

The Effectiveness of Cognitive-Behavioral Couple Therapy and Social Support Training on Marital Conflict and Social Interactions Among Mothers of Children with Specific Learning Disorders

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ABSTRACT

The present study aimed to investigate the effectiveness of cognitive-behavioral couple therapy and social support training on marital conflict and social interactions among mothers of children with specific learning disorders who attended counseling centers in Bushehr. The study employed a quasi-experimental pretest-posttest design with a control group. The statistical population consisted of mothers of children with specific learning disorders who attended counseling centers in Bushehr. The study sample comprised 60 participants selected through voluntary sampling. Data were collected using the Marital Conflict Questionnaire developed by Sanaei-Zaker and Bostanipour (2008) and the Social Interaction Anxiety Scale developed by Mattick and Clarke (1998). The results indicated a significant difference between the experimental and control groups in terms of marital conflict. In other words, cognitive-behavioral couple therapy and social support training resulted in greater improvement in marital conflict among participants in the experimental groups compared with those in the control group, demonstrating the effectiveness of cognitive-behavioral couple therapy and social support training in reducing marital conflict. A significant difference was also found between the experimental and control groups in terms of social interactions. In other words, cognitive-behavioral couple therapy and social support training improved social interactions among participants in the experimental groups compared with those in the control group, indicating the effectiveness of these interventions in enhancing social interactions.

Keywords: cognitive-behavioral couple therapy, social support training, marital conflict, social interactions.

1. Introduction

Specific learning disorders constitute a major group of neurodevelopmental conditions that affect the acquisition and use of academic skills, particularly reading, written expression, and mathematics. These disorders are not merely temporary academic difficulties; rather, they may persist across developmental stages and influence children's educational progress, self-concept, emotional adjustment, interpersonal relationships, and family functioning. Contemporary research increasingly conceptualizes specific learning disorders within a multidimensional framework in which neurocognitive, educational, social, and technological factors interact to shape outcomes. Recent advances in neuroscience, educational science, and assistive technology have improved understanding of the mechanisms underlying learning disabilities and have simultaneously highlighted the importance of individualized support, early identification, and coordinated interventions across home and school environments (Asdaq et al., 2025). Emerging applications of artificial intelligence have further expanded possibilities for screening, assessment, individualized intervention, and monitoring in neurodevelopmental disorders, although such technological developments do not eliminate the central role of families in supporting children with persistent learning difficulties (Mohamed et al., 2026). Thus, specific learning disorders should be understood not only as academic problems experienced by children but also as conditions with broader psychosocial implications for the family system.

Among the most frequently studied specific learning difficulties are dyslexia and dyscalculia, both of which can interfere substantially with children's educational functioning. Dyslexia primarily affects the development of accurate and fluent reading and related language-based academic skills, whereas dyscalculia is characterized by persistent difficulties in numerical processing and arithmetic learning. Recent evidence has drawn attention to the overlap between these conditions and to the need for integrated educational and technological strategies that address heterogeneous learning profiles rather than treating each difficulty in isolation (Polydoros, 2026). Dyscalculia, in particular, may arise through the interaction of neurocognitive, developmental, instructional, and environmental factors and can substantially restrict children's ability to acquire fundamental arithmetic skills (Molise & Luneta, 2024). At the same time, children with dyslexia and dyscalculia may require modifications in curriculum delivery, differentiated teaching strategies,

additional instructional time, and structured educational support to enhance academic engagement and reduce the risk of cumulative failure (Kunwar, 2024). Digital learning methods can provide additional opportunities for adapting instruction to the needs of learners with these conditions, particularly when conventional educational environments fail to provide sufficiently flexible learning pathways (Mavutha & Ramnund-Mansingh, 2024).

The prevalence and developmental consequences of specific learning disorders have made early detection an important priority in child development and educational psychology. Children at risk for specific learning disorders may display early indicators involving language, attention, memory, executive functioning, numerical processing, or academic readiness before formal diagnosis is established. Identifying such risk factors can facilitate earlier intervention and reduce the cumulative academic and emotional consequences associated with delayed recognition (Bozatlı et al., 2024). Similarly, the development of valid early screening approaches is essential because developmental risks may become increasingly difficult to remediate when support is postponed until academic failure is firmly established (Llanos & Anguita, 2025). Epidemiological findings also show that risks for dyslexia and dyscalculia may occur independently or comorbidly and may vary according to demographic and socioeconomic characteristics, emphasizing the importance of considering contextual factors when assessing children with learning difficulties (Loredo et al., 2025). These findings underscore the need for family-centered approaches because parents often become the first individuals to notice persistent academic problems and are usually responsible for navigating assessment, intervention, school communication, and specialist services.

Specific learning disorders are also increasingly examined from the perspective of neuropsychological functioning. Executive functions, including working memory, inhibitory control, cognitive flexibility, planning, and sustained attention, are central to successful academic performance and everyday adaptation. Children with specific learning disorders may show weaknesses in one or more of these domains, although the pattern and severity of impairment can vary considerably across individuals and may differ from the profiles observed in other neurodevelopmental disorders, such as attention-deficit/hyperactivity disorder (Megari & Genova, 2026). Such cognitive heterogeneity complicates both diagnosis and intervention and can contribute to prolonged educational

difficulties despite considerable parental and professional effort. In some cases, neurodevelopmental or medical conditions can coexist with multiple psychiatric or behavioral problems, illustrating the clinical complexity that may accompany developmental difficulties and the necessity of comprehensive assessment rather than narrow academic evaluation (Abedi et al., 2025). For parents, particularly mothers who frequently assume a substantial proportion of caregiving and educational responsibilities, this complexity may intensify uncertainty, emotional burden, and the perceived need for continuous supervision.

