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> Comparison of the Effectiveness of Play Therapy and the Integration of Play Therapy with Parent Management Training on Anxiety in Children with Siblings Who Have Special Needs

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#### ABSTRACT

Anxiety disorders represent one of the most prevalent forms of psychological pathology during childhood. Therefore, the present study aimed to compare the effectiveness of play therapy and the integration of play therapy with parent management training on anxiety in children who have a sibling with special needs. The research employed a quasi-experimental design using a pretest– posttest format with control and experimental groups. The statistical population included all families with children with special needs enrolled in exceptional schools in Ramian County. A total of 37 participants were selected purposefully based on the study's inclusion and exclusion criteria (12 participants in the play therapy group, 13 in the integrated intervention group, and 12 in the control group). The data collection instrument was the Children's Symptom Inventory-4 (CSI-4) developed by Sprafkin and Gadow. Data analysis was conducted using one-way ANOVA and Bonferroni post hoc test. The statistical analysis software used was SPSS version 27. The results indicated that, based on the differences in mean scores, anxiety scores significantly decreased from pretest to posttest in both experimental groups and from pretest to follow-up only in the group that received the integrated intervention (play therapy and parent management training) ( $p \le .001$ ). Moreover, a significant difference was found in the follow-up phase between the integrated group and the play therapy group ( $p \le .001$ ). It appears that both play therapy and the integration of play therapy group ( $p \le .001$ ). It appears that both play therapy and the integration of play therapy group ( $p \le .001$ ). It appears that both play therapy and the integration of play therapy with parent management training are effective in reducing anxiety in children who have a sibling with a disability.

Keywords: Play Therapy, Parent Management Training, Anxiety

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#### Introduction

Anxiety disorders in children are among the most common forms of childhood psychopathology, with long-term consequences if left unaddressed. These disorders often manifest as separation anxiety, social



phobia, generalized anxiety, or school refusal and significantly interfere with a child's development, learning, and social functioning (1, 2). The World Health Organization has acknowledged anxiety as a significant contributor to global childhood disability, highlighting the necessity of early and effective interventions (3). Moreover, children who have siblings with special needs often face increased psychological stress, social withdrawal, and internalizing behaviors such as anxiety, as they navigate complex emotional dynamics within the family system (4).

In addressing childhood anxiety, play therapy has emerged as one of the most widely supported nonpharmacological interventions. Grounded in the idea that play is a natural medium of expression for children, play therapy provides a safe, symbolic space for emotional exploration and behavioral change (5). Child-centered play therapy (CCPT), in particular, emphasizes unconditional positive regard, empathy, and acceptance, making it especially effective for children who experience heightened levels of stress or anxiety (6, 7). Meta-analyses have shown that play therapy significantly reduces internalizing symptoms such as anxiety and depression (8, 9) and can be effective across diverse populations and cultural contexts (10).

Notably, various modalities of play therapy, including cognitive-behavioral play therapy, filial therapy, and Theraplay, have been successfully utilized to address emotional and behavioral problems in children (11, 12). Cognitive-behavioral group play therapy, in particular, has been found to be effective for anxiety-based school refusal and other anxiety symptoms by helping children identify, process, and reframe maladaptive thoughts in a developmentally appropriate manner (2). Similarly, filial play therapy has demonstrated improvements in emotional literacy and parent-child attachment, especially in children with specific learning disorders (11, 13).

Despite the empirical support for play therapy, recent research has suggested that integrating parentfocused interventions enhances treatment efficacy. Parenting styles and practices play a pivotal role in the development and maintenance of anxiety symptoms in children (14, 15). Parent management training (PMT) has been extensively researched as a behavioral strategy that equips parents with skills to manage their child's anxiety and externalizing behaviors through positive reinforcement, consistent discipline, and emotion coaching (16, 17). Studies have demonstrated that parent-led or parent-inclusive models can lead to significant improvements in child outcomes, even rivaling traditional child-focused cognitive-behavioral therapies (15, 18).

