

# Comparing the effectiveness of cognitive-based play therapy and interactive play therapy on the cognitive appraisal of female students with special learning disabilities

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## ABSTRACT

**Objective:** Specific learning disorder is a heterogeneous group of children who have problems in different areas. The present study was conducted with the aim of comparing the effectiveness of cognitive-based play therapy and interactive play therapy on the cognitive appraisal of female students with special learning disabilities.

**Materials and Methods:** The research method was a quasi-experimental pre-test-post-test type with a control group and a three-month follow-up phase. The statistical population of the research is made up of 54 female students of the first grade of elementary school with special learning disorders who have a file in the education counseling center of Qom city in 2023. A total of 45 people were selected for three groups with a non-random sampling method, and in the next step, 15 people were randomly assigned to three groups in two experimental groups and one control group. In this research, the cognitive appraisal questionnaire of Pintrich and DeGroot (1990) was used. For the group, two tests of interactive play therapy based on the package of Booth and Jernberg (2009) 21 sessions of 45 minutes and play therapy based on cognitive therapy based on the package of Mohammad Ismail (2008) of 10 sessions of 60 minutes were performed and no intervention was done for the control group. To analyze the data, mixed repeated measures analysis of variance and Tukey's post hoc test were used with SPSS18 software.

**Findings:** The results showed that play therapy based on cognitive therapy and interactive play therapy have an effect on cognitive evaluation of female students with learning disability ( $P < 0.001$ ). But cognitive therapy-based play therapy had a greater effect on cognitive evaluation than interaction therapy ( $P < 0.001$ ).

**Conclusion:** This research provides practical implications to psychologists and counselors regarding the greater impact of cognitive therapy-based play therapy on cognitive appraisal.

**Keywords:** play therapy, cognitive therapy, interaction, cognitive appraisal, learning disorder.

## 1. Introduction

Specific learning disorder encompasses a heterogeneous group of children with problems in various areas (Watt et al., 2021). These problems create harmful effects for the individual that seem to extend beyond reading, writing, and arithmetic, deeply affecting areas such as health, mental hygiene, relationships, and education (Ma, Peng, & Wu, 2021). In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, the category of learning disorders has been renamed specific learning disorder (Aghaziarati, Nejatifar, & Ashori, 2021), and reading disorder, writing disorder, and mathematical disorder, which were previously considered separate and independent disorders, are now included as specifiers in specific learning disorder (Narimani & Soleymani, 2013). Children with specific learning disorders, in addition to academic problems, have deficiencies in many cognitive, behavioral, and even emotional levels in their interactions (Hayward, Raine, & Hendry, 2019). According to the latest definition in the Diagnostic and Statistical Manual of Mental Disorders, specific learning disorder is diagnosed when there is a significant deficit in standardized tests for reading, mathematics, and written expression compared to the expected level based on age, intelligence, and education (Crisci et al., 2021). These children are mostly between the ages of 10 and 15 years. About 2 to 10 percent of children suffer from this disorder, and the number of boys is usually three times that of girls (Ghorashi et al., 2023). These children are often not identified until school age, but with the entry into school, especially in the first and second years of primary school, their problems in reading, writing, arithmetic, and spelling gradually become apparent. These children may have problems in several or just one subject, but the weakness resulting from poor cognitive task performance in these children provides a suitable justification for examining cognitive factors such as cognitive flexibility (Crisci et al., 2021). In the academic realm, a variety of factors, including cognitive, behavioral, and emotional factors, are fundamentally important, but cognitive factors such as cognitive assessment and information processing are influential in the academic field (Dupeyrat & Mariné, 2005; Ma, Peng, & Wu, 2021).

A person with cognitive flexibility can change their approach in dealing with problems and new situations, but this condition depends on an appropriate level of cognitive assessment to select the best solutions and strategies for new situations (Ma, Peng, & Wu, 2021). Cognitive assessment is

a process in which individuals actively perceive values in monitoring and controlling the information received from the environment and regulate self-efficacy in this direction (Adimayanti et al., 2022; Hossin Khanzade, Rasouli, & Kousha, 2019). The main goal of cognitive assessment is to measure and examine the strengths and weaknesses of individual cognition and this type of assessment for assessing cognitive performance includes memory, attention, problem-solving, language, and even environmental adaptation skills (Watt et al., 2021). Cognitive assessment for assessing cognitive performance in specific areas such as visual attention, working memory, mathematical thinking, etc., is actively conducted and affects individual cognitive performance in real and normal environments (Krippens et al., 2019). This cognitive assessment process can help better understand an individual's capabilities and limitations and be effective in their therapeutic, educational, and supportive planning (Koziol et al., 2023; Prayag et al., 2022). Also, cognitive assessment is used in cases such as diagnosing cognitive disorders and attention and learning disorders, monitoring cognitive changes, predicting progress, and evaluation (Jordan & Prayag, 2022).