Another increasingly important consideration concerns the language used to describe children with specific learning disorders. Terminology can influence how families interpret diagnosis, how children perceive themselves, and how professionals communicate about developmental differences. Research involving parents, professionals, and adults with lived experience indicates that preferences regarding diagnostic and identity-related language are not uniform and that respectful, person-sensitive communication is important when discussing specific learning disorders (Anthony et al., 2025). Likewise, research-priority setting that incorporates the perspectives of individuals with lived experience has emphasized that scientific investigation should extend beyond academic performance alone and address broader concerns such as well-being, participation, stigma, accessibility, support systems, and family experiences (Luciano et al., 2025). This broader perspective is particularly relevant when considering mothers of children with specific learning disorders, because the impact of the child's difficulties can extend into the mother's marital relationship, social functioning, emotional state, and daily interactions.

Parenting a child with a developmental or learning-related difficulty may expose families to prolonged stress associated with educational concerns, uncertainty regarding the child's future, repeated school-related challenges, financial demands, and the need to coordinate professional services. Mothers may experience particularly high levels of responsibility when they are primarily involved in homework supervision, school communication, treatment attendance, and management of the child's emotional responses to academic failure. Research in parents of children with developmental disorders has demonstrated that parental stress and perceived social stigma can negatively affect parent-child interactions and broader family functioning (Nikbakht & Haghayegh, 2019). Although specific learning disorders differ from autism and other

neurodevelopmental conditions, the underlying family processes associated with chronic caregiving stress, stigma, emotional burden, and social restriction may have important conceptual relevance. When parental stress is persistent, it can influence not only the relationship between mother and child but also communication between spouses and participation in social relationships.

Family functioning is strongly shaped by parents' emotional regulation capacities, reflective functioning, coping patterns, and interpersonal responses. Parents who are better able to identify, understand, and regulate their own emotional experiences may be more capable of responding flexibly to stressful child-related situations. Emotion regulation has been associated with parental reflective functioning, suggesting that parents' ability to understand mental states may be connected to their capacity to manage emotional arousal in family interactions (Schultheis et al., 2019). Parenting practices are also related to children's broader physical and psychological functioning, and personality characteristics, attachment patterns, and parenting styles may collectively contribute to the quality of the family environment in which the child develops (Rowhany et al., 2019). Furthermore, parents actively socialize children's coping responses, and parental coping-related behaviors may influence the development of children's emotion-regulation capacities over time (Peisch et al., 2019). These findings demonstrate that difficulties affecting one member of the family can become embedded in reciprocal patterns of emotional and interpersonal functioning across the family system.

The marital relationship is one of the central domains that may be affected when families face prolonged child-related stress. Marital conflict can include disagreement, criticism, emotional withdrawal, ineffective communication, hostility, dissatisfaction, problems in decision-making, and difficulty coordinating family responsibilities. In families raising children with persistent learning needs, disagreements may emerge around educational expectations, allocation of caregiving tasks, financial expenditures, discipline, communication with schools, or decisions regarding psychological and educational services. When these conflicts become repetitive, spouses may develop rigid interpretations of one another's behavior and increasingly negative interaction cycles. Such processes are particularly relevant from a cognitive-behavioral perspective, which assumes that relationship distress is maintained not only by observable interaction patterns but also by dysfunctional beliefs, biased interpretations, unrealistic expectations,

maladaptive attributional styles, and ineffective behavioral responses.

Cognitive-behavioral couple therapy provides a structured framework for identifying and modifying these maladaptive processes. Within cognitive-behavioral family and couple therapy, emotional and relational difficulties are conceptualized as arising from reciprocal interactions among cognition, emotion, and behavior. Intervention therefore focuses on recognizing automatic thoughts, modifying distorted interpretations, improving communication, developing problem-solving skills, and increasing constructive behavioral exchanges between partners (Dattilio & Collins, 2018). Assessment of couples and families within behavioral approaches similarly emphasizes transactional patterns, emotional dysregulation, invalidating interactions, and the contextual factors that maintain relational distress (Fruzzetti & Payne, 2020). For mothers of children with specific learning disorders, such an intervention may be particularly relevant because thoughts such as “my spouse does not understand my burden,” “I am solely responsible for the child,” or “nothing in our relationship will improve” may intensify frustration and reinforce conflictual behavior. Through cognitive restructuring and communication training, these interpretations may become more balanced, while spouses can develop more adaptive ways of distributing responsibilities and responding to family stress.

Evidence from couple-based interventions supports the importance of modifying beliefs and communication patterns in distressed relationships. Integrative behavioral couple therapy and rational-emotive approaches have both been associated with changes in dysfunctional communication beliefs among maladjusted couples, suggesting that interventions targeting cognition and interpersonal behavior may contribute to improved marital functioning (Niazi et al., 2019). Cognitive-behavioral approaches are especially suitable when relational problems are maintained by repeated cycles of criticism, defensiveness, avoidance, and negative expectations. By teaching couples to identify cognitive distortions, express needs more directly, listen actively, negotiate responsibilities, and solve problems collaboratively, treatment may reduce conflict and enhance the perception that partners are working together rather than against one another.

In addition to marital processes, social support represents a major protective factor for parents exposed to chronic caregiving demands. Social support is generally understood

as the emotional, informational, instrumental, and interpersonal resources available through relationships with spouses, relatives, friends, peers, professionals, and the wider community. For mothers of children with specific learning disorders, emotional support may provide validation and reduce feelings of isolation; informational support can assist in understanding the child's condition and navigating educational services; instrumental support can reduce practical caregiving burdens; and peer support can create opportunities for shared experience and mutual understanding. The availability of family support has been linked to stronger parenting efficacy, with social participation and psychological well-being functioning as important mechanisms through which support can benefit mothers (Park et al., 2019). These findings indicate that support networks may influence parental functioning not only directly but also through increased participation, improved psychological resources, and greater confidence in managing caregiving demands.

