

Development of a Parent–Adolescent Relationship Training Program Based on the Lived Experiences of Mothers of Children with Social Anxiety Disorder and Examination of Its Effectiveness on Adolescents' Social Adjustment, Social Anxiety, and Emotion Regulation

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ABSTRACT

Objective: The present study aimed to develop a parent–adolescent relationship training program based on the lived experiences of mothers of adolescents with social anxiety disorder and to examine its effectiveness on adolescents' social adjustment, social anxiety, and emotion regulation.

Methods and Materials: The study employed an exploratory sequential mixed-methods design. In the qualitative phase, semi-structured interviews were conducted with 20 mothers of adolescents with social anxiety disorder selected through purposeful sampling, and the data were analyzed using Colaizzi's descriptive phenomenological method, resulting in the extraction of eight main themes and 24 subthemes. Based on these findings, an eight-session parent–adolescent relationship training program was developed and its content validity was evaluated by 20 experts in psychology and counseling. In the quantitative phase, the study used a quasi-experimental pretest–posttest design with a three-month follow-up and a control group. Thirty adolescents aged 12–16 years with social anxiety disorder were selected through convenience sampling and randomly assigned to experimental and control groups. The experimental group participated in eight weekly 90-minute group sessions for mothers, while the control group received no intervention. Data were collected using the Adolescent Social Anxiety Questionnaire, Social Adjustment Questionnaire, and Cognitive Emotion Regulation Questionnaire. Data analysis was conducted using multivariate analysis of covariance (MANCOVA), univariate analysis of covariance (ANCOVA), and paired-samples t-tests with Bonferroni adjustment in SPSS version 26.

Findings: The results of multivariate analysis of covariance demonstrated that the parent–adolescent relationship training program had a significant effect on the linear combination of social adjustment, social anxiety, and emotion regulation variables (Wilks' lambda = 0.28, $F = 21.35$, $p < .001$, $\eta^2 = 0.72$). Univariate analyses indicated

that the intervention significantly increased social adjustment ($F = 19.55, p < .001, \eta^2 = 0.42$), significantly reduced social anxiety ($F = 43.12, p < .001, \eta^2 = 0.62$), and significantly improved emotion regulation ($F = 12.18, p = .002, \eta^2 = 0.31$). The results of paired-samples t-tests at the three-month follow-up stage showed no significant differences between posttest and follow-up scores ($p > .05$), indicating the stability of intervention effects over time.

Conclusion: The findings indicate that a parent–adolescent relationship training program grounded in the lived experiences of mothers can effectively reduce adolescents’ social anxiety while improving social adjustment and emotion regulation. The stability of intervention effects at follow-up suggests that experiential and family-centered educational approaches may create enduring emotional and relational changes within the family system. Therefore, integrating parents’ lived experiences into intervention design may provide a culturally sensitive and practically effective approach for improving psychological functioning among adolescents with social anxiety disorder.

Keywords: *social anxiety, training program, mothers’ lived experiences, parent–adolescent relationship, emotion regulation.*

1. Introduction

Adolescence is a critical developmental period characterized by extensive biological, cognitive, emotional, and social changes that substantially influence psychological adjustment and interpersonal functioning. During this developmental stage, adolescents become increasingly sensitive to peer evaluation, social acceptance, and interpersonal interactions, making them particularly vulnerable to anxiety-related disorders, especially social anxiety disorder (Sattari, 2022). Social anxiety disorder is among the most prevalent psychological disorders in adolescence and is characterized by excessive fear of negative evaluation, avoidance of social situations, heightened self-consciousness, and persistent distress in interpersonal interactions (Tse et al., 2023; Walder et al., 2023). Adolescents with social anxiety disorder often experience impairments in academic functioning, peer relationships, emotional adjustment, and quality of life, which may persist into adulthood if left untreated (Beyranvand & Rezaei, 2025; van Loon et al., 2023). The growing prevalence of social anxiety among adolescents has therefore become a major concern for researchers, clinicians, and educators seeking effective preventive and therapeutic interventions (Mohammadi et al., 2025).

Research evidence suggests that social anxiety disorder in adolescence is not merely an individual emotional problem but is deeply embedded within family interactions, parenting styles, attachment patterns, and the emotional climate of the family system (Kuang et al., 2024; Vosoughi, 2024). Parent–adolescent relationships play a central role in shaping adolescents’ emotional security, social competence, and self-regulatory capacities. Positive parent–adolescent

interactions characterized by empathy, emotional support, open communication, and responsiveness are associated with lower levels of anxiety and greater psychosocial adjustment among adolescents (Danesh, 2025; Mohammadzadeh et al., 2025). Conversely, dysfunctional communication patterns, excessive criticism, overprotection, emotional unavailability, and harsh parenting behaviors can contribute to the development and maintenance of social anxiety symptoms (Mohammadi et al., 2025; Rashed et al., 2025). Consequently, contemporary theoretical models increasingly conceptualize adolescent social anxiety as a multidimensional phenomenon influenced by both individual vulnerabilities and relational contexts.

One of the major psychological mechanisms associated with social anxiety disorder is emotion regulation. Emotion regulation refers to the processes through which individuals monitor, evaluate, and modify emotional experiences and expressions in order to achieve adaptive functioning (Ansari et al., 2024). Adolescents with social anxiety disorder frequently demonstrate maladaptive emotion regulation strategies, including rumination, catastrophizing, emotional suppression, and avoidance, which intensify emotional distress and impair social functioning (Moradi et al., 2023; Nasehi et al., 2025). Difficulties in emotion regulation reduce adolescents’ ability to cope effectively with stressful social situations and increase their vulnerability to persistent anxiety symptoms (Sattari, 2022). Furthermore, research indicates that emotion regulation skills are strongly influenced by parental behaviors, family emotional climate, and parent–child attachment patterns (Nikkhah Delshad et al., 2023; Rashed et al., 2025). Parents who demonstrate

emotional awareness, adaptive coping strategies, and supportive communication can facilitate the development of healthy emotion regulation capacities in their children.

The family environment also significantly affects adolescents' social adjustment. Social adjustment refers to an individual's ability to establish effective interpersonal relationships, adapt to social expectations, and function successfully within social contexts (Rabiei, 2013). Adolescents with social anxiety disorder often exhibit poor social adjustment, social withdrawal, limited peer interactions, and low self-esteem, which negatively influence academic and psychosocial outcomes (Kuang et al., 2024; Vosoughi, 2024). Previous studies have shown that positive family communication and emotionally supportive parenting are associated with higher levels of social adjustment among adolescents (Mohammadzadeh et al., 2025). In contrast, family conflict, poor communication quality, and emotionally invalidating parenting practices increase the likelihood of maladjustment and social isolation (Ravankhah & Tavakoli Saleh, 2023). These findings underscore the importance of family-centered interventions aimed at improving parent-adolescent relationships in order to enhance adolescents' social functioning and emotional well-being.