To improve learners' performance in the academic field and in connection with cognitive and emotional variables such as cognitive flexibility, cognitive assessment, adaptive classroom behavior, and academic self-concept, methods such as cognitive therapy-based play therapy and interaction-focused play therapy can be mentioned (Pourshahriar & Hashemi, 2017). Interaction-focused play therapy and cognitive therapy-based play therapy are modern and effective methods for improving performance and changing behavior (Chen et al., 2022). These interventions have been increasingly used in various fields, including improving performance in individuals in different areas such as work and academic alongside methods like cognitive therapy-based play therapy (Carrançã et al., 2019). These interventions put a lot of emphasis on child involvement in developmental processes, and the educator, by providing the necessary actions from a developmental point of view, helps the child benefit from this process (Becker, 2014). In fact, play helps the child to recognize, understand, and control the world in which they live (Eruyar & Vostanis, 2020; Koziol et al., 2023). Through play, the child discovers the social values of the society to which they belong and ultimately helps in their social environment adaptation (Adimayanti et al., 2022). In general, interaction-focused play therapy and cognitive therapy-based play

therapy are modern methods that actively and significantly help children with many skills in cognitive, behavioral, emotional, and social areas (Mohammadi, Pirani, & Zangeneh Motlag, 2023). Cognitive therapy-based play therapy improves a sense of competence and capability in clients by focusing on the dual activity of the therapist and client (Henriksen, Richardson, & Shack, 2020). Also, this approach, focusing on activity, can extract problematic aspects of cognition, behavior, emotions, and even communicative perspectives of individuals (Hensley, 2020). In cognitive therapy-based play therapy, children are gradually taught that they can cause more appropriate behavior by functioning and adapting better (Angreni, 2023) and increase their ability to perform tasks (Pursi, 2019). Cognitive therapy-based play therapy can improve memory, concentration, attention, critical thinking, and other cognitive performance skills (Kholilah & Solichatun, 2018).

On the other hand, interaction-focused play therapy as an indirect therapeutic method helps children to regulate their emotions, review problems, and learn the skills needed to face different situations (Warren et al., 2022). The main goal of this therapy is to create a safe and non-threatening space for the individual to express their feelings, thoughts, and experiences. The interaction between children and the therapeutic specialist in interaction-focused play therapy is very important (Colliver & Veraksa, 2019). The therapeutic specialist, by listening and understanding the needs and problems of the individual, helps them to strengthen their communication skills, emotional management, problem-solving, and critical thinking (Shiroodaghaei, Amir Fakhraei, & Zarei, 2020). This therapy also helps children to improve their social and interactional skills and establish healthier relationships (Koziol et al., 2023). Wong et al. (2023) have found that child-centered play therapy is effective for evaluating and cognitive performance in children with Attention Deficit/Hyperactivity Disorder (Wong et al., 2022). Some have shown that fun English play therapy is effective for improving evaluation and cognitive abilities in preschool children during the COVID-19 pandemic (Adimayanti et al., 2022). In general, considering the long-term consequences of disorders and the widespread prevalence of specific learning disorders in children, as well as the problems that this poor performance creates for the individual, family, and society, and on the other hand, knowing the insufficiency of common therapeutic methods, the importance of paying attention to this group of disorders and the necessity of using new therapeutic strategies in these disorders is evident. Given the above, the main research

question is whether there is a difference between the effectiveness of cognitive therapy-based play therapy and interaction-focused play therapy on cognitive flexibility, cognitive assessment, adaptive classroom behavior, and academic self-concept in female students with specific learning disorders?

## 2. Methods and Materials

### 2.1. Study Design and Participants

The research method was a quasi-experimental pre-test, post-test with a control group and a three-month follow-up phase. The research population consisted of 54 first-grade primary school girls diagnosed with specific learning disorders and registered at the Qom city educational counseling center in the year 2023. Considering that the minimum sample size for intervention studies is 15 individuals per group (Delavar, 2014), a total of 45 individuals were selected for the three groups using a purposive non-random sampling method and were subsequently randomly assigned to two experimental groups and one control group, each containing 15 individuals.

Inclusion criteria: Parental consent for participation in the study, first-grade primary school girls diagnosed with specific learning disorders by the educational counseling center, moderate severity of the disorder as diagnosed by a psychologist at the center, not using nerve medications, no physical illness or health problems, no history of participation in workshops or educational classes. Exclusion criteria: Incomplete questionnaire responses, doubt about meeting any inclusion criteria during the intervention, withdrawal of consent at any stage of the intervention, use of sedatives or sleep-inducing medications, withdrawal from the study at any time as desired, withdrawal as determined by a physician or psychologist.