Social support may also influence mothers' broader social interactions. Chronic caregiving responsibilities can reduce opportunities for social participation, particularly when mothers anticipate judgment, feel embarrassed by the child's difficulties, or believe that others will not understand their circumstances. Over time, avoidance of social situations may contribute to isolation and increased anxiety during interpersonal encounters. Structured social support training may help mothers identify available resources, strengthen help-seeking skills, challenge beliefs that prevent them from requesting assistance, and expand supportive contact with relatives, peers, and professionals. Such interventions may therefore have benefits beyond practical support by increasing social confidence, decreasing perceived isolation, and improving the quality of everyday interpersonal engagement.

The importance of intervention at the family and social levels becomes even clearer when the contemporary understanding of specific learning disorders is considered. Current research increasingly emphasizes interdisciplinary intervention, digital accessibility, individualized educational planning, early detection, executive-function assessment, and participation of people with lived experience (Asdaq et al., 2025; Luciano et al., 2025; Megari & Genova, 2026). However, educational and technological interventions alone may not sufficiently address the psychosocial burden experienced by caregivers. A child may receive specialized instruction or technology-assisted educational support while the mother continues to experience marital tension, limited

social support, social withdrawal, and interpersonal stress. Therefore, effective management of specific learning disorders should consider not only the child's academic needs but also the relational and social context in which caregiving occurs.

This perspective is consistent with research showing that adaptive family processes can influence both parent and child functioning. Supportive relationships, constructive coping socialization, emotional regulation, reflective parental functioning, and effective communication may contribute to a more stable caregiving environment (Peisch et al., 2019; Schultheis et al., 2019). Conversely, prolonged interpersonal stress can undermine parental resources and reduce the capacity to respond constructively to the child's educational and emotional needs. For mothers who must repeatedly manage academic difficulties, school meetings, treatment referrals, and concerns about the child's long-term progress, interventions that reduce marital conflict and strengthen social resources may therefore have substantial practical value.

Despite growing research on specific learning disorders, many contemporary studies remain focused on prevalence, cognitive profiles, school-based intervention, early detection, technological adaptation, and educational outcomes (Bozathi et al., 2024; Kunwar, 2024; Llanos & Anguita, 2025; Loreda et al., 2025; Mavutha & Ramnund-Mansingh, 2024; Molise & Luneta, 2024; Polydoros, 2026). These lines of research are essential, yet comparatively less attention has been directed toward intervention programs targeting the marital and social functioning of mothers who carry substantial caregiving responsibilities. This gap is important because family distress may persist even when the child's academic needs are being addressed. Moreover, cognitive-behavioral couple therapy and social support training operate through different but potentially complementary mechanisms: the former primarily targets maladaptive cognitions, communication, and marital interaction patterns, whereas the latter strengthens emotional, informational, instrumental, and interpersonal resources. Comparing these interventions within the same study can therefore clarify whether both approaches improve mothers' psychosocial functioning and whether their effects extend across both marital and social domains.

Accordingly, the aim of the present study was to examine the effectiveness of cognitive-behavioral couple therapy and social support training in reducing marital conflict and improving social interactions among mothers of children

with specific learning disorders attending counseling centers in Bushehr.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a quasi-experimental pretest-posttest design with a control group to investigate the effectiveness of cognitive-behavioral couple therapy and social support training on marital conflict and social interactions among mothers of children with specific learning disorders. The statistical population consisted of mothers of children with specific learning disorders who attended counseling centers in Bushehr, Iran. A total of 60 eligible participants were recruited through voluntary sampling and were assigned to three groups, including two experimental groups and one control group. Each experimental group consisted of 20 participants, while the control group also included 20 participants. One experimental group received cognitive-behavioral couple therapy, the second experimental group received social support training, and the control group received no study intervention during the intervention period. Before the interventions were initiated, all participants completed the marital conflict and social interaction measures as pretest assessments. The principal inclusion criteria were being the mother of a child diagnosed with a specific learning disorder, being between 30 and 55 years of age, attending the selected counseling centers in Bushehr, willingness to participate in the study, and having the ability to attend the intervention sessions regularly. The exclusion criteria included withdrawal of consent or unwillingness to continue participation at any stage of the study and the presence of a serious psychiatric disorder, such as schizophrenia, an active bipolar disorder, or a severe personality disorder, that could substantially interfere with participation in or benefit from the psychological interventions. Following completion of the six-session intervention programs, all three groups completed the same outcome measures as posttest assessments. The pretest and posttest scores were subsequently used to evaluate changes in marital conflict and social interaction outcomes across the experimental and control conditions.

2.2. Instruments

The Revised Marital Conflict Questionnaire developed by Sanaei-Zaker and Bostanipour (2008) was used to assess

the severity of marital conflict among the participants. The instrument was developed to evaluate conflict and maladaptive interaction patterns between spouses and, in its revised form, consists of 54 items. The items are rated on a five-point Likert-type scale, yielding a total score ranging from 54 to 270. Higher total scores indicate greater marital conflict and more problematic marital interactions, whereas lower scores reflect lower levels of conflict and more satisfactory marital relationships. The questionnaire assesses multiple dimensions of marital conflict and has been used in psychological and family research as a multidimensional measure of disturbances in marital functioning. In the present study, construct-related evidence for the instrument was examined through item-total correlations. All questionnaire items demonstrated statistically significant correlations with the total score, supporting the internal consistency and adequacy of the items for measuring the intended construct in the study sample. Reliability was assessed using Cronbach's alpha, and a coefficient of .85 was obtained, indicating satisfactory internal consistency.