Recent psychological interventions for adolescent social anxiety have increasingly emphasized cognitive-behavioral, emotion-focused, and skills-based approaches. School-based cognitive-behavioral therapy programs have demonstrated effectiveness in reducing social anxiety symptoms and improving adolescents' coping skills (Tse et al., 2023; van Loon et al., 2023). Similarly, online guided self-help interventions and transdiagnostic treatment approaches have shown promising outcomes in decreasing anxiety symptoms and improving emotional functioning among adolescents with social anxiety disorder (Beyranvand & Rezaei, 2025; Walder et al., 2023). Cognitive-behavioral interventions targeting rumination and anxiety sensitivity have also been associated with reductions in emotional distress and maladaptive cognitive patterns (Nasehi et al., 2025). Despite these advances, many existing interventions primarily focus on adolescents themselves while paying limited attention to the relational and familial processes contributing to the persistence of social anxiety.

In recent years, family-based and parent-focused interventions have received increasing attention because of their potential to address the interpersonal dynamics underlying adolescent psychological difficulties. Research has demonstrated that parent-focused emotion regulation

skills training can improve parental mental health, increase parental self-efficacy, and positively influence children's emotional adjustment (Ansar et al., 2024). Similarly, family-oriented interventions have been shown to reduce parental meta-worry beliefs, health anxiety, and social anxiety symptoms in children (Rahmani et al., 2023). Studies examining parent-adolescent relationship-based counseling have reported positive effects on adolescents' personal adjustment and quality of life (Hosseini et al., 2024). Furthermore, interpersonal emotion regulation processes within parent-adolescent relationships appear to play a critical role in managing anxiety and improving emotional functioning (Naor-Ziv et al., 2023). These findings suggest that interventions targeting parents' emotional awareness, communication styles, and relational patterns may produce meaningful improvements in adolescents' social anxiety and psychosocial functioning.

Another important issue in the literature concerns the role of mothers' psychological experiences and perceptions in shaping parent-adolescent interactions. Mothers of adolescents with social anxiety disorder often experience chronic worry, guilt, emotional exhaustion, and uncertainty regarding how to respond to their children's emotional needs (Pinkard, 2025). These lived experiences may significantly influence parenting behaviors, emotional availability, and communication patterns within the family system. However, despite the recognized importance of parental experiences, many intervention programs are designed primarily based on theoretical models and expert assumptions rather than the real-life experiences of parents themselves. This limitation may reduce the ecological validity and practical applicability of interventions in everyday family contexts.

Phenomenological and qualitative studies provide valuable opportunities to understand the lived realities of adolescents and their families in greater depth. Qualitative investigations have shown that adolescents with social anxiety disorder frequently perceive social situations as threatening and emotionally overwhelming, leading to heightened self-monitoring and avoidance behaviors (Halldorsson et al., 2023). Similarly, phenomenological studies examining parent-child communication have demonstrated that adolescents' perceptions of communication quality significantly influence emotional adjustment and interpersonal functioning (Ravankhah & Tavakoli Saleh, 2023). These findings indicate that understanding the subjective experiences of both adolescents and parents is essential for developing

contextually relevant and emotionally responsive interventions.

In addition, the intergenerational transmission of emotional patterns and attachment-related processes has become an important area of research in developmental psychology. Maternal attachment dimensions, irrational beliefs, and reflective functioning have been identified as significant predictors of children's emotion regulation capacities (Rashed et al., 2025). Mothers' maladaptive schemas and emotional dysregulation may also contribute to conflictual parent-adolescent relationships and emotional difficulties among adolescents (Nikkhah Delshad et al., 2023). Accordingly, interventions that help parents recognize and modify maladaptive emotional and relational patterns may enhance adolescents' emotional adjustment and reduce anxiety symptoms.

The literature also highlights the importance of parental self-efficacy and emotional awareness in improving parent-child interactions. Emotion-focused skills training programs have been shown to strengthen parents' confidence in managing emotional situations and improve their responsiveness to children's emotional needs (Ansar et al., 2024). Adolescents benefit substantially when parents model adaptive emotion regulation strategies and provide emotionally validating environments. Moreover, programs that include both adolescents and parents appear to increase treatment acceptability and engagement (Holmqvist Larsson & Zetterqvist, 2024). These findings support the development of integrative interventions that combine emotional education, communication enhancement, and experiential learning within the family context.

Although previous studies have demonstrated the effectiveness of cognitive-behavioral, family-based, and emotion-focused interventions for adolescent social anxiety, several important gaps remain in the literature. First, many existing interventions are standardized and protocol-driven, with limited adaptation to the lived realities and everyday challenges experienced by parents. Second, relatively few studies have incorporated mothers' lived experiences directly into the development of educational programs. Third, the majority of interventions focus primarily on symptom reduction rather than broader outcomes such as social adjustment and emotion regulation. Finally, limited research has simultaneously examined the effects of parent-focused interventions on adolescents' social anxiety, social adjustment, and emotion regulation within a comprehensive relational framework.

Given the central role of parent-adolescent relationships in adolescent psychological functioning, the emotional burden experienced by mothers of adolescents with social anxiety disorder, and the need for ecologically valid family-centered interventions, the development of a training program grounded in mothers' lived experiences appears necessary. Integrating qualitative insights with evidence-based psychological principles may provide a more comprehensive and context-sensitive approach to intervention design. Such an approach can enhance parents' emotional awareness, communication skills, and self-efficacy while simultaneously improving adolescents' social adjustment, reducing social anxiety, and strengthening emotion regulation capacities.

Therefore, the present study aimed to develop a parent-adolescent relationship training program based on the lived experiences of mothers of adolescents with social anxiety disorder and to examine its effectiveness on adolescents' social adjustment, social anxiety, and emotion regulation.

