2018). Consequently, emotion regulation refers to the stage where individuals influence their emotions and how they express and experience them (Mehrdadfar et al., 2023; Roghani et al., 2022).

Among these, schema therapy has also proposed a new perspective in the field of parenting, helping parents to better see their behavioral problems and understand them to establish a better relationship with their children. Research has shown that considering the important role of schema-based parenting (good enough parenting) in meeting basic emotional needs, shaping children's personalities, and preventing the formation of schemas, the use of schema therapy-based parenting training is highly effective (Gülüm & Soygüt, 2022). Good enough parenting or schema-based parenting is one of the parenting methods in which parents make the greatest effort to express love to their children and meet their basic emotional needs in a balanced manner. The common point in all parenting methods is that parents should establish an empathetic relationship with their children and avoid causing frustration in them. In good enough parenting, if parents meet their children's basic emotional needs in a balanced manner, the likelihood of children experiencing optimal growth and a sense of efficacy in adulthood increases. Parents with a good enough parenting style meet their children's basic emotional needs to prevent the formation of maladaptive schemas, leading to the development of a healthy personality in children (Schaap et al., 2016; Younesi et al., 2021).

In conclusion, based on the aforementioned points and research findings, it can be concluded that parenting style and parent-child interaction directly affect children's behaviors and their level of adaptation. Despite extensive research on parenting programs for children, there is a lack of studies comparing and assessing the effectiveness of schema-based parenting programs considering the conditions and culture of Iranian children and parents. Parents need to be educated about parenting and make correct decisions regarding their child's communication style and education. Considering the dynamic and reciprocal relationship between parenting and child behavior, addressing factors that improve this relationship and enhance parents' ability to cope with the challenges of raising a child is essential. In this regard, among parenting programs, schema-based parenting methods have strong theoretical and empirical support. Therefore, this study aims to examine the effectiveness of schema-based parenting training on emotion regulation and stress.

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2. Methods and Materials

2.1. Study Design and Participants

This study is a fundamental research with an applied purpose, using a quasi-experimental design with one experimental group and one control group, with pre-test, post-test, and two-month follow-up to test the research hypotheses using a quantitative method. Both groups completed the questionnaires mentioned in the measurement tools section in the pre-test stage, and then the experimental group underwent the intervention while the control group received no intervention. Afterward, both groups completed the questionnaires in the post-test stage, and after the two-month follow-up period, they were tested again. The statistical population of this research included all mothers with children under six years old in the city of Isfahan. Sampling was done purposefully by visiting kindergartens in Isfahan, and based on the cut-off points of the questionnaires and the inclusion and exclusion criteria, 30 participants were selected and randomly assigned into two groups: one experimental group (15 participants) and one control group (15 participants). The inclusion criteria for the study were being a mother, having a child under six years old, scoring above the cut-off point in the questionnaires, and providing written consent. The exclusion criteria were using psychiatric medication, substance abuse, participating in similar sessions, being absent for more than two sessions, and unwillingness to continue the study.

Participants who met the entry criteria were selected and placed in two experimental groups and one control group after completing consent forms and matching based on variables such as age, education, and occupation. Both groups were first evaluated using the questionnaires introduced in the research tools section; then, the experimental group received schema-based training sessions. At the end of the course, both groups completed the post-test questionnaires.

2.2. Measures

2.2.1. Parental Stress

The Parental Stress Index was developed by Abidin (1990) and is a questionnaire that measures stress in the parent-child system. This questionnaire is based on the principle that parental stress can arise from certain child characteristics, some parental traits, or various situations directly related to the parenting role. The Parental Stress Index has 36 questions and three components: parental distress, dysfunctional parent-child interactions, and difficult child characteristics. Scoring is done using a Likert scale based on responses from 1 to 5 (from strongly agree to strongly disagree). Berry and Jones (1995) used the convergent validity method to examine the validity of this index and reported satisfactory convergent validity with various tools measuring psychological stress, emotion, and role satisfaction, including perceived stress, job/family stress, loneliness, anxiety, guilt, marital satisfaction, marital commitment, job satisfaction, and social support. Additionally, discriminant analyses demonstrated the index's ability to differentiate between parents of typically developing children, parents of children with developmental problems, and parents of children with behavioral problems (Berry & Jones, 1995). In a study by Ahmadi and Yousefi (2017), the validity of this index was examined by calculating the correlations between each item and the total score, showing significant correlations at the 0.01 level. Berry and Jones (1995) also used internal consistency and test-retest methods to examine the reliability of this tool, reporting satisfactory levels of internal consistency (0.83) and test-retest reliability (0.81). Farahani (2012) reported a Cronbach's alpha of 0.87 for this index, indicating high reliability (Sadeghzadeh et al., 2019).

