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Research Paper: The Effectiveness of Play Therapy Training on Improving Social Skills in Children with Autism Spectrum Disorder



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Abstract

Objective: Autism spectrum disorder is a complex neurodevelopmental disorder characterized by communication problems, limited social interactions, and repetitive behaviors. The present study aimed to investigate the effectiveness of play therapy education with a parentchild approach in improving social skills in children with autism spectrum disorder.

Methods: This study was a quasi-experimental study with a pre-testpost-test design, a control group, and a follow-up phase. The statistical population of the study included children with autism at the Justice Center in Isfahan. The sample of the present study included 30 children with autism, including 30 children with autism, who were selected using purposive sampling and were divided into two experimental and control groups. The research instrument used was the Autism Social Skills Profile (ASSP), and play therapy education sessions with a parent-child approach were implemented in ten 90-minute sessions once a week on the experimental group. The research data were analyzed using repeated measures analysis of variance and Bonferroni post hoc test and SPSS version 24 software.

Results: The research findings showed that the difference between the experimental and control groups in terms of the mean scores of social skills variables in all stages of the experiment was significant (P<0.001). **Conclusion:** The results of this study show that play therapy education with a parent-child approach can help improve children's social skills. Therefore, its use is recommended to strengthen social skills in children with autism spectrum disorder.

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1. Introduction

Autism is a neurodevelopmental disorder characterized by a wide range of symptoms and levels of severity (Saadatyar et al., 2024). The core features of autism include: difficulties in communication and social interaction—individuals with autism may struggle with making eye contact, understanding body language, initiating conversations, and responding appropriately to others. Repetitive and restricted patterns of behavior, interests, and activities-such individuals may engage in repetitive movements or become intensely focused on interests. Unusual sensory sensitivities—some individuals with autism are highly sensitive to sensory stimuli such as sounds. touch, or smells (American Psychiatric Association, 2022). Symptoms of autism typically appear before the age of 3, although a definitive diagnosis may be delayed until later (World Health Organization, 2022). Both genetic and environmental factors contribute to the development of autism, but the exact cause remains unclear (Au et al., 2021). In 2020, the global prevalence of autism was estimated at children (World Health in 160 Organization, 2022). Children with autism spectrum disorders often exhibit significant social skills deficits and experience high levels of anxiety, with evidence suggesting that anxiety can further exacerbate social difficulties and reduce overall quality of life (White et al., 2009).

Social skills are an area in which children with autism often experience significant difficulties (Seyed Esmaeili Qomi et al., 2022). These children frequently struggle

with making eye contact, understanding emotions and facial expressions, responding appropriately to the social behaviors of others. They have trouble recognizing nonverbal cues, which are essential components of social interactions (Bishop-Fitzpatrick et al., 2018). Many of these children find it challenging to take turns conversations, initiate and dialogue, and comprehend abstract concepts such as humor or sarcasm. Some may have intense and narrow interests, making it difficult to connect with peers (Farahani et al., 2021). Nevertheless, with early and targeted interventions, children with autism can show notable improvements in their social skills. Various methods such as structured social games, social stories, and behavioral exercises can help them better understand the unwritten rules of social interactions and apply these skills in real-life settings (Barghi et al., 2024).

Although various interventions have been employed for these children, no specific cure or medication has been established to date. Given that formal educational programs and social skills training can be highly challenging and sometimes ineffective for children with autism, approaches that are naturally engaging for the child—such as play—are often more suitable (Tababaienavainobari et al., 2021). Filial play therapy is an effective intervention method aimed at training parents and improving the condition of children with autism. In this approach, parents receive counseling sessions to learn how to establish more effective communication with their child and utilize play therapy techniques and activities (Esazadeh et al., 2022). During these sessions, parents are trained to build a meaningful and affectionate relationship with their child through play. They learn how to use various types of play tailored to the child's abilities and interests to enhance communication, social, cognitive, and motor skills (Rahmanian et al., 2021). Filial play therapy places significant emphasis on creating a warm and enjoyable parent-child relationship through play. Parents are taught how to incorporate play even into routine daily activities—such as mealtime, dressing, or bathing—and to use these moments as opportunities for skill-building emotional bonding (Kargar Qanat Al-Nouj et al., 2022).