The Social Interaction Anxiety Scale developed by Mattick and Clarke (1998) was used to assess anxiety, discomfort, and difficulty experienced in interpersonal and social interaction situations. This self-report instrument consists of 20 items scored on a five-point Likert scale ranging from 0, indicating "not at all characteristic or true of me," to 4, indicating "extremely characteristic or true of me." The items assess difficulties encountered in social situations such as initiating and maintaining communication with others, speaking in social settings, participating in groups, making eye contact, expressing personal feelings and opinions, and interacting with unfamiliar people. In the 20-item version, Items 5, 9, and 11 are reverse-scored, and the total score ranges from 0 to 80. Higher scores represent greater social interaction anxiety and greater difficulty in social encounters, whereas lower scores indicate greater ease and more adaptive functioning in interpersonal situations. The scale primarily measures a general dimension of social interaction anxiety rather than multiple independent subscales. In the present study, item-total correlations were calculated to evaluate the internal validity of the scale, and all items were significantly correlated with the total score. Cronbach's alpha was .83, demonstrating acceptable internal consistency in the present sample.

2.3. Interventions

The cognitive-behavioral couple therapy intervention was administered in six weekly 90-minute sessions and was adapted to the circumstances and psychosocial needs of mothers of children with specific learning disorders based on the protocol described by Darwiche et al. (2022). The first session focused on establishing a therapeutic alliance, clarifying the objectives and structure of treatment, assessing major marital difficulties, and examining challenges associated with parenting a child with a specific learning disorder. Existing conflicts, couple communication patterns, precipitating and maintaining factors of marital disagreements, and the effects of the child's difficulties on the marital relationship were explored. Participants were introduced to the cognitive-behavioral model and the interrelationships among thoughts, emotions, and behaviors, and they were assisted in identifying dysfunctional beliefs about their spouse, parental responsibilities, and the child's difficulties. Shared treatment goals were established, and participants were instructed to record conflict situations, associated thoughts, and emotional reactions during the following week. The second session focused on identifying and restructuring dysfunctional cognitions. Homework from the previous session was reviewed, automatic negative thoughts related to marriage and parenting were identified, and common cognitive distortions, including overgeneralization, mind reading, catastrophizing, and all-or-nothing thinking, were discussed. Participants practiced evaluating evidence for and against maladaptive thoughts and replacing them with more balanced and realistic interpretations. Thought monitoring and cognitive restructuring were assigned as homework. The third session emphasized effective communication and reduction of negative interaction patterns. Dysfunctional communication patterns such as criticism, blame, defensiveness, withdrawal, and avoidance were identified, and participants were trained in active listening, the use of "I" statements, reflective responding, clear requests, and non-blaming communication. Real-life disagreements concerning parenting or family responsibilities were practiced through role-playing, followed by therapist feedback. The fourth session addressed marital conflict management and collaborative problem solving. Participants learned a structured sequence consisting of defining the problem, identifying each partner's contribution, generating alternative solutions, evaluating possible consequences, selecting the most appropriate solution, and implementing it.

Problems related to sharing educational and caregiving responsibilities, responding jointly to the child's academic difficulties, household responsibilities, and mutual emotional support were addressed. The fifth session focused on strengthening couple cooperation and integrating the marital and parental roles. Participants were encouraged to distinguish between their roles as spouses and as parents, explore the effects of marital conflict on coparenting, discuss mutual expectations, clarify the distribution of responsibilities, and improve joint decision-making regarding the child. Positive behaviors such as appreciation, encouragement, emotional support, attention to the spouse's needs, and setting aside time for the marital relationship were practiced. The final session reviewed previously acquired skills, assessed progress toward treatment goals, and emphasized maintenance and relapse prevention. Skills involving cognitive restructuring, effective communication, emotion management, problem solving, conflict management, and parental cooperation were consolidated. Potential future situations that could trigger renewed conflict were identified, relapse-prevention strategies were developed, and participants prepared individualized plans for continued use of the learned skills in daily life. Posttest assessments were administered following completion of the intervention.

The social support training program was delivered in six weekly 90-minute sessions and was adapted to the needs of mothers of children with specific learning disorders based on Guerra et al. (2025). The first session introduced the concept of social support and emphasized its importance in coping with parenting-related stressors. Emotional, informational, instrumental, and social forms of support were explained, and participants discussed the difficulties associated with raising a child with a specific learning disorder. Each participant identified the supportive individuals and resources available in her life and developed a personal social support network map. Homework involved identifying reliable people who could provide different types of assistance in various circumstances. The second session focused on strengthening emotional support by addressing feelings such as loneliness, worry, and psychological burden associated with the child's difficulties. Participants were taught how to identify and appropriately express emotional needs and how to seek emotional support from spouses, family members, and friends. Empathic listening and the provision of emotional support were also practiced. Participants were encouraged to establish a supportive interaction with a trusted person and record their experiences

and feelings following that interaction. The third session addressed informational support and aimed to enhance participants' ability to identify and use reliable sources of information regarding specific learning disorders. Information needs related to the nature of the disorder, strategies for assisting the child, academic concerns, communication with schools, and access to professional services were discussed. Participants were taught how to distinguish credible information from inaccurate or unreliable material and were encouraged to communicate effectively with teachers, psychologists, counselors, and other professionals. The fourth session focused on strengthening social relationships and peer support. Communication skills, relationship maintenance, involvement in family and social activities, and appropriate expression of personal needs were discussed. Barriers to seeking social support, including embarrassment, fear of judgment, feelings of inadequacy, and concerns about burdening others, were explored. The potential value of communication with other parents who had similar experiences was also emphasized as a source of peer support. The fifth session focused on instrumental support and problem solving. Participants identified practical needs associated with childcare, household responsibilities, educational tasks, transportation, and attendance at specialized services and learned how to request specific and appropriate assistance from spouses, relatives, or other trusted individuals. Problem-solving strategies and the purposeful use of available resources were practiced, with help-seeking framed as an adaptive coping strategy rather than a sign of weakness. The final session consolidated emotional, informational, instrumental, social, and peer support skills and examined changes in participants' support networks. Potential barriers to future use of social support were identified, and strategies for maintaining supportive relationships and expanding the social network were discussed. Each participant developed a personalized plan specifying the people and resources she could approach in future stressful situations. The program concluded with a review of all skills and an emphasis on integrating social support strategies into everyday life, after which the posttest assessment was administered.

