

# Examining the Effectiveness of Cognitive-Behavioral Couple Therapy on Marital Satisfaction of Parents and Internalizing and Externalizing Behavioral Problems of Adolescents with Autism Spectrum Disorder

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## ABSTRACT

**Objective:** This study aims to investigate the effectiveness of a cognitive-behavioral couple therapy program on the marital satisfaction of parents and the internalizing and externalizing behavioral problems of students with ASD.

**Methods and Materials:** This study employed a quasi-experimental design with a pre-test, post-test, and follow-up with a control group. The statistical population consisted of all parents of 10- to 15-year-old male students with autism in Mashhad in 2023. The sampling method was convenience sampling, including 58 eligible parents of children with internalizing behavioral problems. These parents were selected from the Tebassom public center and the Mehr Amin private clinic and were divided into two groups: experimental and control. Data were collected using the Marital Satisfaction Questionnaire, Child Behavior Checklist, and GARS-2 Autism Rating Scale and analyzed using repeated measures ANOVA and SPSS.22 software.

**Findings:** The results indicated that the implementation of the cognitive-behavioral couple therapy program significantly impacted mothers' marital satisfaction ( $F=38.98$ ,  $P<0.001$ ), fathers' marital satisfaction ( $F=65.25$ ,  $P<0.001$ ), externalizing behavioral problems ( $F=61.80$ ,  $P<0.001$ ), and internalizing behavioral problems ( $F=29.48$ ,  $P<0.001$ ) of children with autism.

**Conclusion:** It can be concluded that the cognitive-behavioral couple therapy program effectively improves the marital satisfaction of parents and the internalizing and externalizing behavioral problems of children with ASD. This approach can be utilized to reduce the psychological issues of children with ASD.

**Keywords:** Cognitive-behavioral therapy, Marital satisfaction, Behavioral problems, Adolescents, Autism.

## 1. Introduction

Children with autism are under pressure from their parents due to their difficulties in self-expression, which disrupts the parent-child communication pattern and cannot proceed normally (Byrne et al., 2023; Hallett et al., 2013; Mello et al., 2022). This abnormal escalation increases their problems. Additionally, the collective unawareness and the ambiguous public perception of autism can negatively affect both the individuals with autism and their parents. As a result, these parents have less opportunity to focus on their relationship with their spouse. Undoubtedly, the critical and decisive issue of parental marital satisfaction is not immune in this vicious cycle and will suffer the hardest damage (Mello et al., 2022). Therefore, it can be boldly stated that the root of many child problems lies in the quality of the relationship between fathers and mothers, and the primary pathway to treating the problems of children with autism fundamentally goes through the quality of parental relationships, particularly their marital satisfaction (Bearss et al., 2013; Reaven et al., 2015; Rodgers et al., 2018). Hence, according to the researcher's belief and considering the irreplaceable role of marital satisfaction, it is time to make a significant shift in our view of autism and take fundamental therapeutic steps to reduce the behavioral problems of children with autism by focusing on the quality of parental relationships, especially their marital satisfaction (Mello et al., 2022; Mousavi & Asghari, 2020). Addressing this issue became the main concern and starting point of this research.

Marital satisfaction is an influential component of physical and mental health, life satisfaction, social interactions, and a safeguard against psychological and physiological harm, and it serves as a primary source of social support for couples (Kim & Jeon, 2013; Peterson et al., 2009). Some studies find marital satisfaction to be an effective factor in the optimal development and communicative interaction of the parent-child relationship (Byrne et al., 2023; Creswell et al., 2019). According to Afrooz (2012), the impact and role of marital satisfaction on the mental health of spouses make attention to it inevitable. He considers marital satisfaction as the level of satisfaction with sexual attractions and the utilization of peace in life (Gorji et al., 2020). Numerous studies indicate the low quality of marital satisfaction among parents of children with autism. Some research results indicate that emotional problems and aggressive behavior of children with autism are the most significant predictors of parental distress (Mello

et al., 2022). Additionally, these variables, along with autism symptoms, are related to parent-child interaction stress. These studies emphasize the necessity of comprehensive interventions focusing on behavior, symptoms of the disorder, and the quality of parental relationships and adjustment (Mello et al., 2022). Furthermore, some researchers assert that marital dissatisfaction among these parents leads to negative psychological well-being and stress and has a significant relationship with the low quality of parent-child relationships (Mousavi & Asghari, 2020; Peterson et al., 2009).