Despite notable progress in autism treatment, there remains a substantial gap in effective and practical interventions for improving the social skills of children with autism. Existing research has mainly focused on structured and clinical approaches, while more natural and engaging methods like play therapy have received less scientific attention. Moreover, most studies have been conducted in controlled laboratory settings, limiting the generalizability of findings to real-life contexts. Additionally, the majority of current research emphasizes short-term effects, and there is insufficient information on the long-term sustainability of play therapy outcomes. Another important gap is the lack of culturally adapted knowledge play therapy, especially regarding considering differences in social interaction patterns across cultures. This underscores the need for localized research. The present study aims to address these gaps by offering a

practical, engaging, and effective approach to enhancing the social skills of children with autism. Therefore, based on the above, the research question is: Does parental training in play therapy have an effect on improving social skills and reducing anxiety symptoms in children with autism?

2. Methods

2.1. Research Type, Population, and Sample

The present study employed a quasi-experimental design with pre-test, post-test, a control group, and a follow-up phase. The statistical population consisted of children diagnosed with autism spectrum disorder (ASD) attending the Edalat Center in Isfahan in the year 2024. The study sample included 30 children with autism, selected based on the recommended minimum sample size for quasi-experimental research (at least 15 participants per group) (Delavar, 2013). A total of 30 eligible volunteers were purposefully selected and then randomly assigned to either the experimental or control group (15 participants in each group).

Inclusion criteria included a confirmed diagnosis of Level 1 ASD by a child and adolescent psychiatrist, age range between 5 and 12 years, no severe physical illnesses, parents with at least basic literacy (reading and writing), and informed parental consent to participate in the study. Exclusion criteria were missing more than two play therapy sessions, onset of a serious physical illness in the child during the study, lack of parental cooperation in implementing the intervention, or withdrawal from the study.

2.2. Instruments

Autism Social Skills Profile (ASSP): The ASSP (Bellini et al., 2007) is comprehensive questionnaire designed to assess the social functioning of children and adolescents with autism spectrum disorder. It consists of 48 items across three subscales: Social Reciprocity (20 items), Social Participation (11 items), and Detrimental Social Behaviors (17 items), and is intended for use with individuals aged 6 to 18 years. Items are scored on a 4-point Likert scale (Never, Sometimes, Often, Always) ranging from 1 to 4. Higher scores indicate better social functioning. Negative items are reverse-scored, meaning a response of "Always" to a negatively worded item receives a score of 1. Psychometric properties of the ASSP were confirmed by Bellini and colleagues. The test-retest reliability yielded a Cronbach's alpha of 0.93, and internal consistency for the overall scale was 0.90.

Cronbach's alphas for the three subscales were 0.92, 0.89, and 0.85, respectively, with test-retest reliability coefficients of 0.89, 0.86, and 0.86 for the same subscales (Bellini et al., 2007). In a validation study by Moghim-Islam and colleagues (2014) with a sample of high-functioning autistic children in Iran, the test-retest reliability for the overall profile was 0.97, with reliability coefficients of 0.96 for Social Reciprocity, 0.74 for Social Participation, and 0.94 for Detrimental Social Behaviors.

Intervention Content: Filial Play Therapy

The intervention was a 10-session filial play therapy program, with each session lasting 90 minutes and held once per week. The intervention was based on the Filial Play Therapy protocol developed by Bratton et al. (2006). This protocol was implemented and adapted in the present study as the core therapeutic approach

Table 1
Structure of Sessions in the Filial Play Therapy Program (Bratton et al., 2006)

Session	Goal	Content
1	Developing parental sensitivity and empathetic responses toward children	Introduction to four basic emotions (happiness, anger, fear, and sadness). Parents were trained on how to respond empathetically to children's emotions.
2	Familiarizing parents with session procedures and principles of play	Explanation of the importance of play in parent-child relationships. Introduction of four core principles of play: child-centeredness, sensitivity to the child's emotions, empathetic responsiveness, and setting reasonable limits. A list of necessary toys was provided.
3	Educating parents on session rules and do's and don'ts before, during, and after play	Explanation of play session guidelines. Emphasis on child-led play. Parents were instructed to provide a range of toys and allow the child to lead the play while offering support and following the child's direction.