At the beginning process, a preliminary study was conducted through discussions with experts and university professors to gather their opinions and viewpoints at each stage of the research process. After obtaining organizational permissions from the university's research deputy, based on the purposive sampling method, intervention sessions for the two experimental groups were conducted twice weekly (on even and odd days for each group). The interaction-focused play therapy (IPT) sessions, based on the Jernberg and Booth (2009) package, included 21 sessions of 45 minutes each, and the cognitive therapy-based play therapy (CTPT) sessions, based on the Mohammad Esmaeil (2008) package, included 10 sessions of 60 minutes each. After agreeing to

participate in the research, informed consent forms were written as a commitment to attend the sessions. Ethical standards including professional, scientific, educational responsibility, respect, and confidentiality were observed. The present article is derived from the approved proposal of the research council and the biomedical ethics committee with an ethics code. Pre-tests were conducted before starting the sessions for both experimental groups and the control group, and post-tests were conducted after completing the intervention sessions. The control group did not receive any intervention.

## 2.2. Measures

### 2.2.1. Cognitive Appraisal

Cognitive Assessment Questionnaire developed by Pintrich and DeGroot (1990), includes two components: self-efficacy and intrinsic value. It consists of 47 questions, 18 of which assess cognitive evaluation with 9 questions related to self-efficacy and 9 questions related to intrinsic

value. It is scored on a five-point Likert scale (from 1 'strongly disagree' to 5 'strongly agree'), with higher scores indicating a higher level of cognitive evaluation. Construct and content validity were confirmed by the creators, and the reliability using Cronbach's alpha method was 0.86. Kajbaf and colleagues (2003) also confirmed construct and content validity, obtaining a reliability of 0.82 using Cronbach's alpha. In this study, the questionnaire's reliability coefficient was 0.78 using Cronbach's alpha (Kajbaf, Moulavi, & Shirazi Tehrani, 2003; Pintrich & De Groot, 1990).

## 2.3. Interventions

### 2.3.1. Cognitive Play Therapy

Cognitive therapy-based play therapy, based on Mohammad Esmail's (2008) (Esteki Azad, Golparvar, & Sajjadian, 2022; Koziol et al., 2023) package, was conducted in 10 sessions of 60 minutes each, weekly, over two and a half months (Table 1).

**Table 1**

#### *Dialectical Behavioral Therapy Session*

Session	Content
1	Assessing students' functional levels, familiarizing children with each other, strengthening member relationships, improving balance and stability, enhancing spatial awareness, increasing eye-hand and eye-foot coordination, and enhancing kinesthetic and tactile awareness.
2	Learning new skills and proper communication, gaining self-awareness and understanding personal challenges, improving visual tracking ability, improving lateral position and orientation, enhancing visual discrimination and decoding, and coordinating eye and hand movements.
3	Releasing energy and reducing impulsive behavior, advancing coordination and agility, and enhancing eye-hand and eye-foot coordination.
4	Focusing therapy on self-control, increasing accuracy and concentration, and strengthening hand muscles.
5	Teaching approaches to interact with people, teaching skills for daily functioning, advancing visual perception of images and backgrounds, recognizing differences and similarities, and improving patterns of transfer in eye-foot coordination.
6	The student recognizes the importance of success in task execution, increasing eye-hand coordination, developing self-concept, and assisting the child in jumping from the ground.
7	Advancing hand movement coordination and balance, improving body image and body awareness, advancing sequential skills, and enhancing auditory discrimination and association.
8	Identifying personal cognitions, helping to identify cognitive distortions and replacing maladaptive thinking with adaptive thinking.
9	Accepting responsibility, expressing the interaction between thoughts, feelings, and student behavior, increasing self-concept, releasing energy, and spatial awareness, and improving eye-hand coordination.
10	Enhancing and strengthening skills to cope with negative emotions and problem-solving according to chronological age, advancing flexibility, improving muscle strength, and enhancing social responsiveness.

### 2.3.2. Perceptual and Motor Training

Interaction-focused play therapy sessions by Jernberg and Booth (2009) (Booth & Jernberg, 2009) were conducted in

21 sessions of 45 minutes each, three times a week, over two months (Table 2).

