

# Cognitive-behavioral play therapy in children with reactive attachment disorder: help reduce anxiety, impulsivity, bullying and antisocial behaviors

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## ABSTRACT

Playing helps children to express their needs and feeling. Childhood is one of the most important periods of life that a person's personality is based on it and the persistence of disorders during this period can be associated with significant negative consequences in the future of the child. It is necessary to identify these children and provide appropriate and effective treatment. Cognitive-behavioral play therapy is a method that has completely specific goals and methods of intervention and seems to be effective for children who are less motivated to cooperate and have been used in this research. The present study is an experimental study with a Pre-test, Post-test, and a control group and the purpose of determining the effectiveness of cognitive-behavioral play therapy (ten 40-minutes sessions) on anxiety, bullying, impulsivity, and antisocial behaviors in children with reactive attachment disorder. Research instruments include Spence Children's Anxiety Scale (SCAS) and Reactive attachment disorder questionnaire (RADQ) and the statistical population is all preschool children in Yazd in 2019. The Convenience sampling method was used to select the research sample and 30 children who scored higher than the cut-off point (30) in the Reactive Attachment Disorder Questionnaire and also had the conditions to enter the test were randomly selected and were assigned in two experimental and control groups (15 people in each group). The results of statistical analysis showed that cognitive-behavioral play therapy significantly reduces the rate of anxiety and bullying, impulsivity, and antisocial behaviors in the experimental group.

**Keywords:** Cognitive-behavioral play therapy, Reactive attachment disorder, Anxiety, Bullying, Impulsivity, Antisocial behaviors

## Introduction

Childhood is one of the most important periods in a person's life and most behavioral disorders after this period are due to lack of attention to a sensitive childhood and lack of guidance in the development and evolution process. This negligence leads

to incompatibility with the environment and the occurrence of various deviations in different dimensions for the child <sup>[1]</sup>.

American Psychiatric Association (2013) introduces reactive attachment disorder as a continuous pattern of emotionally withdrawn behavior towards adult caregivers so that the child is rarely upset or very little consoles or responds to consolation <sup>[2]</sup>. Lack of proper attachment formation and failure to form normal relationships with primary caregivers with traumatic care such as severe experiences of parental neglect, abuse, sudden separation from caregiver between the ages of six months and three years, constant change of caregiver or lack of caregiver response to child efforts or the inability to meet the child's physical and emotional needs can lead to reactive attachment disorder. Reactive attachment disorder is associated with impaired social interaction and communication skills and neural defects in the developing child's brain <sup>[3]</sup>. These children

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experience long-term consequences such as the inability of emotional regulation, difficulty developing and maintaining relationships, behavioral problems, anxiety, and poor independence<sup>[4]</sup> and it may affect the rest of the child's life and those associated with him/her. These children seek attachment in unhealthy and sometimes unsafe places because of the lack of healthy attachments, so this disorder may seem daunting<sup>[5]</sup>.

Anxiety disorders contribute to traits such as fear and excessive anxiety and related behavioral disorders and they are different from anxiety which is normal in terms of growth, because they are persistent and excessive and frequent and dysfunctional and disproportionate<sup>[2]</sup>. Anxiety is also a warning sign that announces the imminent danger and prepares the person for confrontation<sup>[6]</sup>. This disorder is more common in preschool children and its global prevalence is about 6.5% and there is an increased risk of psychiatric diagnosis in adulthood. Cognitive-behavioral therapy (CBT) is an effective treatment for anxiety disorders in children<sup>[7]</sup>. Studies provide evidence of the heritability of this disorder<sup>[8]</sup>.

Many children and adolescents suffer from anxiety and are more likely to have problems with friendship, family life, and school and this disorder can significantly affect learning, cognitive pattern, and memory status, which the game can help relieve these anxieties<sup>[9]</sup>.

Bullying as one of the most common problems in children is a form of aggression in interpersonal relationships and from a person who has more power and strength and happens with the intention of harm<sup>[10]</sup>. If this continues, it can have serious physical and mental consequences for both injured and bullied person. The process of bullying can lead to depression, anxiety, social isolation, low self-esteem, avoidance of school, and substance abuse in injured and bullied person<sup>[11]</sup>.

Cheon, Reeve & Ntoumanis (2018) believe that antisocial behavior is a deliberate act to harm another person<sup>[12]</sup>. Because this injury is not unintentional and is done voluntary and autonomic, it is considered anti-social. Almuneef *et al.* (2017) believe that children with antisocial behaviors are incapable of problem-solving that underlie social interactions; they also have a low ability to accept others<sup>[13]</sup>. These children first act aggressively and harassingly in kindergarten and later in school and in dealing with their peers, and being rejected by their peers leads to a lack of self-esteem in them.

Impulsivity is the desire to respond to stimuli without considering the negative consequences that play a role in many maladaptive behaviors<sup>[14]</sup>. Impulsivity poses a risk and prevents children from proper social functioning and it may be associated with substance abuse, delinquency, obsessive-compulsive disorder, and sexual offensive behaviors in the future<sup>[15]</sup>.