2.4. Data analysis

Data analysis was conducted using descriptive and inferential statistical procedures. Descriptive statistics, including means and standard deviations, were calculated to

summarize participants' scores on marital conflict and social interaction measures at the pretest and posttest stages. Before inferential analyses, relevant statistical assumptions were examined, including the normality of score distributions, homogeneity of variances, and homogeneity of regression slopes where applicable. Because the study included two experimental groups and one control group with pretest and posttest measurements, analysis of covariance was used to compare posttest outcomes across groups while statistically controlling for corresponding pretest scores. Separate analyses were conducted for marital conflict and social interaction outcomes. When the omnibus group effect was statistically significant, appropriate post hoc pairwise comparisons were performed to identify differences between the cognitive-behavioral couple therapy group, the social support training group, and the control group. Statistical significance was evaluated at the .05 level.

Table 1

Descriptive Statistics for Marital Conflict and Social Interaction Anxiety Scores by Group and Measurement Stage

Variable	Group	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD
Marital conflict	Cognitive-behavioral couple therapy	166.35	8.24	153.10	7.18
	Social support training	165.80	7.91	157.65	7.42
	Control	165.25	8.17	164.20	7.86
Social interaction anxiety	Cognitive-behavioral couple therapy	57.10	5.86	45.25	5.41
	Social support training	56.55	5.62	48.90	5.19
	Control	56.80	5.71	55.95	5.54

As shown in Table 1, the mean marital conflict score in the cognitive-behavioral couple therapy group decreased from 166.35 at pretest to 153.10 at posttest, while the corresponding score in the social support training group decreased from 165.80 to 157.65. In contrast, the control group showed only a slight reduction from 165.25 to 164.20. A similar pattern was observed for social interaction anxiety. The cognitive-behavioral couple therapy group demonstrated a decrease from 57.10 at pretest to 45.25 at posttest, and the social support training group showed a reduction from 56.55 to 48.90. The control group exhibited minimal change, with the mean score decreasing from 56.80 to 55.95. These descriptive findings indicate greater improvement in both outcome variables among participants receiving either intervention, with the largest reductions observed in the cognitive-behavioral couple therapy group.

Before conducting the analyses of covariance, the assumptions underlying parametric analysis were examined.

3. Findings and Results

The final sample consisted of 60 mothers of children with specific learning disorders, with 20 participants assigned to the cognitive-behavioral couple therapy group, 20 to the social support training group, and 20 to the control group. Descriptive statistics were first calculated for marital conflict and social interaction anxiety scores at the pretest and posttest stages. As presented in Table 1, the three groups had relatively comparable mean scores at pretest. At posttest, however, both experimental groups demonstrated lower mean scores for marital conflict and social interaction anxiety than the control group, suggesting improvement following both interventions.

The normality of the distributions was assessed using the Kolmogorov-Smirnov test, and the results indicated nonsignificant values for marital conflict and social interaction anxiety across all three groups ($p > .05$), supporting the assumption of normality. Levene's test was also nonsignificant for marital conflict ($F = 1.14$, $p = .327$) and social interaction anxiety ($F = 0.96$, $p = .389$), indicating homogeneity of error variances. In addition, the interaction between group membership and the corresponding pretest score was nonsignificant for marital conflict ($F = 1.03$, $p = .364$) and social interaction anxiety ($F = 0.88$, $p = .421$), confirming the assumption of homogeneity of regression slopes. Therefore, the statistical assumptions required for analysis of covariance were satisfied, and ANCOVA was considered appropriate for examining between-group differences at posttest while controlling for baseline scores.

Table 2*Results of Analysis of Covariance for Posttest Marital Conflict and Social Interaction Anxiety Scores*

Outcome Variable	Source	Sum of Squares	df	Mean Square	F	p	Partial η^2
Marital conflict	Pretest	1,426.84	1	1,426.84	34.72	< .001	.383
	Group	1,248.57	2	624.29	15.19	< .001	.352
	Error	2,301.46	56	41.10			
Social interaction anxiety	Pretest	521.36	1	521.36	29.48	< .001	.345
	Group	1,153.72	2	576.86	32.61	< .001	.538
	Error	990.61	56	17.69			

As indicated in Table 2, after controlling for pretest scores, a statistically significant group effect was observed for marital conflict, $F(2, 56) = 15.19$, $p < .001$, partial $\eta^2 = .352$. This finding indicates that approximately 35.2% of the variance in adjusted posttest marital conflict scores was associated with group membership after accounting for baseline differences. A significant group effect was also observed for social interaction anxiety, $F(2, 56) = 32.61$, $p < .001$, partial $\eta^2 = .538$, indicating that approximately 53.8%

of the variance in adjusted posttest scores was associated with the intervention condition. Thus, both cognitive-behavioral couple therapy and social support training were associated with significant improvements in marital conflict and social interaction anxiety relative to the control condition. Because the omnibus group effects were statistically significant for both dependent variables, post-hoc pairwise comparisons were subsequently conducted.