**Table 2**

*Perceptual and Motor Training Sessions*

Session	Content
1	Establishing initial rapport with parents, outlining therapy goals and session rules, explaining the rationale of attachment-based and interaction-focused play therapy, providing information about video recording, and conducting pre-tests.
2	Utilizing the Marshak Interaction Method to assess the mother's insight in four therapeutic dimensions, explaining the session procedure to the mother, reviewing the mother's perspective on the child's negative behaviors, and conducting pre-tests and interaction-focused play therapy exercises.
3	Reviewing the initial mother-child video interaction, providing feedback, and enhancing maternal insight.
4	Creating a pleasant relationship and experience between the child and the therapist, fostering trust in the child, engaging the child in activities, providing feedback, conducting post-tests, and performing interaction-focused play therapy exercises.
5	Challenging the child's negative self-perception and others', managing child resistance, providing feedback, and conducting interaction-focused play therapy exercises.
6	Identifying obstacles to the child's proper attachment development, providing feedback, conducting post-tests, and performing interaction-focused play therapy exercises.
7	Reducing the child's anxiety and oppositional behaviors, acceptance by the therapist, providing feedback, and conducting interaction-focused play therapy exercises.
8	Increasing self-care abilities, enhancing a sense of competency, conducting post-tests, and performing interaction-focused play therapy exercises.
9	Engaging in role-play in a harmonious interaction, examining mother-child verbal communication, addressing how the mother responds to the child's needs, providing feedback, and conducting interaction-focused play therapy exercises.
10	Assessing the mother's readiness and focusing on her needs, understanding the therapist's role, providing feedback, conducting post-tests, and performing interaction-focused play therapy exercises.
11	Empathetically understanding the child's behavior, aligning parental expectations with the child's needs, providing feedback, and conducting interaction-focused play therapy exercises.
12	Observing strengths and weaknesses in the mother-child interaction schemas, understanding the rationale behind parental resistance, providing feedback, conducting post-tests, and performing interaction-focused play therapy exercises.
13	Empathetically responding to the mother's primary needs, creating a sense of acceptance and security in the mother, providing feedback, and conducting interaction-focused play therapy exercises.
14	Focusing on the adult caregiving role, assisting parents in managing difficult behavior, addressing parental challenges in managing the child, providing feedback, conducting post-tests, and performing interaction-focused play therapy exercises.
15	Involving the mother in activities, assuring the child of parental support, focusing the parent on the child's strengths, providing feedback, assigning homework, and conducting interaction-focused play therapy exercises.
16	Increasing the mother's trust and confidence in the child, providing feedback, continuing the active role-playing of the parent at home, conducting post-tests, and performing interaction-focused play therapy exercises.
17	Assessing the mother's understanding and challenges in creating a healthy attachment with the child, challenging the child's negative views by the mother, resolving child resistance by the parent, providing feedback, continuing the active parental role at home, and conducting interaction-focused play therapy exercises.
18	Reducing child anxiety and protest behaviors by the mother, enhancing maternal security and acceptance, providing feedback, continuing the active parental role at home, conducting post-tests, and performing interaction-focused play therapy exercises.
19	Increasing the child's self-care abilities by the mother, enhancing the child's sense of competence, providing feedback, continuing the active parental role at home, and conducting interaction-focused play therapy exercises.
20	Reviewing and evaluating the contents presented in previous sessions, preventing potential frustration in the child and ensuring the continuation of the games by the mother, providing feedback, continuing the active parental role at home, and conducting post-tests.
21	Focusing on the relationship between the mother and the child, affirming the child's strengths and identity towards the future.

**2.4. Data analysis**

For data analysis, mixed-measure ANOVA and Tukey's post-hoc test were used with SPSS18 software.

**3. Findings and Results**

The three research groups were matched in terms of demographic characteristics. Descriptive findings are reported in [Table 3](#).

**Table 3**

*The results of mean and standard deviation (SD)*

Dependent variable	Stage	Pre-test		Post-test		Follow-up	
	Group	Mean	SD	Mean	SD	Mean	SD
Self-efficacy	PTCT	17.47	2.56	27.73	5.91	27.87	5.71
	IPT	17.67	3.06	21.47	2.32	21.73	4.83
	Control	17.20	2.36	17.73	2.90	17.73	3.45
Intrinsic valuation	PTCT	17.73	2.91	26.13	3.42	26.27	3.61
	IPT	17.20	2.48	21.33	3.08	21.47	4.51
	Control	17.60	1.72	17.67	2.61	17.78	2.37
Cognitive appraisal	PTCT	34.93	4.06	53.87	6.79	54.13	6.72
	IPT	34.87	3.83	42.80	4.58	43.20	6.93
	Control	34.80	3.36	34.93	4.11	35.07	4.13

As seen in Table 3, the mean scores of the pre-test cognitive evaluations in both experimental groups (IPT and CTPT) and the control group were nearly equal. However, in the post-test, the mean scores of the cognitive evaluations in the experimental groups (IPT and CTPT) differed significantly from those of the control group. The follow-up values for the two experimental groups (IPT and CTPT) and the control group are also observable in the table. In checking the assumptions, Shapiro-Wilk's values in the pre-

test and post-test cognitive evaluation scores of the girls with specific learning disorders in both experimental and control groups were not significant, indicating a normal distribution of variables. According to the results of the Levene's test in ANOVA, the significance level obtained was more than 0.05; therefore, the assumption of homogeneity of variances across groups is generally met. The assumptions for the analysis of covariance were confirmed.