Structure	e of Sessions in the Filial Play The	erapy Program (Bratton et al., 2006)
Session	Goal	Content
4	Teaching appropriate responses to the child's misbehavior	Review of previous sessions, evaluation of parents' video recordings and reports. Discussion on the rationale and methods of setting boundaries during play.
5	Teaching effective communication and recognizing parental emotions	Review of prior sessions. Discussion on the importance of recognizing and managing parents' own emotions. Training on appropriate communication during challenging situations with the child.
6	Teaching the importance of offering choices to children and how to implement it	Review of earlier content. Training on how offering choices can support boundary-setting and reduce behavioral issues.
7	Enhancing parental confidence and strategies to foster the child's self-confidence through play	Review of reports and prior content. Instruction on reinforcing the child's self-confidence through appropriate parental responses.
8	Teaching the difference between praise and encouragement and their correct application	Explanation of encouraging effort rather than praising outcomes to promote intrinsic motivation.
9	Advanced techniques of limit- setting	Review of previous sessions and application of advanced boundary-setting techniques in play therapy.
10	Review and reinforcement of learned skills	Final review of all skills and techniques. Emphasis on continuing the use of skills in daily routines and strengthening the parent-child relationship.

2.3. Procedure

From the case files of children diagnosed with Level 1 Autism Spectrum Disorder at the "Golhaye Behesht" Center, 58 children who met the inclusion criteria were identified through purposive sampling. During the screening process, the mothers completed the Autism Social Skills Profile (ASSP) for their children. Based on the scoring guidelines of the ASSP, 41 children with the lowest social skills scores were selected. Due to attrition, 30 children were ultimately included in the study sample. These 30 participants were

randomly assigned to two groups: 15 children in the experimental group (receiving filial play therapy) and 15 in the control group. Both groups completed the pre-test. The experimental group then participated in 10 sessions of filial play therapy, each lasting 90 minutes and conducted three times per week (as detailed in Table 1). The control group did not receive any specific intervention during this time; however, both groups continued receiving their standard clinical care. Following the intervention, both groups completed the post-test. To assess the

In the experimental group, there were 8 girls

(53.33%) and 7 boys (46.67%), totaling 15

sustainability of treatment effects, a followup assessment was conducted two months after the completion of the program. After the main phase of the research was completed, the filial play therapy intervention was also offered to the control group. Although all control group participants were invited, only 11 agreed to attend the intervention.

Data analysis was performed using SPSS version 24. Repeated-measures ANOVA and Bonferroni post hoc tests were used to compare group and time effects on the dependent variables.

3. Results

participants. In the control group, 6 participants (40%) were girls and 9 (60%) were boys. The age distribution in the experimental group showed that the majority (46.67%) were between 8 to 10 years old, and the smallest group (20%) was between 5 to 7 years old. Similarly, in the control group, the majority (40%) were aged 8 to 10 years, and the lowest percentage (26.67%) were between 11 to 12 years old. Descriptive statistics including means and standard deviations for study variables are presented in Table 2.

Table 2

Descriptive Statistics of Social Skills Questionnaire Variables

	Descriptive – Index	Ехр	Experimental Group			Control Group		
Variable		Pre-	Post-	Follow-	Pre-	Post-	Follow-	
		test	test	up	test	test	up	
Understanding	Mean	26.73	29.67	29.27	25.27	26.20	27.27	
Emotions and		17						
Others'	SD	1.223	1.291	2.576	1.280	1.265	1.944	
Perspectives			1					
Initiating	Mean	25.67	28.87	28.00	4 24.80	25.33	26.13	
Interaction with	SD	1.234	1.407	3.185	1.014	1.496	2.669	
Others	30	1.234	1.407	3.103	1.014	1.450	2.009	
Maintaining	Mean	26.27	29.47	28.67	25.93	26.40	27.33	
Interaction with	SD	1.163	1.246	2.225	1.280	1.242	2.664	
Others	30	1.105	1.240	2.225	1.200	1.272	2.004	
Responding to	Mean	25.40	30.53	30.00	24.53	24.47	24.13	
Others	SD	1.121	1.552	1.464	1.187	1.506	0.834	
Overall Social	Mean	104.07	118.53	115.93	100.53	102.40	104.87	
Skills	SD	2.658	2.642	7.995	2.416	2.473	6.346	

As shown in Table 2, the mean scores for social skills in the experimental group were 104.07 at the pre-test, 118.53 at the post-test,

and 115.93 at the follow-up phase. In the control group, the mean scores were 100.53

at the pre-test, 102.40 at the post-test, and 104.87 at the follow-up.