The synergy between play therapy and parent management training offers a promising model for the treatment of childhood anxiety. Feizollahi et al. (2020) found that the integration of cognitive-behavioral play therapy with parental training led to notable improvements in children diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD), indicating that a dual focus on the child's emotional world and the parent's behavioral strategies yields optimal results (19). Similarly, Aeeni and Hajializadeh (2020) reported that both PMT and group play therapy significantly reduced anxiety and social problems in children with Oppositional Defiant Disorder (ODD), with parent involvement further enhancing the sustainability of outcomes (20).

Mingebach et al. (2023), in a recent meta-analysis, concluded that parent-inclusive child therapy interventions produce significantly greater reductions in psychological symptomatology compared to child-only approaches, especially for internalizing disorders such as anxiety and depression (21). Turner (2023) reinforced this conclusion in a study on parent-child sandplay therapy for preschoolers with Autism

Spectrum Disorder (ASD), underscoring the importance of therapeutic collaboration between the parent and the child in building emotional regulation skills (22). Parent-focused interventions, such as the Stepping Stones Triple P program, have also been effective for parents of children with ASD, suggesting that structured, evidence-based parenting programs can be generalized across multiple child disorders (23).

In light of these findings, it is evident that anxiety interventions benefit not only from a child-centered therapeutic approach but also from the inclusion of family dynamics, particularly parental involvement. This integrated model reflects a shift toward systemic interventions that target both intrapersonal and interpersonal dimensions of childhood anxiety. According to the International Classification of Functioning, Disability and Health (ICF), addressing the social and environmental contexts of a child's life is essential for effective treatment and long-term mental health outcomes (3).

Moreover, the dual challenge faced by children who have siblings with special needs compounds their psychological vulnerability. These children often encounter emotional neglect, parentification, and limited parental attention, which exacerbates their risk for anxiety disorders (4). Given these layered stressors, interventions must be both child-sensitive and family-focused to foster resilience and emotional regulation. Integrating play therapy with PMT offers a dual mechanism: play therapy helps children externalize and process emotional conflict, while PMT enables parents to provide consistent, empathetic responses to their child's emotional needs (5, 24).

The current study builds upon this integrated therapeutic framework by comparing the effectiveness of play therapy alone and in combination with parent management training in reducing anxiety in children who have a sibling with special needs. As research continues to demonstrate the pivotal role of family systems in child development, such comparative investigations are essential to refine and optimize therapeutic interventions (25). The aim is not only symptom reduction but also the enhancement of emotional security, behavioral consistency, and psychological well-being in vulnerable child populations.

Therefore, the rationale for this study is rooted in the growing body of literature that emphasizes the necessity of combining child-centered and parent-mediated approaches to address complex emotional disorders in children. Drawing on validated interventions from the fields of clinical psychology, play therapy, and behavioral parent training, this research seeks to fill a critical gap by directly evaluating the comparative impact of these two modalities—play therapy alone and integrated play therapy with PMT—on anxiety symptoms in a uniquely at-risk population.

### **Methods and Materials**

### Study Design and Participants

This study employed a quasi-experimental design with a pretest-posttest group format. The statistical population consisted of all families with children with disabilities enrolled in exceptional schools in Ramian County. Participants were selected purposefully based on inclusion and exclusion criteria. The sample included 45 anxious children who had a sibling with a disability and were randomly assigned to three groups: play therapy, integrated play therapy with parent management training, and a control group. Ultimately, based on the exclusion criteria, 37 participants remained (12 in the play therapy group, 13 in the integrated group, and 12 in the control group).

Inclusion criteria were: age range of 8 to 12 years; having a sibling with special needs (including autism, learning disorders, intellectual disability, or chronic motor disorders diagnosed by a medical or psychological professional); showing symptoms of anxiety based on the screening test and preliminary confirmation by a psychologist; no participation in similar psychological treatments (e.g., CBT, play therapy, individual psychotherapy) during the past three months; having access to at least one parent for participation in the parent management sessions in the integrated intervention group; absence of severe psychiatric disorders in the child (such as schizophrenia, bipolar disorder, or autism spectrum disorder in the child); and signed informed consent from the parents for the child's participation in the study.