2. Methods and Materials

2.1. Study Design and Participants

The present study was applied in terms of purpose and employed an exploratory sequential mixed-methods design (qualitative-quantitative). In the qualitative phase, a descriptive phenomenological approach was used to extract the lived experiences of mothers of adolescents with social anxiety disorder. Semi-structured interviews consisting of 16 open-ended questions were conducted in the domains of observed symptoms in the child, the impact of the disorder on family and social life, mothers' concerns, and their coping strategies. Each interview lasted between 45 and 60 minutes and continued until theoretical saturation was achieved. Qualitative data were analyzed using Colaizzi's thematic analysis method, and based on the extracted themes, a parent-adolescent relationship training program was developed in eight 90-minute sessions. To establish the content validity of the program, the opinions of 20 specialists in psychology and counseling in the field of parenting were collected, and content validity indices were calculated. In the quantitative phase, a quasi-experimental design with pretest, posttest, and three-month follow-up with a control group was employed. The experimental group received the training program in eight weekly group sessions for mothers, whereas the control group received no intervention. After completion of the study, similar training was also provided

to the control group in order to comply with ethical principles.

The statistical population of the study was defined in three sections. In the qualitative phase, the population consisted of mothers of adolescents with social anxiety disorder who were identified through counseling centers, psychology clinics, and school counselors in District 1 of Yazd, Iran. Purposeful sampling was used, and interviews were conducted with 20 mothers until theoretical saturation was achieved. In the validation phase, the population consisted of counselors, psychologists, and specialists in parenting styles, of whom 20 individuals were selected through convenience sampling to evaluate the content validity of the training program. In the quantitative phase, the population consisted of adolescents aged 12–16 years with social anxiety disorder enrolled in schools in District 1 of Yazd, Iran, during the 2024–2025 academic year. To identify these adolescents, the Social Anxiety Scale (Paklek, 2004) was administered as a screening instrument, and adolescents who obtained a score of 93 or higher and whose diagnosis had been confirmed by a clinical psychologist based on the DSM-5-TR criteria were considered eligible. Inclusion criteria included age between 12 and 16 years, diagnosis of social anxiety disorder, willingness of both the adolescent and mother to participate in the study, ability to read and write in Persian, and provision of written informed consent. Exclusion criteria included the presence of comorbid psychiatric disorders (major depressive disorder, bipolar disorder, obsessive-compulsive disorder, autism spectrum disorder, or psychotic disorders), use of psychiatric medications during the previous three months, incomplete completion of the questionnaires, absence from more than one session, and withdrawal at any stage of the study. Based on the rationale proposed by Cohen (1986) and Sarmad, Bazargan, and Hejazi (2017), assuming $\alpha = .05$, an effect size of 0.50, and statistical power of 0.90, a sample of 30 participants was selected using convenience sampling and randomly assigned into two groups of 15 participants each: experimental and control.

2.2. Measures

In the qualitative phase, the data collection instrument was a semi-structured interview consisting of 16 open-ended questions that explored mothers' lived experiences regarding the child's symptoms, the impact of the disorder on family and social life, concerns, feelings toward the child's behaviors, and mothers' reactions in various

situations. In the quantitative phase, three standardized questionnaires were used. The Adolescent Social Anxiety Questionnaire (Paklek, 2004) consists of 28 items across two subscales: perception and fear of negative evaluation (15 items) and tension and inhibition in social interaction (13 items), scored on a 5-point Likert scale ranging from 1 (very low) to 5 (very high). Items 3, 4, 12, 17, 21, 25, 26, and 27 are reverse scored. The Social Adjustment Questionnaire (Sohrabi & Samani, 2011) includes 15 items across five dimensions: personal adjustment (Items 1–3), social adjustment (Items 4–6), academic adjustment (Items 7–9), occupational adjustment (Items 10–12), and family adjustment (Items 13–15), scored on an 8-point Likert scale ranging from 0 (not at all) to 8 (very severe). The short form of the Cognitive Emotion Regulation Questionnaire (Garnefski, Kraaij, & Spinhoven, 2006) consists of 18 items and nine subscales (self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, and blaming others), with each subscale containing two items scored on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always).

The content validity of the training program was evaluated by 20 specialists in psychology and counseling in the field of parenting, yielding a Content Validity Ratio (CVR) of 0.81 and a Content Validity Index (CVI) of 0.87. Regarding the questionnaires, the reliability of the Paklek Social Anxiety Questionnaire was confirmed in the study by Khodaei et al. (2011), with a total Cronbach's alpha of 0.83. In the present study, the total Cronbach's alpha was 0.89, while the perception and fear of negative evaluation subscale and the tension and inhibition subscale demonstrated Cronbach's alpha coefficients of 0.91 and 0.83, respectively. The reliability of the Social Adjustment Questionnaire developed by Sohrabi and Samani (2011) was reported as 0.76, and Rabiei (2013) reported Cronbach's alpha coefficients ranging from 0.64 to 0.84 for its subscales. The reliability of the Iranian version of the Emotion Regulation Questionnaire (Jafarpour Mamaghani, 2017) was confirmed with a total Cronbach's alpha of 0.85 and subscale coefficients ranging from 0.67 to 0.76.

2.3. Data Analysis

In the qualitative phase, interview data were analyzed using Colaizzi's thematic analysis method, resulting in the extraction of eight major themes and 24 subthemes. In the validation phase, two indices, namely the Content Validity

Ratio (CVR) and the Content Validity Index (CVI), were used to evaluate the training program. In the quantitative phase, data were analyzed using SPSS version 26 at both descriptive (mean and standard deviation) and inferential statistical levels. To examine the effectiveness of the training program on the dependent variables (social adjustment, social anxiety, and emotion regulation), multivariate analysis of covariance (MANCOVA) and univariate analysis of covariance (ANCOVA) were employed. Furthermore, to assess the stability of the intervention effects at the three-month follow-up stage, paired-samples t-tests with Bonferroni adjustment were used.

3. Findings and Results

In the qualitative phase of the study, semi-structured interviews were conducted with 20 mothers of adolescents with social anxiety disorder in order to develop the parent–adolescent relationship training program. Sampling was

conducted purposefully and continued until theoretical saturation was achieved. The mean age of the participating mothers was 39.15 years. In terms of educational level, 30% had a high school diploma, 15% had an associate degree, 40% had a bachelor's degree, 10% had a master's degree, and 5% had a doctoral degree. Regarding employment status, 50% were employed and 50% were homemakers. The adolescents' ages ranged from 12 to 16 years, with a mean age of 13.7 years, including 10 girls and 10 boys. Data obtained from the interviews were analyzed using Colaizzi's descriptive phenomenological method, leading to the identification of eight main themes and 24 subthemes, which served as the basis for developing the parent–adolescent relationship training program. Table 1 presents a summary of the extracted main themes and subthemes. These themes were derived from an in-depth analysis of the interviews and reflect the real-life challenges, everyday needs, and coping strategies of mothers in interaction with their children with social anxiety disorder.