Table 3*Post-Hoc Pairwise Comparisons of Adjusted Posttest Means*

Outcome Variable	Group Comparison	Mean Difference	SE	p
Marital conflict	Cognitive-behavioral couple therapy vs. Social support training	-4.21	2.03	.043
	Cognitive-behavioral couple therapy vs. Control	-10.86	2.05	< .001
	Social support training vs. Control	-6.65	2.01	.002
Social interaction anxiety	Cognitive-behavioral couple therapy vs. Social support training	-3.42	1.34	.014
	Cognitive-behavioral couple therapy vs. Control	-10.31	1.36	< .001
	Social support training vs. Control	-6.89	1.33	< .001

The post-hoc comparisons presented in Table 3 showed that participants in the cognitive-behavioral couple therapy group had significantly lower adjusted posttest marital conflict scores than those in the control group (mean difference = -10.86, $p < .001$). Participants in the social support training group also had significantly lower marital conflict scores than those in the control group (mean difference = -6.65, $p = .002$). In addition, the cognitive-behavioral couple therapy group demonstrated significantly lower marital conflict scores than the social support training group (mean difference = -4.21, $p = .043$), indicating a somewhat greater reduction in marital conflict following cognitive-behavioral couple therapy. For social interaction anxiety, the cognitive-behavioral couple therapy group had significantly lower adjusted posttest scores than the control group (mean difference = -10.31, $p < .001$), and the social support training group also had significantly lower scores than the control group (mean difference = -6.89, $p < .001$).

Furthermore, social interaction anxiety was significantly lower in the cognitive-behavioral couple therapy group than in the social support training group (mean difference = -3.42, $p = .014$). Collectively, these findings demonstrate that both interventions were effective in reducing marital conflict and social interaction anxiety compared with the control condition, while cognitive-behavioral couple therapy produced comparatively greater improvements in both outcomes.

4. Discussion

The present study examined the effectiveness of cognitive-behavioral couple therapy and social support training in reducing marital conflict and improving social interactions among mothers of children with specific learning disorders. The findings showed that, after controlling for pretest scores, both intervention groups

demonstrated significantly better outcomes than the control group in marital conflict and social interaction anxiety. Specifically, mothers who received cognitive-behavioral couple therapy and those who participated in social support training reported lower marital conflict and lower social interaction anxiety at posttest, whereas the control group showed only minimal change. The findings also indicated that cognitive-behavioral couple therapy produced greater improvements than social support training in both outcomes. These results suggest that interventions targeting either the internal dynamics of the marital relationship or the broader supportive social environment can improve the psychosocial functioning of mothers who are managing the persistent demands associated with raising a child with a specific learning disorder.

The significant reduction in marital conflict following cognitive-behavioral couple therapy is consistent with the theoretical foundations of cognitive-behavioral family intervention. Cognitive-behavioral approaches assume that couple distress is maintained through reciprocal interactions among dysfunctional cognitions, negative emotional responses, maladaptive communication, and ineffective behavioral patterns. Treatment therefore focuses on identifying distorted interpretations of the partner's behavior, modifying unrealistic expectations, strengthening communication skills, and teaching collaborative problem-solving strategies (Dattilio & Collins, 2018). In the present intervention, participants were specifically trained to recognize automatic negative thoughts, challenge cognitive distortions, use constructive communication, manage conflict, and clarify the distribution of family and caregiving responsibilities. These components may have disrupted repetitive cycles of blame, criticism, defensiveness, and withdrawal and replaced them with more adaptive responses. The finding is also compatible with behavioral and dialectical perspectives emphasizing that relational distress is often maintained by emotionally dysregulated and invalidating interaction patterns that can be altered through systematic assessment and skill acquisition (Fruzzetti & Payne, 2020).

The greater reduction in marital conflict observed in the cognitive-behavioral couple therapy group can also be interpreted in light of previous findings concerning maladaptive communication beliefs. Niazi et al. reported that couple-focused behavioral and rational-emotive interventions can modify dysfunctional beliefs associated with communication and marital maladjustment (Niazi et al., 2019). This is particularly relevant for mothers of children

with specific learning disorders because chronic educational and caregiving demands may encourage rigid and negative interpretations, such as perceiving that one partner is carrying an unfair share of responsibilities or that the other partner is insufficiently supportive. When these interpretations are repeatedly reinforced, relatively minor disagreements concerning homework, school attendance, educational services, household responsibilities, or the child's behavior may develop into broader marital disputes. Cognitive restructuring may reduce the intensity of such interpretations, while behavioral communication exercises provide couples with practical alternatives for negotiating disagreements. Consequently, the intervention may reduce both the frequency of conflict and the emotional intensity attached to marital disagreements.

The characteristics of specific learning disorders themselves may help explain why couple-based treatment was beneficial. Children with these conditions can experience persistent difficulties in reading, writing, mathematics, executive functioning, and broader academic adaptation, frequently requiring long-term involvement from parents, teachers, psychologists, and other professionals (Asdaq et al., 2025; Megari & Genova, 2026). Dyslexia and dyscalculia may also co-occur, further increasing the complexity of the child's educational needs (Polydoros, 2026). Similarly, dyscalculia may affect basic arithmetic learning and educational progress in ways that require ongoing parental assistance and instructional adaptation (Molise & Luneta, 2024). Such difficulties can create repeated stressors in family life. Parents may disagree about academic expectations, the amount of assistance the child should receive, decisions about professional intervention, or the allocation of time and financial resources. Therefore, a structured intervention that strengthens cooperation and shared problem solving may directly address an important source of marital strain.

The finding that social support training also significantly reduced marital conflict suggests that marital functioning may improve not only through direct intervention in the couple relationship but also through enhancement of external and interpersonal resources. Social support can reduce the concentration of caregiving demands on a single family member by providing emotional reassurance, practical assistance, useful information, and opportunities for social participation. Park et al. demonstrated that family support can contribute to parenting efficacy through pathways involving social participation and psychological well-being (Park et al., 2019). Applied to the present sample,

increasing mothers' access to supportive relationships may have reduced feelings of being solely responsible for managing their child's educational difficulties. When practical and emotional burdens become more manageable, the likelihood that stress will be displaced into the marital relationship may also decrease. Mothers who feel supported by relatives, peers, professionals, and their spouses may have greater emotional resources for engaging in constructive communication at home.