Exclusion criteria included irregular attendance at therapy sessions (absence in more than two sessions), initiation of new psychological or pharmacological treatment during the study, lack of parental cooperation in the parent management training sessions in the integrated group, and the occurrence of critical family events during the study period (such as divorce, death of a parent, or sudden relocation), which could potentially affect intervention outcomes.

After finalizing the group selection, the purpose of the study was explained to the participants, and parental consent was obtained. Parents were assured that all content presented in the educational sessions and the questionnaire results would be analyzed confidentially and anonymously, in line with ethical standards. It was explicitly stated that participants had the right and autonomy to withdraw from the study at any time. Additionally, it was emphasized that participation in the evaluations would not involve any harm or cost to participants.

Upon obtaining the necessary ethical and administrative permissions, participants were selected as described and randomly assigned to experimental and control groups. Following an orientation session, the relevant questionnaire was distributed among the parents of the children. All group members completed the pretest before the sessions began. Prior to distributing the questionnaires, explanations were given regarding the number of questions, estimated time required to complete them, and the proper method of responding. The experimental group was then exposed to the independent variable and participated in the intervention sessions. The control group completed both pretest and posttest only. Finally, after completing the intervention period, both experimental groups took the posttest and responded to the same questionnaire again.

## Data Collection

The research instrument used was the Children's Symptom Inventory-4 (CSI-4), developed by Sprafkin and Gadow in 1984 for screening behavioral and emotional disorders in children aged 5 to 12 years. These disorders include Attention-Deficit/Hyperactivity Disorder (ADHD), Conduct Disorder, Generalized Anxiety Disorder, Social Phobia, Separation Anxiety Disorder, Obsessive-Compulsive Disorder (OCD), Specific Phobia, Major Depressive Disorder, Dysthymic Disorder, Schizophrenia, Pervasive Developmental Disorder, Asperger's Disorder, Motor and Vocal Tics, Post-Traumatic Stress Disorder (PTSD), and Elimination Disorders. To identify children with anxiety disorders, the "T" form of the inventory was used, which includes five sections (questions 42–47) and is designed specifically for parent reporting. The parent form includes 110 items covering 11 major disorder categories, including anxiety disorders, and uses a 4-point Likert scale (Never, Sometimes, Often, Most of the time), with scoring based on this scale. Content validity of this questionnaire was confirmed by 9 psychiatrists in the study by Mohammad Esmaeil and Alipour (2002). Studies conducted in Iran using the teacher form of the scale reported test-retest reliability coefficients ranging from 0.89 to 0.96 (as cited in Barghi Irani et al., 2015). Kalantari and colleagues (as cited in Sohrabi, Asadzadeh, and Arabzadeh Koopani, 2014) reported split-half reliability of 0.91 for the teacher form and 0.85 for the parent form. Najafi et al. (2009) reported a Cronbach's alpha coefficient of 0.92 for the scale's internal consistency.

#### Interventions

Each experimental group received 10 intervention sessions, each lasting between 30 to 40 minutes, conducted once a week.

The play therapy intervention was conducted over ten weekly sessions, each lasting between 30 to 40 minutes. The first session focused on initial acquaintance and watercolor painting, aiming to reduce anxiety and enhance self-esteem. In the second session, clay therapy was introduced to build self-confidence, facilitate emotional discharge, and reduce anxiety. The third session involved painting previously created figures with gouache, targeting increased self-esteem and anxiety reduction. The fourth session used a balloon-carrying activity along a designated path to improve hand–eye coordination and reduce anxiety through physical engagement. In the fifth session, children were instructed to move a ball with their feet using special shoes to promote eye–foot coordination and eye–hand coordination while reducing anxiety. The seventh session featured popping balloons in various ways to facilitate emotional release and anxiety relief. In the eighth session, balloon play was combined with storytelling therapy to help children process emotions, learn about feelings, and lower anxiety. The ninth and tenth sessions continued with balloon games and balloon popping using different methods, reinforcing the goal of reducing anxiety through playful emotional expression and sensory engagement.