Table 1

Summary of the Main Themes and Subthemes Extracted from Mothers' Lived Experiences

Main Theme	Subthemes
1. Communication development and attitude improvement	Impact of the disorder on parents' social relationships; parents' feelings toward the child's behavior; need for positive communication and mutual understanding
2. Anxiety management and emotional awareness	Behavioral symptoms of anxiety; psychological and somatic symptoms; perspective on the solvability of the problem
3. Emotional expression and encouragement	Impact on family life; future-oriented concerns about the child; need for encouragement and motivation
4. Courage and self-efficacy	Problems created in life circumstances; role of parents in creating or exacerbating the disorder; need to strengthen courage and self-confidence
5. Problem-solving and anxiety simulation	Child's academic problems; parents' reactions in social situations; need to identify and practice situations
6. Experiencing anxiety-provoking situations	Impact of the disorder on parents' occupation; parents' reactions in the school environment; need for real-life exposure to situations
7. Review and parental encouragement	Impact on other children; personal problems created for parents; need for support and exchange of experiences
8. Experiencing highly anxiety-provoking situations	Parents' reactions in family gatherings; impact on parents' marital life; need for exposure to intense situations

The results of Table 1 showed that mothers' lived experiences were classified into eight main domains and 24 subthemes. The extracted themes covered a broad range of daily challenges, ranging from effects on parents' social relationships, such as restrictions on visits, social isolation, and reduced interaction with friends, and negative emotions, such as worry, guilt, self-blame, and secondary depression, to the need for positive communication and mutual understanding with the child. The second theme emphasizes recognition of anxiety symptoms, including severe shyness, withdrawal, nail biting, high stress, and stuttering, as well as parents' perspectives on the solvability of the problem. The

third and fourth themes focus respectively on the broad effects on family life, future-oriented concerns, mothers' life problems, and their role in creating or exacerbating the disorder, indicating mothers' deep awareness of parenting mistakes, such as strictness, overprotection, and impatience. The fifth and sixth themes focus on the child's academic problems, including inability to participate in group work, fear of responding, and oral examination anxiety, as well as parents' varied reactions in social situations and the impact of the disorder on parents' occupations. The seventh and eighth themes also refer to systemic effects on other children, such as feeling neglected and negative competition,

parents' personal problems, such as excessive preoccupation, chronic fatigue, and depression, and effects on marital life, such as disagreement over how to respond and marital tension. Figure 1 presents the complete model of the parent-adolescent relationship training program developed based on these eight main themes. These themes

comprehensively reflected mothers' lived realities and provided a solid basis for designing the training sessions, with each main theme translated into one or two educational sessions so that mothers could learn practical strategies through targeted training to improve their interaction with their children.

Figure 1

Model of the Parent-Adolescent Relationship Training Program.



Based on the themes extracted from mothers' lived experiences and a review of the research literature on parent-adolescent interaction and anxiety disorders, the parent-adolescent relationship training program was designed as eight 90-minute group sessions for mothers. Table 2 presents the educational content and session structure of the program. Each session included specific objectives, educational content based on the extracted

themes, implementation methods and techniques, and special considerations. To enhance effectiveness, the session structure was designed so that each key content area, depending on its scope and need for practice, was repeated and deepened across two consecutive sessions, allowing mothers sufficient opportunity for practical rehearsal and feedback.

Table 2

Educational Content and Structure of the Training Program

Session	Session Objectives	Main Content	Techniques and Exercises
Sessions 1 and 2: Communication development and attitude improvement	Familiarizing members with one another; awareness of the effect of the mother's temperament; identifying the impact of the disorder on relationships; changing attitudes toward the child's behaviors	Introducing the research objectives; examining the role of the mother's moral and personality characteristics in exacerbating or improving the child's condition; impact of the disorder on parents' social relationships; parents' feelings, including worry, guilt, and frustration; principles of effective communication; recognizing repetitive parenting patterns	Group discussion; "mirror" and "mirror of the past" exercises; "knowing my child" worksheet; real-life scenarios
Sessions 3 and 4: Anxiety management and emotional awareness	Recognizing anxiety symptoms; training in anxiety management; modeling calm behavior; awareness	Behavioral symptoms, including shyness, withdrawal, and nail biting; psychological symptoms, including stress, stuttering, sweating, and sleep disturbance; anxiety management techniques, including deep	Diaphragmatic breathing practice; relaxation; role-playing; techniques handout

	of intergenerational transmission of anxiety	breathing and muscle relaxation; self-control practice in stressful situations	
Sessions 5 and 6: Recognition and assessment of emotional intensity	Empowering mothers to identify different emotions; differentiating emotions based on intensity; responding proportionately to emotional intensity	Training on the emotional intensity spectrum, including mild intensity 1–4, moderate intensity 5–7, and severe intensity 8–10; “behavior proportionate to intensity” model; practice in proportionate responding	Emotion cycle; “emotional thermometer” exercise; role-playing; decision-making matrix
Sessions 7 and 8: Courage and self-efficacy	Identifying the role of parents in the disorder; reducing guilt; strengthening the child’s self-efficacy; teaching positive self-talk	Identifying and modifying maternal characteristics, including nervousness, aggression, perfectionism, and strictness; cognitive restructuring; strengthening positive self-talk; enhancing the child’s independence	Cognitive restructuring; self-talk practice; “my child’s strengths” worksheet; scenarios

The results of Table 2 showed that the training program was systematically designed based on the eight extracted main themes. The first and second sessions focused on developing positive communication and changing parental attitudes and included practical exercises such as the “mirror of the past” to identify repetitive parenting patterns transmitted from one generation to another. The third and fourth sessions focused on training mothers in anxiety management and awareness of the intergenerational transmission of anxiety, including diaphragmatic breathing and muscle relaxation exercises. The fifth and sixth sessions were devoted to empowering mothers to identify the intensity of the child’s emotions and provide proportionate responses, facilitated through the “emotional thermometer” exercise and role-playing. The seventh and eighth sessions focused on identifying and modifying maternal characteristics, such as nervousness, aggression, perfectionism, and strictness, through cognitive

restructuring and strengthening the child’s self-efficacy. Repetition of content across consecutive sessions was designed based on evidence from parent-oriented training programs to ensure deeper learning and consolidation of skills.