To examine the effectiveness of filial play therapy on improving the social skills of children with autism spectrum disorder, a repeated-measures ANOVA was conducted. Prior to this analysis, the necessary assumptions were tested.

The Kolmogorov–Smirnov test indicated that the data for social skills were normally distributed, with a significance level of 0.125, which is greater than 0.05. The assumption of Table 3

homogeneity of variance-covariance matrices was also met (p > 0.05). Furthermore, Mauchly's test of sphericity was used to assess the equality of variances of the differences between conditions. The results, presented in Table 5, indicated that the assumption of sphericity was satisfied (p > 0.05).

The results of the repeated-measures ANOVA for the research variables are presented in Table 3.

Results of Repeated Measures ANOVA for Research Variables

Component	Source	Sum of Squares	Df	Mean Square	F	p- value	Eta Squared
	Time	89.867	2	44.933	14.856	< .001	.347
Understanding Emotions and Others' Perspectives	Group	120.178	1	120.178	50.916	< .001	.645
	Time × Group	16.089	2	8.044	2.662	.039	.287
	Time	68.467	2	34.233	8.471	< .001	.232
Initiating Interaction with Others	Group	98.178	1	98.178	24.940	< .001	.471
	Time × Group	27.222	2	13.611	3.368	.042	.107
U	Time	69.756	2	34.878	11.385	< .001	.289
Maintaining Interaction with Others	Group	56.011	1	56.011	19.053	< .001	.405
	Time × Group	28.689	2	14.344	4.682	.013	.143
	Time	110.156	2	55.078	34.153	< .001	.549
Responding to Others	Group	409.60	1	409.60	219.615	< .001	.887
	Time × Group	130.20	2	54.10	40.367	< .001	.590

Table 3 indicates that, in addition to the main effects of group and time, the interaction effect of group \times time was statistically significant for the following components:

- \neq Understanding emotions and others' perspectives (F = 2.662, p = .039, $η^2 = .287$)
- \neq Initiating interaction with others (F = 3.628, p = .042, $\eta^2 = .107$)
- \neq Maintaining interaction with others $(F = 4.682, p = .013, \eta^2 = .143)$

≠ Responding to others (F = 40.367, p < .001, $\eta^2 = .590$)

These results suggest that the effectiveness of the intervention varied over time across the two groups.

Subsequently, Table 4 presents the results of the Bonferroni post hoc test, showing pairwise comparisons across the three time points (pre-test, post-test, follow-up) for both groups, for each component and the total social skills score

Table 4
Bonferroni Post Hoc Test Results for Pairwise Comparisons of Time Points in the Filial Play Therapy Group

Variable	Comparison	Mean	Standard	р-
variable		Difference	Error	value
Understanding Emotions and	Pre-test – Post-test	-1.933	0.331	< .001
Understanding Emotions and	Pre-test – Follow-up	-2.267	0.468	< .001
Others' Perspectives	Post-test – Follow-up	-0.333	0.526	1.000
	Pre-test – Post-test	-1.867	0.369	< .001
Initiating Interaction with Others	Pre-test – Follow-up	-1.833	0.529	0.005
	Post-test – Follow-up	0.033	0.627	1.000
Maintaining Interaction with	Pre-test – Post-test	-1.833	0.369	< .001
Maintaining Interaction with Others	Pre-test – Follow-up	-1.090	0.497	0.002
Others	Post-test – Follow-up	-0.067	0.480	1.000
وسنجي	Pre-test – Post-test	-2.533	0.360	< .001
Responding to Others	Pre-test – Follow-up	-2.100	0.351	< .001
	Post-test – Follow-up	0.433	0.265	0.340

The Bonferroni post hoc test results presented in Table 7 indicated that the mean scores for the variables of understanding emotions and others' perspectives, initiating interaction with others, maintaining interaction with others, and responding to others showed a significant increase from the pre-test to the post-test and from the pre-test to the follow-up in the experimental group. However, no significant differences were

found between the post-test and follow-up phases, indicating that the effects of parental play therapy training were maintained over time.