The integrated intervention combining play therapy with parent management training (PMT) was also delivered across ten weekly sessions, each lasting 40 minutes. In the first session, parents were introduced to the concept of positive interaction, including its logic and principles, followed by play therapy with the child. The second session involved reviewing previous homework, providing positive feedback, and continuing training on positive interaction for parents alongside play therapy for the child. In the third session, after homework review and feedback, parents were asked to list their child's preferred activities, and play therapy was again conducted with the child. The fourth session focused on teaching praise and encouragement techniques and their principles, complemented by child play therapy. In the fifth session, after reviewing homework and explaining the rationale for the reward technique, parents listed undesirable behaviors in their children, followed by play therapy. The sixth session introduced the reward technique and its application, with concurrent play therapy. The seventh session reviewed prior homework, provided feedback, and taught parents the behavioral chart technique, along with play therapy for the child. The eighth session reviewed homework and introduced techniques for reducing undesirable behaviors, again including play therapy. The ninth session focused on teaching the timeout technique and included play therapy with

the child. The final (tenth) session provided parents with strategies for managing high-risk situations, concluding with a play therapy session to consolidate emotional regulation and parental involvement.

#### Data analysis

The data were analyzed using descriptive statistics such as tables, frequency distributions, means, percentages, etc. For inferential analysis, one-way ANOVA and Bonferroni post hoc tests were used. Data analysis was conducted using SPSS version 27.

#### **Findings and Results**

The mean and standard deviation of the age of participants in the play therapy group was  $10.29 \pm 1.197$ , in the integrated play therapy and parent management training group it was  $9.72 \pm 1.088$ , and in the control group it was  $10.14 \pm 1.273$ . The Shapiro–Wilk test was used to examine the assumption of normality. The test statistic was not significant for the age variable in any group or assessment stage (p > .05), indicating that the data distribution was normal across groups.

The mean anxiety scores of participants in the pretest, posttest, and follow-up stages are presented in Table 1.

Group	Pretest (Mean ± SD)	Posttest (Mean ± SD)	Follow-up (Mean ± SD)	N
Play Therapy	$17.89 \pm 0.95$	$12.48 \pm 0.73$	$12.33 \pm 0.87$	12
Play Therapy + Parent Management	$17.32 \pm 0.88$	$12.23 \pm 0.78$	$10.75 \pm 1.01$	13
Control	$17.53 \pm 0.84$	$17.15 \pm 0.84$	$17.44 \pm 0.83$	12

Table 1 displays descriptive data, including means and standard deviations for the anxiety variable across the three groups and three assessment stages. As shown, posttest scores decreased compared to pretest scores in both the play therapy and the integrated groups. Additionally, follow-up scores continued to decrease only in the integrated group. However, in the follow-up stage, the play therapy group showed no significant change compared to the posttest. In other words, anxiety levels decreased across all three stages only in the integrated group, while in the play therapy group the decrease was only evident in the posttest, not maintained during follow-up. The anxiety levels in the control group remained relatively unchanged across the three assessment stages.

Stage	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Pretest	Between Groups	2.035	2	1.017	1.274	.293
	Within Groups	27.145	34	0.798		
	Total	29.180	36			
Posttest	Between Groups	187.326	2	93.663	149.539	.001
	Within Groups	21.296	34	0.626		
	Total	208.622	36			
Follow-up	Between Groups	300.984	2	150.492	180.610	.001
	Within Groups	28.330	34	0.833		
	Total	329.315	36			

Table 2. Results of Repeated Measures ANOVA for Anxiety Variable

Table 2 shows the results of repeated measures ANOVA for the anxiety variable. The table content reveals no significant difference between groups at the pretest stage. However, significant differences between the groups were observed in the posttest and follow-up stages.

To further investigate pairwise differences in mean anxiety scores across the three assessment stages in the two experimental groups, the Bonferroni post hoc test was used. The results are presented in Table 6.