According to the mentioned cases, in addition to identifying the specific problems of children, identifying effective interventions for them is of special importance. The present study has a special necessity because many parents and their children prefer to use counseling and psychological services instead of medication<sup>[16]</sup>. Cognitive-behavioral therapy (CBT) can help

children and adolescents deal with these disorders by using new ways of thinking. In this regard, one of the treatment methods is play therapy based on a behavioral-cognitive approach, one of the most important benefits of which is having completely specific goals and intervention methods and it is suitable for children who are less motivated to cooperate in the correctional process and with whom it is difficult to establish a therapeutic relationship. In this study, cognitive behavioral therapy has been adapted to play therapy to make therapy sessions more attractive to children and to establish a proper relationship with them. More precisely, we have applied a form of play therapy based on a cognitive-behavioral approach to children.

## Methodology

The method of the present research is experimental in terms of data collection and it is quantitative and applied research. This study was performed with a pretest-posttest design and follow-up with a control group and the aim was to determine the effectiveness of cognitive-behavioral play therapy on anxiety, bullying, impulsivity, and antisocial behaviors in children with reactive attachment disorder. Before the intervention for the experimental and control groups, a pre-test was performed and after the intervention of ten 40-minutes sessions of play therapy on the experimental group (the control group did not receive any intervention), in the post-test phase, the questionnaires were offered to the two groups again.

The statistical population of this study is all preschool children in Yazd (age range 4 to 6 years) in 2019. The convenience sampling method was used to select the research sample, and then 30 children were selected who scored higher than the cut-off point (30) in the reactive attachment disorder test and other conditions for entering the test, including pre-school education (they were in the age range of 4 to 6 years) and had a continuous presence in training sessions. They were randomly selected and divided into two experimental and control groups (15 people in each group) to measure their anxiety. The treatment protocol in this study is taken from Sohrabi Shegefti (2011) which is described in Table 1<sup>[17]</sup>.

Exclusion criteria include the absence of more than 2 sessions in the training course and not obtaining a score higher than the cut-off point (30) in the test of reactive attachment disorder and chronic disease or delay in physical and mental development were determined by examining the child's file.

**Table 1: Summary of Cognitive-behavioral Play Therapy Intervention**

Session	Meetings Names	Purpose	Content of each Session
First session	Introduction	Familiarize children with the environment and communicate	Familiarity establishing a therapeutic relationship with children, as well as familiarity with child superheroes and other useful information
Second session	Emotional words game	Expression of emotions and help the therapist diagnose the child's problem	Teaching the main emotions and telling the story by the therapist and showing pictures of emotions during the story
Third Session	Chairs game	Anger and aggression control	Play the music and stop it in such a way that after the stop, all the children are sitting on a chair, and considering that the number of seats is less than the number of children, the remaining child should be at other children's feet
Fourth session	Rage balloon game	Anger and aggression control	Inflate the balloon and expel the air inside it slowly and the second time inflates the balloon and blow it up to show ways for anger management and proper release of anger.
Fifth session	Alarm clock game	Impulsivity control	Arrange the cubes at the specified time and receive a reward if you do
Sixth session	Slow-motion game	Impulsivity and behavior control	Select the activity card by the child and do it once quickly and once slowly and for a longer time
Seventh Session	Bubble making game	Impulsivity and behavior control	Teach bubbling by taking deep breaths so that the child can breathe in the same way when angry.
Eight Session	Can of worry game	Children's fear and anxiety control	Things that cause children fear and anxiety are pulled by them and thrown in the can of worry.
Ninth Session	Put a party hat on a monster game	Children's fear and anxiety control	Children draw subjects that frighten them, and by putting hats on them, they turn these subjects into pleasant ones.
Tenth Session	Conclusion	Summarize and repeat the trained content	One of the games with the same goals was selected and repeated

The Spence Anxiety Inventory (SCAS) and Randolph Reactive Attachment Disorder (RADQ) were used to collect data, which are described below:

### Spence Children's Anxiety Scale (SCAS)

Spence Children's Anxiety Scale (SCAS) of the parent version is designed by Spence et al. (2001) to assess anxiety symptoms in people 3 to 17 years of age and has five subscales<sup>[18]</sup>. From all five of these subscales, an overall score for the child's anxiety is calculated, which can be useful as an indicator of the child's overall anxiety. The questionnaire is answered based on a five-point Likert scale (never, sometimes, most of the time, always) and the answers are scored from 0 (never) to 4 (always), respectively, so that the maximum score is 114 and the minimum score is 0. A score between 0 and 37 will indicate low levels of child anxiety, a score between 37 and 75 will indicate moderate levels of child anxiety, and a score higher than 75 will indicate high levels of child anxiety. This questionnaire has been standardized in Iran<sup>[19]</sup> and the reliability of the scale for general anxiety has been reported to be 0.92. In the present study, Cronbach's alpha was calculated to equal to 0.92.

### Reactive Attachment Disorder Questionnaire

Reactive attachment disorder questionnaire (RADQ) was developed in 2000 by Randolph in the United States to assess

reactive attachment disorder at the age of 4 to 18 years and includes variables of bullying, impulsivity, and anti-social behaviors, which were later translated and standardized by Movahed Abtahi et al. (2012) and the number of items was reduced to 25<sup>[20]</sup>. In this questionnaire, the best cut-off point of 30 is suggested, which means that children with scores higher than 30 are more likely to have a reactive attachment disorder.