Cognitive-behavioral therapy (CBT) based on interaction and parent training may be an effective method in treating the behavioral problems of children with autism (Creswell et al., 2019; Rodgers et al., 2018). CBT reduces parental anxiety and conflict and decreases children's externalizing behavior problems (Kolko et al., 2011). Despite multiple research reviews demonstrating the effectiveness of CBT in increasing parental participation and reducing behavioral problems of children with autism, as well as improving their social skills and repetitive behaviors, few studies have focused on the potential of CBT by parents for children (Byrne et al., 2023). Additionally, there is limited research on parent-implemented approaches for children with autism who have internalizing and externalizing behavior problems (Driscoll et al., 2020; Reaven et al., 2015). Therefore, this study aims to investigate the effectiveness of a cognitive-behavioral couple therapy program on the marital satisfaction of parents and the internalizing and externalizing behavioral problems of students with autism spectrum disorder.

## 2. Methods and Materials

### 2.1. Study Design and Participants

This study employed a quasi-experimental design with a pre-test, post-test, and follow-up with a control group. The statistical population included the parents of all 10- to 15-year-old male students with autism who were studying at the Tebassom public educational center in the academic year 2023-2024 and were benefiting from the educational and rehabilitation services of the Mehr Amin Counseling and Psychological Services Center. According to the psychiatrist or neurologist's diagnosis based on DSM-5, these students were diagnosed with autism. It should be noted that the severity and extent of autism in these students were determined as moderate based on the Gilliam Autism Rating Scale (GARS-2). The research sample included 56 couples

(28 mothers and 28 fathers) with children with autism who met the research criteria and were selected from the statistical population. Initially, all autistic students at the Tebassom Educational and Rehabilitation Center and the Mehr Amin Clinic were observed for several weeks. Subsequently, 28 students, whose parents met the necessary conditions to participate in the research, were selected based on the researcher's implicit observation of externalizing behavior problems. The selected parents (28 mothers and 28 fathers) were then divided into two groups: experimental and control, for evaluation and intervention to examine the effect of the cognitive-behavioral couple therapy program on the marital satisfaction of parents in the experimental group and the reduction of externalizing behavior problems of their children.

The inclusion criteria for parents were the absence of any illness or special medication, a minimum education level of a high school diploma or higher, and the simultaneous presence of both parents in the sessions. The exclusion criteria were the absence of more than two sessions, attendance by only one parent without the spouse for more than two sessions, and the occurrence of significant events affecting the research results, such as the death of a close relative or a major crisis like bankruptcy. The inclusion criteria for students were a diagnosis of autism spectrum disorder based on DSM-5 by a psychiatrist or neurologist, a moderate level of autism according to the GARS-2, confirmation of externalizing behavior problems based on the Child Behavior Checklist (CBCL), an age range of 10-15 years, and no other predominant issues besides autism spectrum disorder.

All participating parents were assured of the confidentiality of the obtained information, ensuring informed consent regarding the study's objectives, methods, and procedures. It was agreed that the research results would be published without mentioning participants' names. Additionally, the voluntary nature of participation and the right to leave the group at any stage of the research process with prior notice were explained. The control group was also promised that they would receive the same intervention after the research process.