Dependent Variable	Group (Mean)	Group (Mean)	Mean Difference	Std. Error	Sig.
Pretest	Play Therapy (17.89)	Play + PMT (17.32)	0.57	0.357	0.368
	Play Therapy (17.89)	Control (17.53)	0.36	0.364	0.989
	Play + PMT (17.32)	Control (17.53)	-0.21	0.357	1.000
Posttest	Play Therapy (12.48)	Play + PMT (12.23)	0.25	0.316	1.000
	Play Therapy (12.48)	Control (17.15)	-4.67	0.323	<.001
	Play + PMT (12.23)	Control (17.15)	-4.92	0.316	<.001
Follow-up	Play Therapy (12.33)	Play + PMT (10.75)	1.48	0.365	<.001
	Play Therapy (12.33)	Control (17.44)	-5.21	0.372	<.001
	Play + PMT (10.75)	Control (17.44)	-6.69	0.365	<.001

Table 3. Bonferroni Test Results Across Three Assessment Stages for Anxiety

As shown in Table 3, there were no significant differences among the groups during the pretest stage (p > .001). Based on mean differences, anxiety scores decreased from pretest to posttest in both experimental groups and continued to decrease from pretest to follow-up only in the integrated group ( $p \le .001$ ).

According to the results, although both experimental groups showed reductions in anxiety, no significant difference was observed between the two groups in the posttest stage. However, in the follow-up stage, a significant difference was found between the play therapy group and the integrated group, indicating that the combined intervention of play therapy with parent management training was more effective than play therapy alone.

### **Discussion and Conclusion**

The primary objective of this study was to compare the effectiveness of play therapy and the integrated approach of play therapy combined with parent management training (PMT) in reducing anxiety among children who have a sibling with special needs. The results obtained from repeated measures ANOVA and Bonferroni post hoc tests indicated a significant reduction in anxiety scores from pretest to posttest in both experimental groups. However, only the integrated group (play therapy + PMT) demonstrated a continued decline in anxiety levels during the follow-up phase, while the play therapy group exhibited only temporary improvements that diminished over time. These findings underscore the value of parent-inclusive interventions and affirm the hypothesis that a dual-modality approach enhances treatment durability and efficacy.

The observed outcomes align with previous research emphasizing the therapeutic impact of play therapy on reducing anxiety and promoting emotional well-being in children. For instance, Landreth's foundational work established that play therapy offers children a developmentally appropriate medium for expressing emotions, resolving conflicts, and building self-regulation skills (5). Similarly, meta-analytic evidence by Bratton et al. demonstrated the broad efficacy of play therapy for internalizing symptoms across diverse child populations (8). In the present study, children in the play therapy group showed a statistically significant reduction in anxiety from pretest to posttest, confirming the findings of previous investigations (6, 7). However, the less sustained effect at follow-up suggests that play therapy alone, while beneficial, may require additional support to maintain long-term results, especially in complex family environments involving children with special needs. The significant advantage observed in the integrated group highlights the role of parental involvement in sustaining therapeutic gains. Studies have long supported the idea that parenting practices critically influence the development, maintenance, and alleviation of anxiety disorders in children (1, 14). In this regard, the findings of Lebowitz et al. are particularly relevant: their randomized non-inferiority trial showed that parent-based treatments for childhood anxiety could be as effective as child-focused cognitive-behavioral therapy (CBT) (15). The integrated approach in the current study aligns with this view, demonstrating that incorporating PMT provides an added dimension of environmental stability and emotional scaffolding for the anxious child. Similarly, Levy's pilot study emphasized the effectiveness of parent-led, play-based strategies for managing anxiety symptoms, further validating the dual-benefit nature of the integrated intervention (18).

Moreover, the continued reduction of anxiety in the follow-up phase among children in the integrated group suggests a transfer of therapeutic benefits from sessions into daily family interactions. According to Mingebach et al.'s meta-analysis, parent-inclusive child therapy not only reduces internalizing problems but also strengthens the generalization of skills across settings and time (21). By teaching parents behavioral reinforcement strategies, emotional labeling techniques, and structured interaction protocols, PMT enhances the child's external regulatory environment, thereby reducing anxiety triggers and reinforcing coping skills outside the therapy room. This finding is also consistent with Whittingham et al.'s research on Stepping Stones Triple P, where parents of children with autism who received training exhibited significant improvements in their children's behavior and emotional regulation (23).