2.2.2. Emotion Regulation

The Emotion Regulation Checklist was developed by Shields and Cicchetti in 1995 to assess emotion regulation in children aged 5 to 12 years. This questionnaire contains 24 questions and two subscales: adaptive emotion regulation (8 questions: 1, 3, 4, 5, 9, 11, 15, 18) and instability/negativity (16 questions: 2, 6, 7, 8, 10, 12, 13, 14, 16, 17, 19, 20, 21, 22, 23, 24). Scores on the subscales are independent, and the questionnaire does not have a total score. Scoring is done using a four-point Likert scale, where responses of "never" receive a score of 1, "sometimes" a score of 2, "often" a score of 3, and "almost always" a score of 4. The minimum score is 24, and the maximum score is 96. In this questionnaire, higher scores on the adaptive emotion regulation subscale indicate greater capacity for managing and moderating emotional arousal, while higher scores on the instability/negativity subscale indicate extreme emotional reactions and frequent mood changes unrelated to external events or stimuli. In their 1995 study, Shields and Cicchetti reported internal consistency reliability for the instability/negativity subscale at 0.85 for preschool children

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and 0.88 for school-aged children, and for the adaptive emotion regulation subscale at 0.71 and 0.79, respectively. The creators of the ERC reported good fit using confirmatory factor analysis and convergent validity with correlations between the ERC and measures of emotion regulation and affect regulation. In a study by Pezeshki et al. (2021), internal consistency reliability for the total scale was reported as 0.94. Shafiei Tabar et al. (2020) reported Cronbach's alpha coefficients of 0.76 and 0.69 for the two subscales, respectively. The information function checklist showed that the instability/negativity subscale had the highest information and the lowest measurement error for traits ranging from -2 to 3 ($P < 0.01$), while the adaptive emotion regulation subscale had high information and low measurement error for traits ranging from 2 to -3. In Pezeshki et al.'s study, exploratory factor analysis revealed two factors: instability/negativity and adaptive emotion regulation, which together explained 63.90% of the total variance. Confirmatory factor analysis also showed a good fit for the model. The adaptive emotion regulation subscale showed significant negative correlations with CBCL components, while the instability/negativity subscale showed significant positive correlations with CBCL components. In Shafiei Tabar et al.'s study, the validity of the emotion regulation checklist was confirmed through exploratory and confirmatory factor analysis (classical theory) and multidimensional models (item response theory) (Pourebrahim & Doniamaly, 2021; Roghani et al., 2022; Saadati et al., 2020).

2.3. Intervention

2.3.1. Schema-based Parenting Training

This training includes 12 sixty-minute sessions based on a program developed and localized by Mehrabinia et al. (2022). The summary content of the schema-based parenting training (good enough parenting) sessions is as follows (Mehrabinia et al., 2022).

Session 1: Introduce good enough parenting and its importance. Discuss the five basic emotional needs of children.

Session 2: Introduce the need for security and stability and its importance. Explain the schemas formed due to unmet attachment needs.

Session 3: Examine the abandonment/instability and mistrust/abuse schemas. Identify and address negative schemas.

Session 4: Introduce and reinforce the need for love, relationship, and acceptance. Conduct practical exercises to strengthen these needs in children.

Session 5: Discuss emotional regulation strategies for children and parents. Conduct practical exercises to improve emotional regulation.

Session 6: Introduce the basic emotional needs of self-regulation, competence, and identity. Discuss methods to strengthen these needs in children.