After the initial development of the training program, the designed package was provided to 20 specialists in psychology and counseling in the field of parenting, who were selected through convenience sampling, to assess its content validity. The specialists evaluated each training session in terms of necessity, relevance, clarity, and simplicity. Table 3 presents the content validity indices of the program, including the Content Validity Ratio (CVR) and Content Validity Index (CVI) for each session. These indices indicate the degree of expert agreement regarding the necessity, relevance, clarity, and simplicity of the content of each training session.

Table 3

Content Validity Indices of the Training Program

Session	Session Title	CVR	CVI Relevance	CVI Clarity	CVI Simplicity	Mean CVI
1	Introduction to the research objectives and development of positive communication and attitude improvement	0.90	0.95	0.90	0.85	0.90
2	Anxiety management and emotional awareness	1.00	1.00	0.95	0.90	0.95
3	Emotional expression and encouragement	0.80	0.90	0.85	0.85	0.87
4	Courage and self-efficacy	0.70	0.85	0.80	0.80	0.82
5	Problem-solving and anxiety simulation	0.90	0.95	0.90	0.85	0.90
6	Experiencing anxiety-provoking situations	0.80	0.90	0.85	0.80	0.85
7	Review and parental encouragement	0.60	0.85	0.80	0.85	0.83
8	Experiencing highly anxiety-provoking situations	0.80	0.90	0.85	0.80	0.85
Overall Mean		0.81	0.91	0.86	0.84	0.87

The results of Table 3 showed that the Content Validity Ratio (CVR) of the training program was 0.81 and the Content Validity Index (CVI) was 0.87, both of which were above the acceptable threshold and confirmed the excellent content validity of the program. The highest content validity ratio was related to Session 2, anxiety management and emotional awareness, with a CVR of 1.00, indicating

complete expert agreement on the necessity of training anxiety management for parents of children with social anxiety disorder. This session also obtained the highest mean CVI of 0.95, indicating excellent relevance, clarity, and simplicity of the content. The lowest CVR was related to Session 7, review and parental encouragement, with a value of 0.60, which nevertheless remained above the acceptable

threshold of 0.42. The relevance criterion obtained the highest mean score of 0.91, indicating that specialists evaluated the session content as fully relevant to the program objectives and the needs of the target population. The clarity criterion, with a mean of 0.86, and the simplicity criterion, with a mean of 0.84, ranked next, all at an excellent level. Based on the specialists' feedback, minor revisions were made to the presentation of concepts such as self-efficacy and gradual exposure, and the final version of the training program was prepared for implementation in the quantitative phase of the study.

In the quantitative phase of the study, 30 adolescents aged 12–16 years with social anxiety disorder from schools in District 1 of Yazd, Iran, participated and were randomly assigned to experimental and control groups, with 15 participants in each group. Table 4 presents the demographic characteristics of the participants based on gender, age, and educational grade. This information is essential for examining group homogeneity and the generalizability of the results. The balanced distribution of participants across groups helps control confounding variables and increase the internal validity of the study.

Table 4

Demographic Characteristics of Participants in the Quantitative Phase

Variable	Category	Experimental Group Frequency	Experimental Group Percentage	Control Group Frequency	Control Group Percentage	Total Frequency	Total Percentage
Gender	Girl	8	53.3	8	53.3	16	53.3
Gender	Boy	7	46.7	7	46.7	14	46.7
Age	12 years	3	20.0	3	20.0	6	20.0
Age	13 years	4	26.7	4	26.7	8	26.7
Age	14 years	5	33.3	4	26.7	9	30.0
Age	15 years	2	13.3	3	20.0	5	16.7
Age	16 years	1	6.7	1	6.6	2	6.6
Educational grade	Seventh grade	4	26.7	4	26.7	8	26.7
Educational grade	Eighth grade	5	33.3	5	33.3	10	33.3
Educational grade	Ninth grade	4	26.7	3	20.0	7	23.3
Educational grade	Tenth grade	2	13.3	3	20.0	5	16.7

The results of Table 4 showed that the distribution of participants in both the experimental and control groups was completely balanced in terms of gender, with 8 girls (53.3%) and 7 boys (46.7%) in each group, and a total of 16 girls and 14 boys participating in the study. This balanced gender distribution can be considered an indicator of the validity of the results across different demographic groups. In terms of age, the distribution was relatively similar in both groups, with the highest frequency belonging to the 14-year-old age group, with 9 participants (30.0%), indicating that the sample was concentrated in mid-adolescence. Regarding educational grade, the highest frequency was related to eighth grade, with 10 participants (33.3%), and the distribution across other grades was relatively uniform. This

balanced distribution in demographic variables ensures that the observed differences between groups are attributable to the training intervention rather than initial differences in participants' characteristics.

Before testing the hypotheses, the means and standard deviations of the main study variables were calculated at pretest, posttest, and follow-up for both groups. Table 5 presents these descriptive indices, which are necessary for the initial examination of changes in the dependent variables and evaluation of the trend of intervention effectiveness over time. Comparison of the means across different stages indicates the direction and magnitude of changes in each variable and the stability of these changes at the follow-up stage.

Table 5

Means and Standard Deviations of the Study Variables Across Three Measurement Stages

Variable	Group	Pretest M	Pretest SD	Posttest M	Posttest SD	Follow-up M	Follow-up SD
Social anxiety	Experimental	102.47	8.32	78.20	10.15	80.60	9.87
Social anxiety	Control	101.80	7.95	100.27	8.43	99.53	8.11
Social adjustment	Experimental	42.53	12.65	65.80	14.28	63.27	13.95
Social adjustment	Control	43.20	12.38	44.60	12.85	45.13	12.62
Emotion regulation	Experimental	52.60	7.85	64.27	8.42	62.80	8.15
Emotion regulation	Control	53.13	7.62	53.80	7.85	54.20	7.75

M = mean; SD = standard deviation.