This interpretation is also consistent with evidence demonstrating that parental stress and social stigma can influence family interactions. Research among mothers of children with developmental difficulties has shown that heightened parental stress and perceived social stigma are related to less favorable parent-child interaction patterns (Nikbakht & Haghayegh, 2019). Although the population investigated in that study differed from the present sample, the underlying psychosocial mechanism is relevant. Mothers of children with specific learning disorders may experience embarrassment, fear of judgment, concern about their child's academic future, or frustration arising from misunderstandings about learning disorders. Social support training can reduce these pressures by normalizing help-seeking, strengthening access to reliable information, and increasing contact with people who can provide emotional and practical assistance. Such changes may indirectly reduce tension within the marital relationship by decreasing the mother's overall level of stress.

The findings concerning social interaction anxiety were similarly significant. Both cognitive-behavioral couple therapy and social support training reduced difficulties in social interactions compared with the control condition, although cognitive-behavioral couple therapy produced the larger improvement. One possible explanation is that maladaptive social cognitions and relationship-related emotional distress are not confined to interactions with the spouse. Cognitive distortions such as mind reading, catastrophizing, negative prediction, or excessive concern about evaluation may also shape interactions with relatives, teachers, professionals, other parents, and unfamiliar people. Cognitive-behavioral treatment may therefore generalize beyond the marital relationship by increasing awareness of maladaptive thought patterns and strengthening communication and emotional regulation skills. As participants learn to interpret interpersonal situations more realistically and communicate needs more effectively, they may experience less anxiety and greater confidence in a broader range of social encounters.

Social support training was also directly designed to influence interpersonal functioning. The intervention encouraged participants to map their support networks, communicate emotional needs, seek information from credible sources, engage with professionals, maintain social relationships, overcome barriers to seeking assistance, and interact with peers who had similar experiences. These components likely created repeated opportunities for participants to practice approach-oriented rather than avoidance-oriented social behavior. The role of social participation is particularly important because social withdrawal can both result from and reinforce interpersonal anxiety. The findings of Park et al. suggest that participation in supportive social relationships may contribute to psychological well-being and parenting efficacy (Park et al., 2019). Therefore, strengthening social networks may reduce the sense of isolation that can emerge when mothers become highly preoccupied with caregiving responsibilities.

The importance of improved social functioning is further supported by the broader literature on children with specific learning disorders. Parents frequently need to interact with teachers, school administrators, psychologists, educational specialists, and healthcare professionals. Contemporary approaches to learning disabilities increasingly emphasize interdisciplinary cooperation, individualized educational support, and the integration of neuroscience, education, and technology (Asdaq et al., 2025). Technological innovations, including artificial intelligence, are also increasingly incorporated into the assessment and management of neurodevelopmental disorders, further expanding the range of professionals and systems with which families may need to communicate (Mohamed et al., 2026). Mothers who experience substantial anxiety in social interactions may find it more difficult to advocate for their child, seek clarification, request accommodations, or coordinate professional services. Reducing social interaction anxiety may therefore have implications not only for maternal well-being but also for the family's ability to navigate educational and clinical systems.

The need for such interpersonal competence becomes particularly clear when early detection and risk management are considered. Research has emphasized the importance of identifying children at risk for specific learning disorders before difficulties become entrenched (Bozatl et al., 2024). Similarly, valid approaches to early developmental risk detection can facilitate timely referral and intervention (Llanos & Anguita, 2025). Parents frequently serve as intermediaries between children, schools, and professionals

during this process. Furthermore, prevalence research has shown that dyslexia and dyscalculia may occur separately or together and that demographic and socioeconomic factors may influence patterns of risk (Loredo et al., 2025). This complexity can increase the informational and emotional demands placed on parents. Social support and stronger communication skills may help mothers obtain appropriate information and participate more effectively in decision-making about their child's needs.

The findings can also be understood in relation to parental emotion regulation and reflective functioning. Schultheis et al. demonstrated an association between emotion regulation and parental reflective functioning, highlighting the importance of parents' ability to regulate emotional arousal while understanding mental states in family contexts (Schultheis et al., 2019). Cognitive-behavioral couple therapy explicitly encourages participants to identify the links among thoughts, emotions, and behavior and to interrupt automatic reactions during conflict. By improving awareness of emotional responses and increasing the capacity to pause, reinterpret, and respond more deliberately, mothers may become less reactive in both marital and social situations. Similarly, Rowhany et al. highlighted the relationships among parental characteristics, attachment patterns, parenting styles, and children's health-related functioning (Rowhany et al., 2019). These findings support the broader principle that family relationships are interconnected and that improvements in one domain of parental functioning may influence multiple dimensions of family interaction.

Parent socialization of coping offers another useful framework for interpreting the findings. Parents do not merely respond to children's difficulties; they also model and teach coping behaviors. Peisch et al. showed that parental socialization of coping is associated with children's emotion-regulation abilities over time (Peisch et al., 2019). Mothers who learn to seek support, communicate needs, regulate emotional reactions, and solve problems constructively may therefore create a more adaptive emotional environment for their children. Although the present study did not measure child outcomes, improved maternal and marital functioning may indirectly benefit children by reducing family tension and modeling more adaptive coping strategies. This interpretation is especially relevant because children with specific learning disorders often encounter frustration, repeated academic setbacks, and concerns about evaluation, all of which may increase their need for emotionally regulated parental responses.

The observed intervention effects should also be interpreted in light of the contemporary shift toward person-centered and family-sensitive approaches to specific learning disorders. Anthony et al. demonstrated that parents, professionals, and individuals with specific learning disorders may differ in their preferred terminology, underscoring the importance of respectful and responsive communication (Anthony et al., 2025). Similarly, research priorities identified by individuals with lived experience extend beyond narrow measures of academic performance and include broader issues relating to well-being, participation, accessibility, and support (Luciano et al., 2025). These perspectives reinforce the importance of attending to the experiences of mothers and families rather than conceptualizing specific learning disorders solely as educational deficits located within the child. Interventions that improve marital and social functioning are consistent with this broader psychosocial orientation.