## 2.2. Measures

### 2.2.1. Marital Satisfaction

This questionnaire was developed by Dr. Gholamali Afrooz in 2011 to assess marital satisfaction among couples. It consists of 51 items and uses a four-point Likert scale

(strongly disagree 1, disagree 2, agree 3, strongly agree 4) to measure marital satisfaction. Higher scores indicate greater marital satisfaction. Scores between 51 and 102 represent low marital satisfaction, 102 to 128 represent moderate satisfaction, and scores above 128 indicate high satisfaction. The correlation between the Afrooz Marital Satisfaction Scale and the ENRICH Marital Satisfaction Questionnaire was found to be 0.431, which is significant at the 0.001 level. The test-retest reliability coefficient for this scale was 0.79 over a twenty-day interval (Mousavi & Asghari, 2020).

### 2.2.2. Behavioral Problems

Child Behavior Checklist (CBCL) measures emotional-behavioral problems and academic and social competencies of children aged 6-18 from the parents' perspective and typically takes 20 to 25 minutes to complete. It consists of 113 questions related to various behavioral states of children. Responses are given on a three-point Likert scale (0=never, 1=sometimes, 2=often or always). The total reliability coefficients of CBCL forms using Cronbach's alpha were reported as 0.97 and the test-retest reliability as 0.94 (Achenbach, 2001). In Minayi's study (2005), the range of internal consistency coefficients for the scales using Cronbach's alpha formula was reported between 0.63 and 0.95 (Tabrizi et al., 2023).

### 2.2.3. Autism Spectrum Disorder

GARS-2 (Gilliam Autism Rating Scale-2) is a checklist for diagnosing individuals with autism, standardized by Gilliam in 1994. It includes four subscales, each consisting of 14 items, with each item scored between 0 and 3. The first subscale measures stereotyped behaviors, including motor disorders and unusual behaviors. The second subscale assesses communication, covering items 15 to 28, describing verbal and non-verbal behaviors indicative of autism. The third subscale measures social interactions, including items 29 to 42. The overall reliability coefficients for GARS-2 were reported as 0.90 for stereotyped behaviors, 0.89 for communication, and 0.93 for social interactions. Each subscale has a maximum score of 42 and a minimum score of 0, with the total score ranging from 0 to 126, where higher scores indicate greater severity of autism (Gorji et al., 2020). In this study, GARS-2 was used only to determine the level of autism in students.

## 2.3. Intervention

### 2.3.1. Cognitive-Behavioral Couple Therapy

The cognitive-behavioral couple therapy program included 12 group sessions, each lasting 100 minutes. Prior to the intervention, preliminary counseling sessions were held with each couple to collect individual histories, examine personal issues, and review early childhood and adolescent experiences, as well as marital history. The design and protocol of the current cognitive-behavioral couple therapy intervention were based on the comprehensive guides for therapists (Byrne et al., 2023; Drahota et al., 2011; Driscoll et al., 2020; Hayes, 2004; Kolko et al., 2011; Peterson et al., 2009; Reaven et al., 2015; ZafarAl-Hayari et al., 2022).

#### Session 1: Introduction and Overview

The initial session focuses on introducing the couple therapy program, setting goals, and establishing rapport. The therapist explains the cognitive-behavioral approach and its relevance to improving marital satisfaction and addressing children's behavioral problems. Couples are encouraged to share their experiences and expectations, creating a foundation for open communication. Homework involves identifying and recording specific stressors in their relationship and parenting roles.

#### Session 2: Understanding Autism and Its Impact on Family Dynamics

This session educates parents about autism spectrum disorder (ASD), highlighting how it affects their child and family dynamics. Emphasis is placed on recognizing common challenges, such as communication barriers and behavioral issues. The therapist facilitates discussions on the emotional impact of raising a child with ASD, helping parents empathize with each other's experiences. Homework includes reflecting on how ASD has influenced their relationship and individual well-being.

#### Session 3: Cognitive Restructuring

Parents are introduced to cognitive restructuring techniques to challenge and modify negative thought patterns. The therapist guides couples in identifying cognitive distortions related to their marital relationship and parenting. Through role-playing and practical exercises, couples learn to reframe unhelpful thoughts into more constructive perspectives. Homework involves practicing cognitive restructuring in daily interactions and recording their experiences.