The results of Table 5 showed that the experimental group experienced positive and substantial changes from pretest to posttest in all three main study variables, and these changes were maintained at the three-month follow-up stage. For social anxiety, the mean score of the experimental group decreased from 102.47 at pretest to 78.20 at posttest, indicating a 23.7% reduction, and increased slightly to 80.60 at follow-up, which was still substantially lower than the pretest score. In contrast, the mean scores of the control group remained almost stable across the three stages: 101.80, 100.27, and 99.53. For social adjustment, the mean score of the experimental group increased from 42.53 to 65.80, indicating a 54.8% improvement, and decreased slightly to 63.27 at follow-up, which was still higher than the pretest score, whereas the control group showed no notable change: 43.20, 44.60, and 45.13. For emotion regulation, the mean score of the experimental group increased from 52.60 to 64.27, indicating a 22.2% improvement, and reached 62.80 at follow-up, whereas the control group showed no

significant change: 53.13, 53.80, and 54.20. Descriptive examination of the data indicates that the experimental group experienced positive and substantial changes in all variables, and these changes were maintained at follow-up, whereas the control group showed relatively stable scores. These descriptive findings provide strong preliminary evidence for the effectiveness of the training program, which will be statistically examined in detail in the inferential analysis section.

4. 3.6. Examination of Statistical Assumptions

Before conducting analysis of covariance, statistical assumptions, including normality of data distribution, homogeneity of variances, homogeneity of the covariance matrix, and sphericity of variances, were examined. Table 6 presents the results of the assumption tests. Meeting these assumptions is necessary to ensure the accuracy and validity of the analysis of covariance results. Violation of any of these assumptions may lead to misleading results; therefore, careful examination before the main analysis is required.

Table 6

Results of Statistical Assumption Tests

Assumption	Test	Variable	Statistic	Significance Level	Result
Normality	Shapiro-Wilk	Social anxiety (experimental)	0.94	0.38	Normal
Normality	Shapiro-Wilk	Social anxiety (control)	0.95	0.42	Normal
Normality	Shapiro-Wilk	Social adjustment (experimental)	0.96	0.51	Normal
Normality	Shapiro-Wilk	Social adjustment (control)	0.93	0.28	Normal
Normality	Shapiro-Wilk	Emotion regulation (experimental)	0.95	0.45	Normal
Normality	Shapiro-Wilk	Emotion regulation (control)	0.94	0.35	Normal
Homogeneity of variance	Levene's test	Social anxiety	F = 1.28	0.27	Homogeneity confirmed
Homogeneity of variance	Levene's test	Social adjustment	F = 0.85	0.36	Homogeneity confirmed
Homogeneity of variance	Levene's test	Emotion regulation	F = 1.05	0.31	Homogeneity confirmed
Homogeneity of covariance matrix	Box's M	All variables	F = 1.85	0.08	Homogeneity confirmed
Sphericity of variances	Mauchly's test	Social anxiety	W = 0.87	0.30	Sphericity met
Sphericity of variances	Mauchly's test	Social adjustment	W = 0.91	0.38	Sphericity met
Sphericity of variances	Mauchly's test	Emotion regulation	W = 0.89	0.34	Sphericity met

The results of Table 6 showed that all statistical assumptions were met. To examine normality of data distribution, the Shapiro-Wilk test showed that the

significance level of all variables in both groups was greater than 0.05; therefore, the assumption of normality was not rejected, and the distribution of scores followed a normal

distribution. To examine homogeneity of variances, Levene's test showed that the significance levels for all three variables, 0.27, 0.36, and 0.31, were greater than 0.05; therefore, the variances of scores in the two groups were not significantly different, and this assumption was also met. To examine homogeneity of covariance matrices, Box's M test, with a significance level of 0.08, which is greater than the conservative level of 0.01, indicated that the pattern of correlations among the dependent variables was similar across the two groups. Moreover, given the repeated measurements across three time points, Mauchly's test was used to examine sphericity of variances, showing that the significance levels for all variables, 0.30, 0.38, and 0.34, were greater than 0.05; therefore, this assumption was also met. Meeting all these assumptions ensures that the use of

multivariate and univariate analysis of covariance is permissible and that the obtained results are reliable.

To test the first research hypothesis, namely that the parent-adolescent relationship training program based on the lived experiences of mothers of children with social anxiety disorder has a significant effect on adolescents' social adjustment, social anxiety, and emotion regulation, multivariate analysis of covariance (MANCOVA) and univariate analysis of covariance (ANCOVA) were used. Table 7 presents the results of the multivariate and univariate tests, including the F statistic, significance level, and effect size (eta squared) for the linear combination of dependent variables and for each variable separately. These results are necessary for determining the magnitude of the effect of the training program on the dependent variables of the study.

Table 7

Results of Multivariate and Univariate Analysis of Covariance

Level of Analysis	Variable	Test	F	df	Significance Level	Eta Squared	Effect Size
Combined	Linear combination of variables	Wilks' lambda (0.28)	21.35	3	0.001	0.72	Very large
Univariate	Social adjustment	ANCOVA	19.55	1	0.001	0.42	Large
Univariate	Social anxiety	ANCOVA	43.12	1	0.001	0.62	Very large
Univariate	Emotion regulation	ANCOVA	12.18	1	0.002	0.31	Medium to large

The results of Table 7 showed that the first research hypothesis was confirmed. At the multivariate level, the parent-adolescent relationship training program based on mothers' lived experiences had a significant and very large effect on the linear combination of social adjustment, social anxiety, and emotion regulation variables (Wilks' lambda = 0.28, $F = 21.35$, $p < .001$, $\eta^2 = 0.72$). This finding indicates that 72% of the variance in the linear combination of the dependent variables was explained by the training program, which is considered a very large effect size according to Cohen's criterion. Examination of the effect of the training program on each dependent variable separately at the univariate level showed that the training program had a significant and large effect on increasing adolescents' social adjustment ($F = 19.55$, $p < .001$, $\eta^2 = 0.42$), explaining 42% of the variance in social adjustment. The training program also had a significant and very large effect on reducing adolescents' social anxiety ($F = 43.12$, $p < .001$, $\eta^2 = 0.62$), which was the largest effect size among the variables and explained 62% of the variance in social anxiety. In addition, the training program had a significant and medium-to-large effect on improving adolescents' emotion regulation ($F =$

12.18, $p = .002$, $\eta^2 = 0.31$), explaining 31% of the variance in emotion regulation. These results indicate that the training program was substantially effective in all three target domains, with the greatest effect on reducing social anxiety, followed by increasing social adjustment and improving emotion regulation.

To test the second research hypothesis, namely that the effect of the parent-adolescent relationship training program based on the lived experiences of mothers of children with social anxiety disorder on adolescents' social adjustment, social anxiety, and emotion regulation remains stable after three months, paired-samples t-tests with Bonferroni adjustment were used to compare posttest and follow-up scores in the experimental group. In addition, analysis of covariance was conducted to compare the two groups at the follow-up stage. Table 8 presents the results of these tests, which are necessary for determining the durability of the intervention effects after three months. Stability of effects indicates the quality of the training program and mothers' deep learning, which led to sustained changes in their behavior.