The educational environment itself may also contribute to parental burden. Children with dyslexia and dyscalculia often require specific curricular strategies, accommodations, and differentiated educational practices (Kunwar, 2024). Digital learning methods may provide flexible opportunities for students with these conditions, but successful implementation frequently requires parental involvement and adequate technological and educational support (Mavutha & Ramnund-Mansingh, 2024). Where educational systems provide insufficient support, parents may be required to compensate through greater supervision and advocacy. Over time, such demands may heighten stress and restrict social participation. Strengthening marital cooperation and social support may therefore act as protective mechanisms that help mothers manage persistent educational demands without becoming increasingly isolated or overwhelmed.

The superiority of cognitive-behavioral couple therapy over social support training in the present study may reflect the breadth of mechanisms addressed by the cognitive-behavioral intervention. Social support training primarily strengthens external resources and help-seeking processes, whereas cognitive-behavioral couple therapy directly targets cognitions, emotional responses, behavioral interaction patterns, communication, conflict resolution, and collaborative problem solving. Accordingly, it may influence both intrapersonal and interpersonal processes simultaneously. For mothers experiencing marital conflict and social interaction anxiety, modification of dysfunctional thoughts and communication patterns may transfer across

different relational settings, thereby explaining the comparatively greater improvements in both dependent variables. Nevertheless, the significant effects of social support training indicate that strengthening the social environment remains a meaningful intervention strategy rather than merely an adjunct to couple therapy.

Clinical complexity should also be considered when interpreting these findings. Children with neurodevelopmental difficulties can present with heterogeneous cognitive, emotional, and psychiatric profiles, and in some instances developmental conditions may coexist with several psychiatric problems (Abedi et al., 2025). Such complexity can create uncertainty and increase demands on families. Similarly, contemporary research on executive functioning in specific learning disorders demonstrates that children may have diverse patterns of cognitive strengths and weaknesses rather than a single uniform profile (Megari & Genova, 2026). For mothers, unpredictability regarding the child's progress can become a chronic source of stress. Both interventions used in the present study may help by increasing perceived control: cognitive-behavioral couple therapy through structured coping and relational problem solving, and social support training through improved access to interpersonal and informational resources.

5. Conclusion

Overall, the findings suggest that maternal psychosocial functioning is an important dimension of intervention in families of children with specific learning disorders. Contemporary research has advanced considerably in understanding prevalence, neurocognitive mechanisms, early detection, educational accommodations, digital learning, and technological innovation (Loredo et al., 2025; Mohamed et al., 2026; Molise & Luneta, 2024; Polydoros, 2026). However, the present results highlight that families may also benefit from interventions directed toward the emotional and relational consequences of managing these conditions. Reducing marital conflict may create a more cooperative family environment, while reducing social interaction anxiety may improve mothers' ability to seek support, participate in social relationships, and communicate effectively with educational and clinical professionals. The findings therefore support a broader family-centered approach in which the needs of the child and the psychosocial functioning of caregivers are considered together.

The present study had several limitations that should be considered when interpreting its findings. First, the sample consisted of only 60 mothers recruited from counseling centers in Bushehr, which limits the generalizability of the results to mothers in other geographical, cultural, socioeconomic, or healthcare contexts. Second, voluntary sampling may have resulted in self-selection bias, because mothers who agreed to participate may have been more motivated to receive psychological intervention than those who declined. Third, the study focused exclusively on mothers, and therefore the findings cannot be generalized to fathers, couples as a dyadic unit, or other primary caregivers. Fourth, outcomes were assessed using self-report questionnaires, which may be influenced by social desirability, response tendencies, or participants' awareness of their intervention condition. Fifth, the study used a pretest-posttest design without a longer follow-up period, making it impossible to determine whether the observed improvements were maintained over time. Finally, variables such as severity and type of the child's learning disorder, duration of diagnosis, socioeconomic status, quality of the marital relationship at baseline, previous psychological treatment, and the availability of existing family support were not examined as potential moderators of intervention effectiveness.

Future studies should replicate the present investigation with larger and more heterogeneous samples recruited from multiple cities, educational centers, clinics, and community settings to increase external validity. Including fathers and conducting interventions with both members of the couple would provide a more comprehensive understanding of dyadic change and could clarify whether improvements in marital functioning are perceived similarly by both partners. Longitudinal designs with follow-up assessments several months after treatment are recommended to determine the durability of intervention effects and identify possible relapse patterns. Future research could also compare cognitive-behavioral couple therapy and social support training with other interventions, such as acceptance-based therapies, stress-management programs, parent-training approaches, or combined couple-and-parent interventions. The inclusion of behavioral observations, clinician ratings, spouse reports, and indicators of child adjustment would reduce dependence on self-report measures. It would also be useful to examine potential mediating and moderating variables, including emotion regulation, parental stress, perceived stigma, coping style, marital satisfaction, social

support availability, severity of the child's academic difficulties, and socioeconomic conditions.

Counseling centers, schools, learning-disability clinics, and family mental health services should consider incorporating structured psychological support for mothers and couples into services provided to children with specific learning disorders. Cognitive-behavioral couple therapy may be particularly useful when persistent marital conflict, negative communication patterns, ineffective problem solving, or unequal distribution of caregiving responsibilities are evident. Social support training can be incorporated when mothers report isolation, difficulty asking for assistance, limited access to reliable information, or reduced participation in social activities. Professionals should also encourage collaboration among families, schools, psychologists, and educational specialists so that mothers do not carry the responsibility for managing the child's condition alone. Establishing parent support groups, psychoeducational workshops, referral networks, and accessible counseling programs may help strengthen social resources while reducing caregiving burden. Integrating family-oriented psychological interventions with the child's educational and clinical care may ultimately create a more stable and supportive environment for both mothers and children.

Authors' Contributions

Authors equally contributed to this article.

Declaration

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

Transparency Statement

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