**Table 4**

*The summary of the analysis of variance with repeated measurements*

Variable	Source	SS	df	MS	F	p	Effect size
Self-efficacy	Group	1053.733	2	526.867	25.165	0.01	0.545
	Time	562.500	1	562.500	45.596	0.01	0.521
	Time*Group	374.867	2	187.433	15.193	0.01	0.420
Intrinsic valuation	Group	742.059	2	371.030	33.883	0.01	0.617
	Time	418.178	1	418.178	47.443	0.01	0.530
	Time*Group	264.622	2	132.311	15.011	0.01	0.417
Cognitive appraisal	Group	3665.378	2	1832.689	57.399	0.01	0.732
	Time	1932.100	1	1932.100	81.447	0.01	0.660
	Time*Group	1354.067	2	677.033	28.540	0.01	0.576

Results in Table 4 show that the F value calculated for the effect of stages (pre-test, post-test, and follow-up) is significant at the 0.01 level. Specifically, differences were found in the interaction of group and treatment stages for self-efficacy and intrinsic valuation. Therefore, there is a significant difference between the mean scores of pre-test,

post-test, and follow-up for self-efficacy and intrinsic valuation in girls with specific learning disorders. Bonferroni's post-hoc test was calculated to examine the differences between means at different treatment stages.

**Table 5**

*The results of Tukey's post-hoc to compare the means between stages*

Pre-test	Stage 1	Stage 2	Mean diff.	SE	p
Self-efficacy	Pre-test	Post-test	4.867	0.651	0.001
	Pre-test	Follow-up	5	0.740	0.001
	Post-test	Follow-up	0.133	0.102	1
Intrinsic valuation	Pre-test	Post-test	4.200	0.568	0.001
	Pre-test	Follow-up	4.311	0.626	0.001
	Post-test	Follow-up	0.154	0.089	1
Cognitive appraisal	Pre-test	Post-test	9	0.953	0.001
	Pre-test	Follow-up	9.265	0.987	0.001
	Post-test	Follow-up	0.267	0.187	1

Results in Table 5 indicate that there are significant differences between the subscale scores of the cognitive evaluations in the pre-test compared to the post-test, and the pre-test compared to the follow-up. The difference between

the post-test and follow-up is not significant, indicating treatment stability. Mean comparisons show that the cognitive evaluation subscales in the post-test and follow-up stages are significantly different compared to the pre-test.

**Table 6**

*The results of Tukey's post-hoc to compare the means between groups*

Variable	Group	Mean diff.	SE	p
Self-efficacy	PTCT – IPT	4.07	0.965	0.01
Intrinsic valuation	PTCT – IPT	3.38	0.698	0.01
Cognitive appraisal	PTCT – IPT	7.36	1.191	0.01

Results in Table 6 show that there is a significant difference in cognitive evaluation scores between the IPT experimental group and the CTPT experimental group. The CTPT treatment resulted in greater changes in cognitive evaluation in girls with specific learning disorders, proving to be stronger than the IPT treatment in this patient group. Cognitive therapy-based play therapy had a greater effect on cognitive evaluation compared to interaction-focused cognitive therapy.

common cognitive signs in behaviors related to cognitive evaluation. Considering the cognitive theoretical foundations as a crucial and common factor between these theories, it can be understood that cognitive evaluation comprises multidimensional components. Although these studies have differences in the used tools, time and location compared to the present research, the consistency of results is justifiable based on cognitive theoretical logic.

**4. Discussion and Conclusion**

This research aimed to compare the effectiveness of cognitive therapy-based play therapy and interaction-focused play therapy on the cognitive evaluation of girls with specific learning disorders. According to the research results, there is a significant difference in the effectiveness of cognitive therapy-based and interaction-focused play therapies on cognitive evaluation in girls with specific learning disorders, confirmed by the previous findings (Adimayanti et al., 2022; Koziol et al., 2023; Wong et al., 2022). The consistency in these results can be attributed to

In explaining these findings, from cognitive and social perspectives, it can be stated that CBPT and IPT differ in their effectiveness on cognitive assessment. CBPT has a greater impact on cognitive assessment compared to IPT. CBPT is typically conducted in individual settings for precise and limited cognitive assessment of an individual (Adimayanti et al., 2022). On the other hand, IPT is more often conducted in group and interactive settings, also evaluating improvements in communicative and interactive skills (Wong et al., 2022). Generally, both CBPT and IPT can be used for cognitive assessment, but they differ in the evaluation method and setting depending on the assessment objective (Shiroodaghaei, Amir Fakhraei, & Zarei, 2020). CBPT is usually used for direct and limited cognitive