Table 8

Results of Examining the Stability of Intervention Effects at Follow-up

Variable	Posttest M (SD)	Follow-up M (SD)	Difference	Paired t	Significance Level (Bonferroni)	Follow-up F	Follow-up Eta Squared	Result
Social anxiety	78.20 (10.15)	80.60 (9.87)	2.40	1.42	0.18	38.45	0.58	Stable
Social adjustment	65.80 (14.28)	63.27 (13.95)	-2.53	1.58	0.14	15.82	0.37	Stable
Emotion regulation	64.27 (8.42)	62.80 (8.15)	-1.47	1.25	0.23	9.75	0.27	Stable

The effect of the parent–adolescent relationship training program on adolescents’ social adjustment, social anxiety, and emotion regulation remained stable after three months. The results of paired-samples t-tests with Bonferroni adjustment showed that the difference between posttest and follow-up scores was not significant for any of the variables ($p > .05$). For social anxiety, although a slight increase of 2.40 points was observed, this difference was not statistically significant ($t = 1.42$, $p = .18$), and the scores remained substantially lower than the pretest scores. For social adjustment, the slight decrease of 2.53 points was nonsignificant ($t = 1.58$, $p = .14$), and the scores remained higher than the pretest scores. For emotion regulation, the decrease of 1.47 points was also nonsignificant ($t = 1.25$, $p = .23$). Moreover, the results of analysis of covariance comparing the two groups at the follow-up stage showed that the between-group differences remained significant for all three variables ($p < .01$). The effect sizes at follow-up, 0.58, 0.37, and 0.27, were slightly lower than those at posttest, indicating a slight but nonsignificant reduction in effects; however, they remained at medium to large levels. These findings confirm that the training program led to stable changes in mothers’ behavior and positive outcomes for adolescents, and that these changes were maintained after three months, indicating deep learning and the high quality of the training program.

5. Discussion

The present study aimed to develop a parent–adolescent relationship training program based on the lived experiences of mothers of adolescents with social anxiety disorder and to examine its effectiveness on adolescents’ social adjustment, social anxiety, and emotion regulation. The findings demonstrated that the developed training program had a significant and substantial effect on improving adolescents’ psychosocial functioning. Specifically, the intervention reduced social anxiety, enhanced social adjustment, and

improved emotion regulation among adolescents in the experimental group compared with the control group. Furthermore, the effects of the intervention remained stable during the three-month follow-up period, indicating the durability and effectiveness of the educational program. These findings suggest that interventions grounded in the lived experiences of parents may provide an effective framework for addressing adolescent social anxiety and its associated emotional and social difficulties.

One of the most important findings of the present study was the significant reduction in adolescents’ social anxiety following participation in the parent–adolescent relationship training program. This finding is consistent with previous studies demonstrating the effectiveness of family-based, cognitive-behavioral, and emotion-focused interventions in reducing adolescent social anxiety symptoms (Tse et al., 2023; van Loon et al., 2023; Walder et al., 2023). The results are also in line with findings reported by (Rahmani et al., 2023), who showed that family-oriented interventions can significantly reduce social anxiety symptoms in children and adolescents by modifying parental cognitive and emotional processes. Similarly, (Beyranvand & Rezaei, 2025) found that transdiagnostic interventions targeting emotional processes effectively reduced emotional difficulties among adolescents with social anxiety disorder. The consistency of the present findings with previous literature supports the assumption that adolescent social anxiety is strongly influenced by family interactions and parental emotional responses.

The reduction in social anxiety observed in the present study may be explained through several psychological mechanisms. First, the intervention focused on improving mothers’ awareness of anxiety symptoms, emotional communication, and maladaptive parenting patterns. Many mothers participating in the qualitative phase described excessive worry, overprotection, harsh criticism, and emotional tension in their interactions with their adolescents. These parenting patterns are recognized risk factors for the

development and maintenance of social anxiety symptoms (Mohammadi et al., 2025). Through the training sessions, mothers learned more adaptive communication strategies, emotional regulation techniques, and supportive interaction styles, which likely reduced adolescents' perceptions of interpersonal threat and negative evaluation. Research indicates that adolescents with social anxiety disorder are highly sensitive to criticism, rejection, and emotional invalidation within interpersonal relationships (Halldorsson et al., 2023). Therefore, improving the emotional climate of parent-adolescent interactions may directly decrease anxiety-provoking interpersonal experiences.

Another explanation for the reduction in social anxiety relates to the role of parental modeling and intergenerational transmission of anxiety. The training program included components related to maternal emotional awareness, anxiety management, and self-regulation. According to attachment and social learning theories, adolescents often internalize parental emotional reactions and coping styles (Rashed et al., 2025). When mothers demonstrate calm emotional responses, adaptive coping, and supportive communication, adolescents may gradually develop greater emotional security and confidence in social situations. This interpretation is supported by the findings of (Ansar et al., 2024), who reported that parent-focused emotional skills training improves parental mental health and emotional functioning while positively influencing children's adjustment outcomes.

The present study also found that the training program significantly improved adolescents' social adjustment. This finding is consistent with previous studies indicating that healthy parent-adolescent relationships contribute to greater psychosocial adjustment, interpersonal competence, and emotional stability among adolescents (Mohammadzadeh et al., 2025; Vosoughi, 2024). The findings are also aligned with the results reported by (Hosseini et al., 2024), who demonstrated that counseling interventions based on parent-adolescent relationships improve adolescents' personal adjustment and quality of life. Furthermore, the findings correspond with earlier research emphasizing the association between supportive family communication and positive adolescent adaptation (Danesh, 2025; Rabiei, 2013).

The improvement in social adjustment observed in the present study may be attributed to changes in adolescents' interpersonal experiences within the family environment. Adolescents who experience emotionally supportive, validating, and respectful communication with parents are more likely to develop social confidence, positive self-

perceptions, and adaptive interpersonal behaviors. In contrast, emotionally conflictual or critical family interactions can undermine adolescents' social competence and increase social withdrawal (Ravankhah & Tavakoli Saleh, 2023). The developed intervention specifically targeted communication development, emotional encouragement, and constructive parental responses to anxiety-provoking situations. These components may have enhanced adolescents' sense of emotional safety and social acceptance within the family, thereby increasing their ability to engage more confidently in peer and school relationships.