#### Session 4: Enhancing Communication Skills

Effective communication strategies are introduced, focusing on active listening, assertiveness, and expressing emotions constructively. Couples participate in exercises to practice these skills, learning to navigate conflicts and misunderstandings more effectively. The therapist provides feedback and reinforces positive communication behaviors. Homework includes implementing these skills in daily conversations and reflecting on improvements.

#### Session 5: Problem-Solving Techniques

This session teaches structured problem-solving techniques to address marital and parenting challenges. Couples learn to define problems clearly, brainstorm potential solutions, evaluate options, and implement agreed-upon strategies. The therapist guides couples through real-life examples, promoting collaborative decision-making. Homework involves applying problem-solving steps to a current issue and discussing the outcomes.

#### Session 6: Stress Management and Self-Care

Parents are introduced to stress management techniques, including relaxation exercises, mindfulness, and self-care practices. The therapist emphasizes the importance of individual well-being and its impact on the marital relationship. Couples are encouraged to support each other's self-care efforts and create a balanced routine that includes relaxation and leisure activities. Homework includes practicing stress management techniques and incorporating self-care into their daily lives.

#### Session 7: Strengthening Emotional Connection

This session focuses on enhancing emotional intimacy and connection between partners. Couples engage in exercises designed to foster empathy, appreciation, and affection. The therapist facilitates discussions on emotional needs and how to meet them within the relationship. Homework involves expressing gratitude and affection towards each other and reflecting on the impact of these positive interactions.

#### Session 8: Managing Child Behavior Problems

Parents learn specific behavioral management techniques to address their child's internalizing and externalizing behavior problems. The therapist provides guidance on implementing positive reinforcement, setting clear expectations, and using consistent consequences. Couples practice these techniques through role-playing scenarios. Homework includes applying behavioral strategies with their child and recording the results.

#### Session 9: Balancing Parenting and Marital Roles

This session addresses the challenges of balancing parenting responsibilities with maintaining a healthy marital

relationship. Couples discuss role distribution, support systems, and strategies for managing conflicts related to parenting. The therapist helps couples create a plan for sharing responsibilities and ensuring quality time together. Homework involves implementing the agreed-upon plan and assessing its effectiveness.

**Session 10: Relapse Prevention and Maintenance**

Couples are guided in developing a long-term plan for maintaining the gains achieved during therapy. The therapist reviews key skills and strategies, emphasizing the importance of ongoing practice and self-reflection. Couples discuss potential challenges and how to address them proactively. Homework involves creating a written maintenance plan and committing to regular check-ins to monitor progress.

**Session 11: Review and Reinforcement**

This session involves reviewing the progress made throughout the therapy program and reinforcing key concepts and skills. Couples reflect on their journey, celebrating successes and identifying areas for further growth. The therapist provides additional resources and

support as needed. Homework includes continuing to practice learned skills and maintaining open communication.

**Session 12: Closure and Future Planning**

The final session focuses on closure and future planning. Couples discuss their overall experience, sharing insights and lessons learned. The therapist helps couples set realistic goals for the future and encourages them to continue supporting each other. A follow-up plan is established to ensure sustained progress. Homework includes scheduling regular check-ins and seeking additional support if needed.

**2.4. Data analysis**

Data were analyzed using repeated measures ANOVA and SPSS.22 software.

**3. Findings and Results**

The mean (standard deviation) age of participants in the experimental group was 44.5 (9.7) years, and in the control group, it was 46.1 (8.6) years. Regarding education, most participants (60%) had a high school diploma or associate degree.