4. Discussion

The present study aimed to evaluate the effectiveness of parental play therapy training in improving the social skills of children with Autism Spectrum Disorder

(ASD). The findings demonstrated that the intervention had a significant positive impact on enhancing social skills in children with ASD (p < .001). These results are consistent with previous studies conducted by Kargar Qanat Al-Nouj et al. (2022), Esazadeh et al. (2022), Moosapoor (2023), Alahmari et al. (2025), and Rautenbach et al. (2024).

The observed improvements can be explained by the recognition of play therapy as an effective approach for enhancing social skills in children with autism (Barghi et al., 2024). Play serves as the natural language of children and provides a safe and controlled environment for practicing social skills. During play, children experience social interactions, express their emotions, and learn appropriate responses to others. These experiences gradually lead to improvements in emotional understanding, initiation and maintenance of social interactions, and appropriate responsiveness to others (Deniz et al., 2024).

Secondly, parental training played a key role in this intervention. As the primary caregivers, parents spend the most time with their children and can apply the principles of play therapy in daily life. This provides the child with more opportunities to practice social skills, allowing learning to occur in a natural environment. Moreover, parental involvement in the therapeutic process can reduce their stress and improve the parent-child relationship, which is an important factor in the child's progress (Saadatyar et al., 2024).

Furthermore, the parent-based play therapy approach aligns with attachment theory principles. This approach strengthens the emotional bond between parent and child, which forms the foundation for the child's social-emotional development. When the child experiences greater security and acceptance in the relationship with parents, they gain more confidence to interact with others (Rautenbach et al., 2024).

Another reason for the intervention's effectiveness is its focus on specific social skills such as understanding emotions and others' perspectives, initiating and maintaining interactions, and responding to others. These skills are fundamental for successful social interactions, and their improvement can significantly impact the child's overall social functioning. Through repeated practice of these skills within play, children can internalize and apply them in various situations.

The sustainability of the intervention effects at the follow-up stage is also noteworthy. This finding suggests that parents were able to integrate play therapy principles into their everyday interactions with their children and continue applying them consistently. Such ongoing practice in the natural environment likely enhances the generalization and maintenance of learning (Deniz et al., 2024).

Improved social skills can also create a positive feedback loop. When a child performs better in social interactions, they receive more positive reinforcement from the environment, which increases their motivation to engage socially. This positive cycle may explain the maintenance of

intervention effects over time (Zelcek & Pouya, 2024).

Additionally, parental training may lead to changes in parents' attitudes and behaviors toward their children. Parents may learn how to create more social interaction opportunities, provide more appropriate responses to their child's behaviors, and establish a supportive environment for social development. These changes in the family environment can continuously support the child's progress (Barghi et al., 2024).

An important point is that play therapy is a child-centered approach aligned with the child's needs and interests. This alignment increases the child's motivation to participate in activities, making learning more enjoyable. When learning is pleasurable, the likelihood of retention and application of the acquired skills improves (Khazaei et al., 2023).

The present study, like others, has limitations. It was conducted with a relatively small sample size, which may limit the generalizability of the findings. Concurrent interventions may have therapeutic influenced the results. Another limitation is that this study was conducted on children aged 5 to 12 years with ASD, so caution is needed when generalizing results to other age groups. Moreover, it was carried out at the Edalat Autism Center in Isfahan, and generalization to other centers or cities should be done cautiously. Therefore, it is recommended that similar studies be conducted in other centers and cities. Future researchers may examine moderating variables such as child's age, severity of

autism symptoms, parental education level, and socio-economic factors affecting intervention efficacy. It is also suggested that treatment centers design and implement regular training workshops for parents of children with autism, focusing on play therapy techniques.

5. conclusion

conclusion, the effectiveness and sustainability of parental play therapy training in improving social skills of children with autism can be attributed to factors such as the natural and enjoyable nature of play, active parental involvement, focus specific social skills, strengthening parent-child relationship, continuity practice in natural settings, and the creation of a positive feedback loop in social success. These findings highlight the importance of family-centered and naturalistic approaches in interventions for children with autism

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Conflict of Interest

The Authors declare that there is no conflict of interest with any organization. Also, this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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