assessment such as memory, attention, and problem-solving. These therapies directly and concretely assess an individual's cognitive performance (Shiroodaghaei, Amir Fakhraei, & Zarei, 2020). Conversely, IPT does not focus on cognitive assessment but rather on interaction and social communication. Cognitive play therapy primarily focuses on cognition and cognitive performance (Davis et al., 2022), concentrating directly on cognitive abilities like memory, attention, reasoning, and problem-solving. In other words, these therapies directly target the improvement of cognitive performance. Cognitive play therapies typically involve repeated practice of cognitive skills, which can help strengthen and enhance cognitive performance (Farid, Habibi-Kaleybar, & Moshtary E Sahneh, 2021). The more these exercises are performed, the more cognitive assessment is reinforced. Given the focus of cognitive play therapy on cognition and cognitive performance, repeated practice, and individual focus tailored to a person's cognitive needs, these therapies can be more effective in improving cognitive assessment (Warren et al., 2022). IPT can also have beneficial effects in improving adaptive behavior and communication skills, but its focus is on behavior and interaction, with less emphasis on improving cognitive assessment. With cognitive practice, students with SLD can view their emotions more mindfully and value them, showing more positive and constructive reactions instead of unpleasant and increasing tension (Hossin Khanzade, Rasouli, & Kousha, 2019). With increased self-awareness and current experiences, these students can better respond to the needs and emotions of others, listen better, and establish healthier relationships. In summary, CBPT compared to IPT helps students with SLD interact more mindfully with their experiences and others and improve their cognitive assessment.

## 5. Limitations & Suggestions

The research's limitation to first-grade primary school students with SLD and the generalizability of its findings to

other students and grades should be approached cautiously. There were also limitations due to the use of questionnaire tools and the lack of access to a sample for follow-up stages. It is suggested for therapeutic centers to use CBPT. The CBPT model, as a short-term, simple, effective, and economical approach for improving cognitive flexibility and assessment, is recommended for treatment and training to therapists, counselors, and teachers. A combined psychotherapeutic model can overcome many of the treatment limitations.

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## Declaration of Interest

The authors of this article declared no conflict of interest.

## Ethics Considerations

This article is derived from the first author's doctoral dissertation at Islamic Azad University, Sari Branch, Iran, with the ethics code IR.IAU.SARI.REC.1402.091 from the Ethics Committee of Islamic Azad University, Sari Branch. The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

## Authors' Contributions

All authors equally contributed to this study.

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## References

- Adimayanti, E., Dewi, S., Endang, S., & Deya, P. (2022). Efektifitas Terapi Bermain English Fun untuk Meningkatkan Kemampuan Kognitif Anak Prasekolah Dimasa Pandemi Covid-19: The Effectiveness of English Fun Play Therapy to Improve Cognitive Ability of Preschool Children During the Covid-19 Pandemic. *Journal of Holistics and Health Sciences (JHHS)*, 4(2), 364 - 371. <https://doi.org/10.35473/jhhs.v4i2.201>
- Aghaziarati, A., Nejatifar, S., & Ashori, M. (2021). Comparison of Executive Functions, Emotional Intelligence, and Motivated Strategies for Learning in Adolescents with Normal Hearing and Those with Hearing Impairment Using either Hearing Aids or Cochlear Implantation. *Pajouhan Scientific Journal*, 19(2), 35-42. <https://doi.org/10.29252/psj.19.2.32>