The integrated model used in this study also confirms findings from research focusing on children with comorbid or situational vulnerabilities. For instance, Qi et al. found that psychological interventions for parents of children with Autism Spectrum Disorder led to a decrease in parental anxiety, which in turn improved child emotional outcomes (25). Similarly, Aeeni and Hajializadeh concluded that PMT and group play therapy are both effective in reducing anxiety and social problems in children with Oppositional Defiant Disorder, but combined approaches were more beneficial (20). The present study extends this evidence to a new context—children who are siblings of individuals with disabilities—and shows that they too can benefit from emotionally and behaviorally supportive family systems facilitated through parent training.

Another point of discussion pertains to the contextual and cultural relevance of the findings. The use of play therapy in the Iranian context has been increasingly validated through studies by Arianpouran et al. and Jangravi et al., who demonstrated its effectiveness in children with learning disorders and in modifying parental behavior styles (11, 13). These results reinforce the adaptability of child-centered interventions across diverse cultural settings. Additionally, the findings correspond with those of Sadeghi, who showed that cognitive-behavioral group play therapy reduced school-related anxiety among elementary-aged children in Iran (2). Together, these studies support the culturally responsive application of integrative therapy models, especially in societies where family cohesion plays a central role in child development.

Furthermore, the study affirms the biopsychosocial model advocated by the World Health Organization, which emphasizes the importance of environmental, interpersonal, and psychological domains in shaping child outcomes (3). The current findings suggest that treatment for child anxiety should not be limited to intrapersonal techniques but must also include modifications in familial interactions, especially when children are exposed to heightened domestic stress due to a sibling's disability. From this perspective, the

integrated intervention serves not only as a treatment model but also as a preventive strategy that strengthens family resilience and reduces long-term psychological vulnerability in children.

Despite the strengths of the study, several limitations must be acknowledged. First, the sample size was relatively small, which limits the generalizability of the findings. Although the results were statistically significant, larger-scale replication studies are needed to validate the observed effects. Second, the sample was drawn from a single geographic area and a specific population—families with a child in special education—which may not represent the broader demographic or socioeconomic variability. Third, while the study used validated tools such as the CSI-4 to measure anxiety, it relied solely on parent-report questionnaires, which may introduce reporting bias. The absence of teacher or clinician-rated assessments limits the multidimensional evaluation of the child's behavioral changes. Finally, the follow-up period was relatively short; therefore, conclusions about long-term effectiveness should be interpreted cautiously.

Future studies should consider expanding the sample size and including participants from multiple regions and cultural contexts to enhance the external validity of findings. Longitudinal designs with extended follow-up periods are recommended to assess the durability of therapeutic gains over time. It would also be valuable to explore the differential impact of various parenting styles on treatment outcomes within the integrated model. Moreover, incorporating objective behavioral assessments and multi-informant reports—including teachers, therapists, and the children themselves—could provide a more comprehensive picture of the intervention's effectiveness. Lastly, comparative studies involving other combinations of therapies (e.g., mindfulness-based play therapy with PMT or digital game-based therapy with parental coaching) could identify the most efficient models for addressing childhood anxiety in different psychological and familial profiles.

Clinicians working with children who experience anxiety, especially those who have siblings with disabilities, are encouraged to adopt an integrative approach that combines direct therapeutic engagement with the child and active parent training. Structured play therapy offers a developmentally suitable and emotionally accessible method for children to explore and process anxiety. Meanwhile, parent management training equips caregivers with practical tools to support their child's emotional regulation and behavioral consistency. Mental health professionals should provide psychoeducation to parents about the role of family dynamics in childhood anxiety and involve them as partners in the treatment process. Educational and healthcare institutions should also promote and facilitate access to parent-inclusive therapeutic programs as a standard part of early intervention strategies.

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### **Authors' Contributions**

All authors equally contributed to this study.

## **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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