Session 7: Examine schemas related to dependency and incompetence. Provide practical techniques to reduce the impact of these schemas.

Session 8: Introduce the need for freedom to express needs and healthy emotions. Conduct activities and games to strengthen these needs.

Session 9: Identify and manage schemas formed due to incorrect limitations and entitlement.

Session 10: Discuss strategies to strengthen responsibility and self-discipline in children. Conduct practical exercises for parents and children.

Session 11: Discuss ways to encourage children towards spontaneity and healthy recreation. Conduct exercises to strengthen children's sense of identity and independence.

Session 12: Review key course content and address any remaining questions. Discuss and provide feedback on the strengths and weaknesses of the educational program.

2.4. Data analysis

The collected data will be analyzed using SPSS software and descriptive statistics (mean, standard deviation, frequency, skewness, kurtosis) and inferential statistics (multivariate analysis of variance with repeated measures and post hoc tests and mean comparison).

3. Findings and Results

In terms of demographic characteristics, the mean age (standard deviation) of participants in the schema-based parenting group was 32.40 (2.15) years and in the control group was 32.07 (3.00) years. Regarding economic status, in the schema-based parenting group, 5 participants (33%) had good economic status, 5 participants (33%) had average economic status, and 5 participants (33%) had poor economic status. In the control group, 3 participants (20%) had good economic status, 7 participants (47%) had average economic status, and 5 participants (33%) had poor economic status.

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Table 1

Descriptive Analysis of Variables

Variable	Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	Follow-up Mean	Follow-up SD
Adaptive Emotion Regulation	Schema-based Parenting	18.40	4.73	21.44	4.52	21.59	4.62
	Control	17.93	4.00	18.05	4.73	17.99	4.60
Instability/Negativity	Schema-based Parenting	37.03	7.32	33.03	7.49	33.18	7.16
	Control	38.22	7.70	38.50	7.15	38.10	6.96
Stress	Schema-based Parenting	113.92	15.30	100.53	16.25	101.07	15.99
	Control	112.70	17.33	112.99	19.09	112.03	18.77

In Table 1, the mean and standard deviation of the participants' scores in the variables of adaptive emotion regulation, instability/negativity, and stress are presented. As observed, participants in the pre-test stage, before the intervention, had low scores in adaptive emotion regulation and high scores in stress and instability/negativity. According to the table, there is a noticeable increase in the mean adaptive emotion regulation and a noticeable decrease in stress scores in the experimental groups. This finding indicates that the intervention sessions intuitively changed the dependent variables' scores in the research, while the control group's scores did not change significantly. Moreover, no intuitive change was observed in the follow-up stage compared to the post-test stage in the experimental group's research variables, indicating the persistence of the intervention effects. To examine these changes more precisely, the data were subjected to inferential analysis, and the results were presented.

Considering the significance levels of the Shapiro-Wilk test ($p < .05$), the normality assumption for all groups is satisfied. Therefore, with a high probability of normal distribution (greater than 95%), parametric tests can be used. Levene's test was used to test the equality of variances assumption between the two groups. Levene's test results showed no significant difference in variances between the experimental and control groups in any variable ($p > .05$). Given the non-significant interaction of group and pre-test in adaptive emotion regulation, instability/negativity, and stress ($p > .05$), the homogeneity of interactive effects assumption is satisfied, and repeated measures ANOVA can be used to test the research hypotheses. Repeated measures ANOVA was used to examine the effectiveness of schema-based parenting on the dependent variables in the sample. In this analysis, post-test scores were entered as dependent variables, group variable (with two levels) as an independent variable, and pre-test scores as covariates. Mauchly's test results indicated that the covariances of dependent variables in three stages are overall equal, satisfying the assumption of repeated measures ANOVA ($p > .05$). Thus, no correction for degrees of freedom was applied. The summary results of the ANOVA are reported in Table 2.