- Angreni, N. M. R. (2023). *PENGEMBANGAN PANDUAN KONSELING COGNITIVE BEHAVIORAL TEKNIK COGNITIVE RESTRUCTURING BERBASIS WEBSITE UNTUK MENGATASI KECEMASAN PADA REMAJA KORBAN KEKERASAN* Universitas Pendidikan Ganesha]. <https://repo.undiksha.ac.id/14182/>
- Becker, B. (2014). How often do you play with your child? The influence of parents' cultural capital on the frequency of familial activities from age three to six. *European Early Childhood Education Research Journal*, 22(1), 4-13. <https://doi.org/10.1080/1350293X.2013.865355>
- Booth, P. B., & Jernberg, A. M. (2009). *Theraplay: Helping parents and children build better relationships through attachment-based play*. John Wiley & Sons. [https://books.google.com/books?hl=en&lr=&id=yLF14h-LybcC&oi=fnd&pg=PR9&dq=Theraplay:+Helping+Parents+and+Children+Build+Better+...&ots=aT40YUFqNY&sig=llrFXimBsDV6PuhV6\\_mSRGkhh4s](https://books.google.com/books?hl=en&lr=&id=yLF14h-LybcC&oi=fnd&pg=PR9&dq=Theraplay:+Helping+Parents+and+Children+Build+Better+...&ots=aT40YUFqNY&sig=llrFXimBsDV6PuhV6_mSRGkhh4s)
- Carrana, B., Serpa, S., Rosado, A., & Guerrero, J. P. (2019). A pilot study of a mindfulness-based program (MBSoccerP): The potential role of mindfulness, self-compassion and psychological flexibility on flow and elite performance in soccer athletes. *Revista Iberoamericana de psicología del ejercicio y el deporte*, 14(1), 34-40. <https://dialnet.unirioja.es/servlet/articulo?codigo=7358709>
- Chen, H., Liu, C., Zhou, F., Chiang, C.-H., Chen, Y.-L., Wu, K., Huang, D.-H., Liu, C.-Y., & Chiou, W.-K. (2022). The Effect of Animation-Guided Mindfulness Meditation on the Promotion of Creativity, Flow and Affect [Original Research]. *Frontiers in psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.894337>
- Colliver, Y., & Veraksa, N. (2019). The aim of the game: A pedagogical tool to support young children's learning through play. *Learning, Culture and Social Interaction*, 21, 296-310. <https://doi.org/10.1016/j.lcsi.2019.03.001>
- Crisci, G., Caviola, S., Cardillo, R., & Mammarella, I. C. (2021). Executive functions in neurodevelopmental disorders: Comorbidity overlaps between attention deficit and hyperactivity disorder and specific learning disorders. *Frontiers in human neuroscience*, 15, 594234. <https://doi.org/10.3389/fnhum.2021.594234>
- Davis, E. M., Garcia, D., Andrew Rothenberg, W., Barnett, M. L., Davidson, B., Espinosa, N., Tonarely, N. A., Robertson, E. L., Alonso, B., San Juan, J., & Jent, J. F. (2022). A preliminary analysis of parent-child interaction therapy plus natural helper support to increase treatment access and engagement for low-income families of color. *Children and Youth Services Review*, 134, 106370. <https://doi.org/10.1016/j.childyouth.2022.106370>
- Dupeyrat, C., & Mariné, C. (2005). Implicit theories of intelligence, goal orientation, cognitive engagement, and achievement: A test of Dweck's model with returning to school adults. *Contemporary Educational Psychology*, 30(1), 43-59. <https://doi.org/10.1016/j.cedpsych.2004.01.007>
- Erucar, S., & Vostanis, P. (2020). Feasibility of group theraplay with refugee children in Turkey. *Counselling and Psychotherapy Research*, 20(4), 626-637. <https://doi.org/10.1002/capr.12354>
- Esteki Azad, N., Golparvar, M., & Sajjadian, I. (2022). The Effectiveness of Play Therapy based on Child-Parent Relationships and Cognitive-Behavioral Art-Play Therapy on Mother's Affective Capital of Single Parents' Children [Quantitative-Research]. *2 Journal of Nursing Education*, 10(6), 53-64. <http://jne.ir/article-1-1287-en.html>
- Farid, A., Habibi-Kaleybar, R., & Moshtary E Sahnneh, B. (2021). Comparison of the Effectiveness of Play Therapy and Neurofeedback on the Executive Functions of Primary School Female Students with Learning Disabilities. *Psychology of Exceptional Individuals*, 11(43), 175-206. <https://doi.org/10.22054/jpe.2022.60612.2319>
- Ghorashi, N., Ismail, A., Ghosh, P., Sidawy, A., & Javan, R. (2023). AI-Powered Chatbots in Medical Education: Potential Applications and Implications. *Cureus*, 15(8), e43271. <https://doi.org/10.7759/cureus.43271>
- Hayward, K., Raine, J., & Hendry, C. (2019). Developing 'Negotiation capital': influence and imagination in three and four-year-old triadic collaborative play in nursery. *European Early Childhood Education Research Journal*, 27(1), 15-27. <https://doi.org/10.1080/1350293X.2019.1539432>
- Henriksen, D., Richardson, C., & Shack, K. (2020). Mindfulness and creativity: Implications for thinking and learning. *Thinking Skills and Creativity*, 37, 100689. <https://doi.org/10.1016/j.tsc.2020.100689>
- Hensley, N. (2020). Educating for sustainable development: Cultivating creativity through mindfulness. *Journal of Cleaner Production*, 243, 118542. <https://doi.org/10.1016/j.jclepro.2019.118542>
- Hossin Khanzade, A. A., Rasouli, H., & Kousha, M. (2019). The Effectiveness of Play Therapy on Visual Short-Term Memory and Cognitive Flexibility in Children with Attention Deficit/ Hyperactivity Disorder. *Journal of Psychological Studies*, 14(4), 55-72. <https://doi.org/10.22051/psy.2018.16252.1452>
- Jordan, E. J., & Prayag, G. (2022). Residents' Cognitive Appraisals, Emotions, and Coping Strategies at Local Dark Tourism Sites. *Journal of Travel Research*, 61(4), 887-902. <https://doi.org/10.1177/00472875211004761>
- Kajbaf, M. B., Moulavi, H., & Shirazi Tehrani, A. (2003). Study of the Relationship Between Motivational Beliefs and Self-Regulated Learning Strategies, and Academic Performance Among High School Students [Research]. *Advances in Cognitive Sciences*, 5(1), 27-33. <http://icssjournal.ir/article-1-131-en.html>
- Kholilah, E., & Solichatun, Y. (2018). Terapi Bermain Dengan CBPT (Cognitive Behavior Play Therapy) Dalam Meningkatkan Konsentrasi Pada Anak ADHD [ADHD, CBPT, Konsentrasi, Terapi Bermain]. *2018*, 15(1), 10. <https://doi.org/10.18860/psi.v15i1.6662>
- Koziol, N. A., Kretch, K. S., Harbourne, R. T., Lobo, M. A., McCoy, S. W., Molinini, R., Hsu, L.-Y., Babik, I., Cunha, A. B., Willett, S. L., Bovaird, J. A., & Dusing, S. C. (2023). START-Play Physical Therapy Intervention Indirectly Impacts Cognition Through Changes in Early Motor-Based Problem-Solving Skills. *Pediatric Physical Therapy*, 35(3). <https://doi.org/https://doi.org/10.1097/PEP.0000000000001016>
- Ma, J., Peng, Y., & Wu, B. (2021). Challenging or hindering? The roles of goal orientation and cognitive appraisal in stressor-performance relationships. *Journal of Organizational Behavior*, 42(3), 388-406. <https://doi.org/10.1002/job.2503>
- Mohammadi, G., Pirani, Z., & Zangeneh Motlag, Firoozeh. (2023). A Comparison of the Effectiveness of the Philosophy for Children Program and Group Play Therapy with Cognitive-Behavioral Method on Psychological Flexibility in Children with Separation Anxiety Disorder. *Thinking and Children*, 13(2), 215-239. <https://doi.org/10.30465/fabak.2023.7563>