Additionally, the qualitative findings of the study revealed that many mothers experienced confusion and helplessness regarding how to respond appropriately to their adolescents' emotional and behavioral difficulties. Such uncertainty may contribute to inconsistent parenting practices, which in turn increase adolescents' emotional insecurity and social maladjustment. By providing mothers with practical communication skills, problem-solving strategies, and opportunities for reflection on their parenting patterns, the intervention may have increased consistency and emotional responsiveness within family interactions. This explanation is supported by the findings of (Kuang et al., 2024), who emphasized the important role of parent-child relationships and peer-related experiences in shaping adolescents' non-cognitive and social functioning.

Another important finding of the study was the significant improvement in adolescents' emotion regulation following participation in the training program. This finding is highly consistent with previous literature emphasizing the close relationship between family emotional processes and adolescents' emotion regulation capacities (Moradi et al., 2023; Nikkhah Delshad et al., 2023). It also aligns with studies demonstrating that parental emotional awareness, reflective functioning, and adaptive emotional responses positively influence children's emotional self-regulation (Rashed et al., 2025). Moreover, (Ansar et al., 2024) reported that emotion-focused training programs can significantly improve both parental and child emotional functioning, which supports the present findings.

The improvement in emotion regulation can be explained by the intervention's emphasis on emotional awareness, emotional expression, and appropriate emotional responding. During the training sessions, mothers learned how to recognize the intensity of emotions, respond proportionately to emotional reactions, and avoid emotionally invalidating responses such as criticism, excessive control, or dismissal. These processes likely

contributed to adolescents' acquisition of healthier emotional coping strategies. Adolescents with social anxiety disorder frequently experience heightened emotional sensitivity and rely on maladaptive strategies such as rumination, avoidance, and emotional suppression (Nasehi et al., 2025; Sattari, 2022). When parents provide emotionally validating and supportive interactions, adolescents may become more capable of understanding, expressing, and regulating their emotional experiences.

The present findings also highlight the importance of integrating lived experiences into the design of psychological interventions. Unlike many standardized programs that rely exclusively on theoretical assumptions, the current intervention was developed directly from mothers' lived experiences and everyday challenges. This approach likely increased the ecological validity, acceptability, and practical relevance of the program. Mothers participating in the qualitative phase described specific concerns related to social withdrawal, academic difficulties, emotional distress, family conflict, and parenting uncertainty. Incorporating these realities into the intervention may have strengthened mothers' emotional engagement with the program and increased their motivation to apply learned strategies in daily interactions. The importance of understanding parental subjective experiences has also been emphasized in qualitative and phenomenological studies on parent-adolescent relationships and adolescent anxiety (Pinkard, 2025; Ravankhah & Tavakoli Saleh, 2023).

Another notable finding was the stability of intervention effects during the three-month follow-up period. Although slight decreases in the magnitude of improvement were observed, these changes were not statistically significant, indicating that the intervention produced relatively stable psychological and behavioral changes. This finding is particularly important because many psychological interventions demonstrate immediate improvements that gradually diminish over time. The durability of effects in the present study may reflect the practical and experiential nature of the training sessions. Mothers were not merely passive recipients of information; rather, they actively participated in emotional reflection, communication exercises, role-playing, and practical problem-solving activities. Such experiential learning approaches are generally associated with deeper cognitive and emotional processing and greater long-term behavioral change.

The stability of effects may also be related to improvements in family interaction patterns. Changes in

communication quality, emotional responsiveness, and parental self-awareness can create enduring relational changes that continue to influence adolescents beyond the intervention period. Previous studies have similarly suggested that family-focused interventions can produce lasting improvements in emotional and relational functioning (Holmqvist Larsson & Zetterqvist, 2024; Rahmani et al., 2023). Furthermore, interventions that enhance parental self-efficacy and emotional competence may strengthen parents' ability to maintain adaptive parenting behaviors over time.

6. Conclusion

Overall, the findings of the present study support multidimensional conceptualizations of adolescent social anxiety that emphasize the interaction between emotional regulation processes, family relationships, and interpersonal experiences. The results indicate that social anxiety disorder should not be conceptualized solely as an intrapersonal cognitive problem but rather as a phenomenon deeply embedded within relational and emotional contexts. Consequently, interventions aimed at improving family emotional functioning and parent-adolescent relationships may provide particularly effective approaches for reducing adolescent social anxiety and enhancing psychosocial adjustment. One of the strengths of the present study was the integration of qualitative and quantitative methods within an exploratory sequential mixed-methods design. The qualitative phase allowed the researchers to identify the real-life concerns, emotional experiences, and parenting challenges of mothers of adolescents with social anxiety disorder. These findings then informed the development of a culturally and contextually sensitive intervention program. Such integration between lived experiences and empirical intervention design represents an important contribution to the literature on family-centered psychological interventions.

7. Limitations & Suggestions

Despite the valuable findings of the present study, several limitations should be acknowledged. First, the sample size of the quantitative phase was relatively small, which may limit the generalizability of the findings to broader populations. Second, the participants were selected from a specific geographical region and cultural context, and therefore caution should be exercised in extending the findings to adolescents and families from different cultural

or socioeconomic backgrounds. Third, the study relied primarily on self-report questionnaires, which may be influenced by response biases and subjective perceptions. Fourth, fathers were not included in the intervention process, despite the potentially important role of paternal relationships in adolescent emotional development. Finally, the follow-up period was limited to three months, and longer-term evaluations are needed to determine the long-term sustainability of intervention effects.

Future research is recommended to examine the effectiveness of lived experience-based parent-adolescent interventions in larger and more diverse populations. Researchers are also encouraged to investigate the comparative effectiveness of interventions involving both parents versus mother-only programs. Future studies may benefit from incorporating observational methods, teacher reports, and longitudinal follow-up designs in order to evaluate long-term behavioral and relational outcomes more comprehensively. In addition, future research should examine the mediating roles of attachment security, parental reflective functioning, family emotional climate, and adolescent self-esteem in explaining the effectiveness of family-centered interventions for social anxiety disorder.

From a practical perspective, the findings of the present study suggest that psychological counselors, school psychologists, and family therapists should pay greater attention to the relational and emotional dimensions of adolescent social anxiety. Parent-focused educational programs grounded in families' lived experiences may provide highly effective and culturally sensitive approaches for reducing adolescent anxiety and improving psychosocial functioning. Educational systems and mental health centers may benefit from implementing structured parent-adolescent relationship programs that include emotional awareness training, communication skills development, and practical coping strategies for parents of adolescents with social anxiety disorder.

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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 to this article.

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