**Table 1**

*Statistical Indices of Variables in the Pre-Test, Post-Test, and Follow-Up Stages*

Variable	Stage	Group	N	Mean	SD	Min	Max
Mothers' Marital Satisfaction	Pre-Test	Experimental	14	87.43	15.05	65	109
		Control	14	84.50	12.90	66	107
	Post-Test	Experimental	14	113.00	14.34	92	137
		Control	14	87.57	13.20	61	110
	Follow-Up	Experimental	14	112.66	14.24	93	138
		Control	14	87.42	13.10	60	109
Fathers' Marital Satisfaction	Pre-Test	Experimental	14	89.50	13.95	68	110
		Control	14	89.43	13.92	69	109
	Post-Test	Experimental	14	119.57	13.40	99	138
		Control	14	87.00	14.13	60	110
	Follow-Up	Experimental	14	118.02	13.21	98	137
		Control	14	86.55	14.10	59	111
Externalizing Behaviors	Pre-Test	Experimental	14	34.36	23.35	11	62
		Control	14	36.71	22.16	12	62
	Post-Test	Experimental	14	29.36	18.60	10	52
		Control	14	34.71	22.66	11	62
	Follow-Up	Experimental	14	29.10	18.42	10	53
		Control	14	34.13	22.04	11	63
Internalizing Behaviors	Pre-Test	Experimental	14	41.36	23.31	12.00	62.00
		Control	14	41.71	22.03	13.00	62.00
	Post-Test	Experimental	14	35.86	20.34	10.00	55.00
		Control	14	40.79	22.38	12.00	62.00
	Follow-Up	Experimental	14	36.78	20.89	11.00	60.00
		Control	14	40.51	22.14	12.00	59.00



Table 1 shows the statistical indices of the research variables in the pre-test, post-test, and follow-up stages.

**Table 2**

*Repeated Measures ANOVA for Comparing Pre-Test, Post-Test, and Follow-Up of Marital Satisfaction, Internalizing, and Externalizing in Experimental and Control Groups*

Scale	Source of Effect	Sum of Squares	df	Mean Square	F	p	Eta Squared
Mothers' Marital Satisfaction	Time	230.46	1.43	160.14	79.16	.001	.73
	Time*Group	150.02	1.43	104.24	51.53	.001	.64
	Group	4526.84	1	4526.84	38.98	.001	.60
Fathers' Marital Satisfaction	Time	87.62	2	43.81	164.78	.001	.85
	Time*Group	37.48	2	18.74	70.50	.001	.71
	Group	113.61	1	113.61	65.25	.001	.63
Externalizing	Time	170.60	1.45	117.57	175.61	.001	.86
	Time*Group	116.86	1.45	80.54	120.30	.001	.81
	Group	7406.08	1	7406.08	61.80	.001	.71
Internalizing	Time	163.01	1.91	85.379	80.306	<.001	.572
	Time*Group	87.865	5.728	15.340	14.429	<.001	.419
	Group	116.557	2	58.270	29.487	.001	.385

Table 2 shows that the analysis of variance for the within-group factor (time) and between-group factor is significant. This indicates that considering the group effect, the time

effect alone is also significant. Additionally, the interaction between group and time is significant. The Bonferroni post hoc test was used for pairwise comparisons of the groups.

**Table 3**

*Bonferroni Post Hoc Test Results for Intragroup Cognitive-Behavioral Training on Dimensions of Marital Satisfaction, Internalizing, and Externalizing in the Experimental Group*

Variable	Time 1	Time 2	Mean Difference	SE	p
Mothers' Marital Satisfaction	Pre-Test	Post-Test	-25.96	1.25	.001
	Post-Test	Follow-Up	-0.92	1.22	.175
Fathers' Marital Satisfaction	Pre-Test	Post-Test	29.96	1.25	.001
	Post-Test	Follow-Up	-0.44	1.29	.425
Externalizing	Pre-Test	Post-Test	5.14	1.25	.001
	Post-Test	Follow-Up	0.78	1.29	.214
Internalizing	Pre-Test	Post-Test	6.250	1.531	.001
	Post-Test	Follow-Up	0.312	1.253	.853

Table 3 shows the changes in the experimental group over time, indicating that the dimensions of marital satisfaction, internalizing, and externalizing in the experimental group were significantly different in the post-test compared to the pre-test ( $p < .001$ ). Additionally, significant differences were observed in the follow-up stage compared to the pre-test ( $p < .001$ ). However, no significant differences were observed between the follow-up and post-test stages ( $p < .01$ ).