Table 2

Summary of Repeated Measures ANOVA for Determining the Effectiveness of Schema-Based Parenting

Variable	Source of Effect	Sum of Squares	df	Mean Square	F	Significance	Eta Squared	Power
Adaptive Emotion Regulation	Within-group							
	Time	65689.16	2	32844.58	74.84	.001	.63	1
	Time × Group	150.42	2	75.21	8.58	.003	.36	1
	Error	35970.49	56	642.33	-	-	-	-
	Between-group							
	Group	30066.94	1	30066.94	25.89	.001	.44	1
	Error	24390.84	28	871.10	-	-	-	-
Instability/Negativity	Within-group							
	Time	11330.18	1.76	6434.50	1187.56	.001	.97	1
	Time × Group	6988.44	1.76	3973.10	366.24	.001	.95	1
	Error	400.71	49.28	8.13	-	-	-	-
	Between-group							
	Group	5553.64	1	5553.64	241.04	.001	.74	1

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	Error	483.96	28	17.28	-	-	-	-
Stress	Within-group							
	Time	13863.24	2	6931.62	352.23	.001	.89	1
	Time × Group	2541.69	2	1270.85	32.29	.001	.61	1
	Error	1653.07	56	29.52	-	-	-	-
	Between-group							
	Group	3696.13	1	3696.13	67.88	.001	.76	1
	Error	1143.47	28	40.84	-	-	-	-

Given that the calculated F values for between-group effects (group membership effect) and within-group effects (time effect), as well as the interaction effect of group and time, were significant at the 99% confidence level ($p < .01$), these results indicate a significant difference between the two groups. Furthermore, it suggests that this significant difference exists in at least one of the intervention periods among the research groups. Bonferroni post hoc tests were used to examine the specific effects and differences between groups and measurement times and to test the research hypotheses.

Table 3

Bonferroni Post Hoc Test Results for Comparing Adjusted Mean Scores in Two Groups During Measurement Stages

Variable	Pre-test - Post-test	Pre-test - Follow-up	Post-test - Follow-up
	Mean Difference (p)	Mean Difference (p)	Mean Difference (p)
Adaptive Emotion Regulation	2.95 (.001)	3.08 (.001)	0.10 (1.00)
Instability/Negativity	-5.75 (.001)	-5.63 (.001)	-0.12 (1.00)
Stress	-12.98 (.001)	-13.50 (.001)	0.52 (1.00)

The results in Table 3 show that the scores of adaptive emotion regulation and instability/negativity in the schema-based parenting group at the post-test stage were significantly higher and lower, respectively, compared to the pre-test stage ($p < .01$). The results also indicate that the scores of the emotion regulation subscales (adaptive emotion regulation and instability/negativity) in the schema-based parenting group at the follow-up stage did not significantly differ from the post-test stage ($p > .05$), but they did significantly differ from the pre-test stage ($p < .01$), indicating the persistence of the intervention effects on emotion regulation scores. Therefore, it can be concluded that schema-based parenting had a significant effect on participants' emotion regulation, and this effect was maintained at the follow-up stage. Additionally, the results show that the stress scores in the schema-based parenting group at the post-test stage were significantly lower than at the pre-test stage ($p < .01$). The results also indicate that the stress scores in the schema-based parenting group at the follow-up stage did not significantly differ from the post-test stage ($p > .05$), but they did significantly differ from the pre-test stage ($p < .01$), indicating the persistence of the intervention effects on stress scores. Therefore, it can be concluded that schema-based parenting had a significant effect on participants' stress, and this effect was maintained at the follow-up stage.

4. Discussion and Conclusion

The present study examined the impact of schema-based parenting training on emotion regulation and stress in mothers with children under six years old. The findings of this study indicate that schema-based parenting training significantly improves emotion regulation in mothers with children under six years old. These findings are consistent with the results of prior studies (Askari et al., 2017; Fitzpatrick & Ritchie, 1994; Kaveh et al., 2011; Khorasani Zadeh et al., 2019; Mehrabinia et al., 2022), which emphasize that schema-based training can effectively improve mothers' emotion regulation.

This training, which focuses on identifying and modifying maladaptive schemas and addressing children's needs, helps mothers better understand and regulate their own and their children's emotions, leading to enhanced positive parent-child interactions. These training programs provide parents with tools to identify and work with their maladaptive emotions, which in turn leads to healthier and less stressful family relationships (Askari et al., 2017).