- Narimani, M., & Soleymani, E. (2013). The effectiveness of cognitive rehabilitation on executive functions (working memory and attention) and academic achievement in students with math learning disorder. *Journal of Learning Disabilities*, 2(3), 91-115. [https://jld.uma.ac.ir/article\\_129\\_e15b17b31b34b0538cb96dfefc3b552c.pdf](https://jld.uma.ac.ir/article_129_e15b17b31b34b0538cb96dfefc3b552c.pdf)
- Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82(1), 33-40. <https://doi.org/10.1037/0022-0663.82.1.33>
- Pourshahriar, H., & Hashemi, S. (2017). Effectiveness of rhythmic movement games on improving attachment and reducing behavioral disorders in first and second grade elementary boy students. *Journal of Applied Psychology*, 11(1), 515-533. [https://apsy.sbu.ac.ir/article\\_96955.html?lang=en](https://apsy.sbu.ac.ir/article_96955.html?lang=en)
- Prayag, G., Le, T. H., Pourfakhimi, S., & Nadim, Z. (2022). Antecedents and consequences of perceived food authenticity: a cognitive appraisal perspective. *Journal of Hospitality Marketing & Management*, 31(8), 937-961. <https://doi.org/10.1080/19368623.2022.2100857>
- Pursi, A. (2019). Play in adult-child interaction: Institutional multi-party interaction and pedagogical practice in a toddler classroom. *Learning, Culture and Social Interaction*, 21, 136-150. <https://doi.org/10.1016/j.lcsi.2019.02.014>
- Shiroodaghaei, E., Amir Fakhraei, A., & Zarei, E. (2020). Comparison of the Effectiveness of Cognitive-Behavioral Play Therapy and Parent-Child Interaction Therapy on Executive Functions and Parent-Child Interaction in Children with Oppositional Defiant Disorder [Research]. *Quarterly Journal of Child Mental Health*, 7(2), 79-95. <https://doi.org/10.29252/jcmh.7.2.8>
- Warren, J. M., Halpin, S. A., Hanstock, T. L., Hood, C., & Hunt, S. A. (2022). Outcomes of Parent-Child Interaction Therapy (PCIT) for families presenting with child maltreatment: A systematic review. *Child abuse & neglect*, 134, 105942. <https://doi.org/10.1016/j.chiabu.2022.105942>
- Watt, J. A., Lane, N. E., Veroniki, A. A., Vyas, M. V., Williams, C., Ramkissoon, N., Thompson, Y., Tricco, A. C., Straus, S. E., & Goodarzi, Z. (2021). Diagnostic accuracy of virtual cognitive assessment and testing: Systematic review and meta-analysis. *Journal of the American Geriatrics Society*, 69(6), 1429-1440. <https://doi.org/10.1111/jgs.17190>
- Wong, T.-Y., Chang, Y.-T., Wang, M.-Y., & Chang, Y.-H. (2022). The effectiveness of child-centered play therapy for executive functions in children with attention-deficit/hyperactivity disorder. *Clinical Child Psychology and Psychiatry*, 28(3), 877-894. <https://doi.org/10.1177/13591045221128399>