#### 4. Discussion and Conclusion

This study aimed to investigate the effectiveness of a cognitive-behavioral couple therapy program on the marital

satisfaction of parents and the internalizing and externalizing behavioral problems of students with autism spectrum disorder. The results of this study indicate that implementing the cognitive-behavioral couple therapy program significantly increased parental marital satisfaction and significantly reduced internalizing and externalizing behavioral problems in students with autism. These findings are consistent with prior studies (Hayes, 2004; Peterson et al., 2009).

In explaining the impact of the couple therapy program, it can be said that the first step to increasing marital satisfaction is ensuring couples are ready to correct cognition, change behavior, and resolve conflicts. To this

end, the therapist teaches parents to identify common points, agreements, and similarities in their relationship while simultaneously discovering their differences and distinctions. With the therapist's help, they gain a new understanding and perspective in their communication system. This new perspective helps each parent evaluate and reconstruct their behaviors and emotional responses towards their spouse and prepare for fundamental changes in thoughts, feelings, and behaviors (ZafarAl-Hayari et al., 2022). Therefore, the most notable result of cognitive correction and attitude change in parents is significant behavioral changes, leading to increased marital satisfaction and reduced externalizing behaviors in their autistic child.

In explaining the impact of the therapy program on reducing externalizing behaviors in children with autism, it can be stated that training parents to correct cognition, attitudes, and behavioral responses has led to increased calmness. This newfound calmness has allowed parents to reassess their child's condition and approach it with a different perspective. The new and different acceptance and attitude of parents towards their child's condition have improved their relationship quality with their child or adolescent, reducing the severity of internalizing and externalizing aggressive behaviors. Furthermore, becoming familiar with similar conditions of other parents and hearing their experiences has reduced feelings of guilt, inadequacy, self-blame, and social withdrawal while increasing their self-esteem (Kolko et al., 2011; Mello et al., 2022). Therefore, it can be boldly claimed that a significant portion of the therapy program's impact on increasing marital satisfaction and reducing internalizing and externalizing behavioral problems in autistic children is primarily due to correcting parents' attitudes and cognition towards each other and their behavior changes, followed by a new acceptance and attitude towards their autistic child's condition.

In explaining the impact of the therapy program on reducing internalizing and externalizing behavioral problems in autistic children, special attention to parenting style can be highlighted. Research has shown that parents of children with autism face more challenges and deficiencies in parenting skills compared to parents of typical children (Bearss et al., 2013). An essential point repeatedly observed by the current study's researcher is that facing a child's autism problems is sometimes so challenging for parents that it escalates from a problem to a crisis. Often, parents cannot implement educational strategies or cope with their autistic child's behavioral issues. In this chaotic and crisis-ridden environment, arguments, conflicts, or self-blame and

complaints are likely to arise. To prevent this, the therapist helps parents develop the skills of mutual understanding and consensus, agreeing to set aside personal opinions regarding their child's upbringing and trust the recommendations and educational strategies of experts. By providing and introducing useful educational books and resources, the therapist assists parents in discussing and reaching a unified belief in parenting methods simultaneously and with the therapist's presence. As a result of this consensus, they trust the therapist's recommendations and respond to their child's disruptive behaviors with coordinated and adaptive reactions. It is highly probable that parents' agreement on educational strategies and coordination in parenting methods has led to positive behaviors and reduced anger, disobedience, disruptive actions, and helpless behaviors in their autistic child.

## 5. Limitations & Suggestions

Research limitations included using convenience sampling, limiting the generalizability of the results. There was also insufficient similar research on the impact of cognitive-behavioral couple therapy on parental marital satisfaction and externalizing behavioral problems in autistic children. Furthermore, the potential influence of individual characteristics, economic conditions, and sub-threshold features on the results and statistical analysis was possible. It is recommended that cognitive-behavioral couple therapy workshops be conducted for young parents of exceptional children to manage their cognition, attitude, acceptance, conflict resolution methods, and marital relationship quality, ultimately preventing and addressing behavioral problems in exceptional children.

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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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