In conclusion, schema-based parenting training is recognized as an effective intervention for improving mothers' emotion regulation, which can have positive impacts on the quality of parent-child relationships and the

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overall mental health of the family. Implementing such training as part of support programs can help parents develop the necessary skills to effectively respond to their children's emotional needs, thus strengthening the foundations of a healthy and balanced family. The results of this study showed that schema-based parenting training can significantly reduce stress levels in mothers with children under six years old. On the other hand, some studies focus on the challenges of implementing these training programs and the potential for their ineffectiveness due to individual differences. In other words, this training, by providing approaches based on maladaptive schemas and related needs, helps mothers view their relationships with their children more consciously, which reduces the experience of stress arising from parenting. Consistent research findings have shown that schema-based training can help parents employ more effective coping strategies for parenting challenges, thereby reducing their stress levels. Additionally, this training enhances parents' emotion regulation, which in turn improves parent-child relationships and reduces family tensions (Fassbinder et al., 2016; Schaap et al., 2016; Younesi et al., 2021). Thus, schema-based parenting training not only provides parents with tools to identify and correct their maladaptive schemas but also helps them face the stresses of parenting more effectively. This training enables parents to approach their relationships with their children more consciously, reducing stress experiences and enhancing the family's mental health.

5. Limitations & Suggestions

Moreover, the present study, like other studies, faced limitations. For example, selecting samples from a specific geographical area and using a non-random sampling method may limit the generalizability of the results to other populations. Since the research was conducted within a limited time frame, the long-term effects of the interventions may not be fully identified. The measurement tools used in the research might have limitations in terms of accuracy and validity. Additionally, self-report data always contain some degree of error. External and environmental factors that could affect the results but were not controlled in this research. This study used only a limited number of educational methods, which may not cover all aspects of the impact of competency-based training. Examining and comparing different methods can provide a more comprehensive perspective. The lack of qualitative information is a limitation that affects the deeper understanding of the participants' experiences and feelings. Qualitative data can provide more information about how educational programs impact participants. Finally, the following research suggestions are provided:

Examining Long-term Effects of Training: Conducting research with longer follow-up periods to evaluate the long-term effects of schema-based parenting training on emotion regulation and stress in mothers.

Comparing with Other Approaches: Comparing the effectiveness of this intervention with other parenting approaches or psychological interventions to identify more effective methods.

Analyzing Factors Influencing Effectiveness: Investigating the role of various factors such as parents' education level, socio-economic status, and children's age in the effectiveness of this training.

Impact on Other Variables: Assessing the impact of the training on other variables related to mental health and parenting abilities, such as parental self-efficacy and life satisfaction.

Examining the Impact of Parents' Gender: Studying potential differences in the effectiveness of the training between mothers and fathers of children under six years old.

Qualitative Research: Conducting qualitative studies to gain a deeper understanding of parents' experiences during and after participating in these training programs and their impact on family relationships.

Causal Modeling: Using causal modeling to determine causal relationships among the studied variables and identify mediating factors involved in the training's effectiveness.

Based on the findings of this research, the following practical suggestions are provided:

Development of Educational Programs: Developing and implementing schema-based parenting training programs in health centers, schools, and kindergartens to help parents better manage stress and strengthen parent-child relationships.

Workshops for Parents: Conducting educational workshops and support groups for parents to share experiences and learn new skills in parenting.

Intervention in Public Policy Programs: Integrating schema-based parenting training into public policy programs related to family health and psychological problem prevention.

Training Specialists: Training mental health professionals, counselors, and child educators to use these approaches in their work with families.

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Producing Educational Content: Producing educational content, including books, videos, and online programs, to facilitate parents' access to educational resources.

Supporting Further Research: Encouraging and supporting further research in this area to improve and develop parenting education programs.

Culture Building and Awareness: Conducting culture-building and awareness activities in the community to emphasize the importance of parenting education and its role in strengthening family mental health.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

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

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed in this article.

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