The answers to this questionnaire are scored on a Likert scale from 1 to 5, respectively. In general, the scores of this questionnaire are in the range of 25 and 125. In the main rating, the scores between 50 and 64 are viewed as a continuum from attachment problems, scores between 65 and 90 are attachment disorder, and scores higher than 90 are severe attachment disorder<sup>[21]</sup>. In contrast, children who score between 2 and 65 are more likely to have attachment problems but do not have complete attachment symptoms<sup>[22]</sup>. The internal consistency of this questionnaire was calculated 0.83 using Cronbach's alpha method, which indicates the reliability of the questionnaire, and in the present study, this rate was calculated to be 0.87.

In this study, data analysis was performed using descriptive statistical methods (mean and standard deviation and inferential analysis of covariance) using SPSS 23 software.

### Findings

Descriptive information about research variables is given in Table 2.

**Table 2: Mean and Standard Deviation of Research Variables by Group**

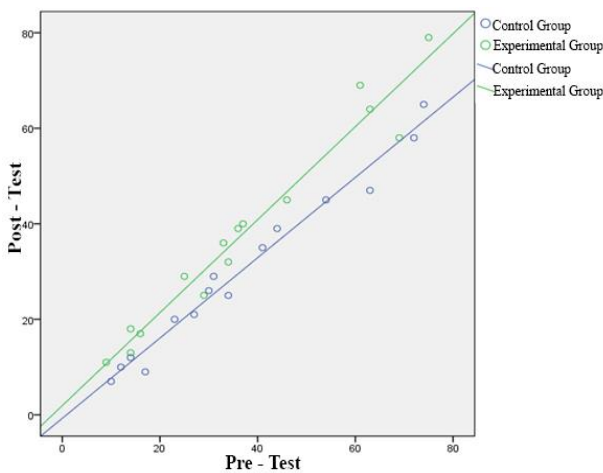
Variable	Group	Mean		Std. Deviation	
		Pre-test	Post-test	Pre-test	Post-test
Anxiety	Test	36.40	29.87	21.20	18.02
	Control	37.40	38.33	21.24	21.14
Bullying	Test	17.33	15.13	5.91	4.66
	Control	17.73	18.20	6.98	7.26
Impulsivity	Test	14.33	13.07	6.02	5.22
	Control	14.20	14.93	5.72	6.11
Antisocial Behaviors	Test	15.53	14.73	4.81	4.20
	Control	15.67	15.80	5.19	5.28

The covariance test has several presuppositions. In this regard, the results of the Kolmogorov-Smirnov test showed that the distribution of scores of the variables of the two groups is normal in all stages. Also, as represented in Levene's Test for all variables of anxiety, bullying, impulsivity, and antisocial behaviors, the p-values ( $p > .05$ ) indicate that the assumption of homogeneity of variances as a pre-condition to run ANCOVA is met. The results of the homogeneity of variances are shown in Table 3.

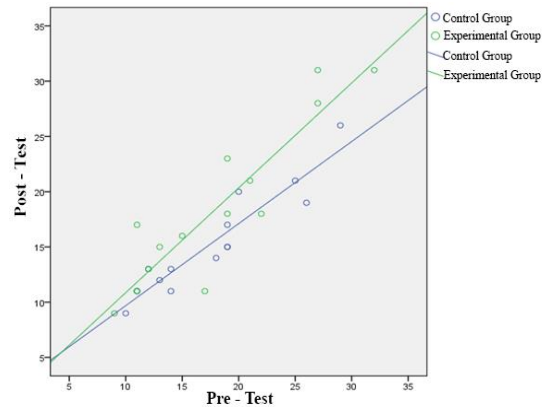
**Table 3- Levene's Test of Equality of Error Variances for the Homogeneity of Variances**

Dependent Variables	F	df1	df2	Sig.
Anxiety	1/777	1	28	0/193
Bullying	1/962	1	28	0/172
Impulsivity	1/627	1	28	0/213
Antisocial Behaviors	0/967	1	28	0/334

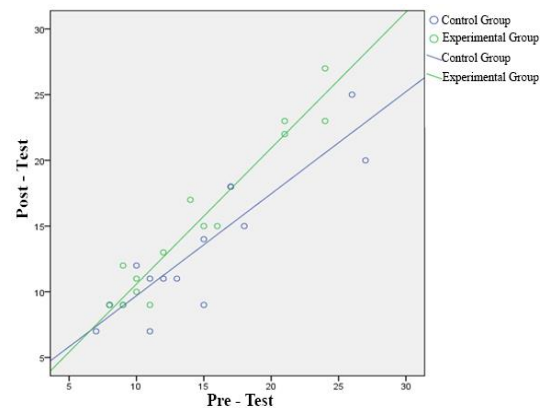
The next presumption is the condition of the linear relationship between the pre-test and the post-test of each group, which is examined by the scatter plot diagram and is reported by the Figure 1 to 4.



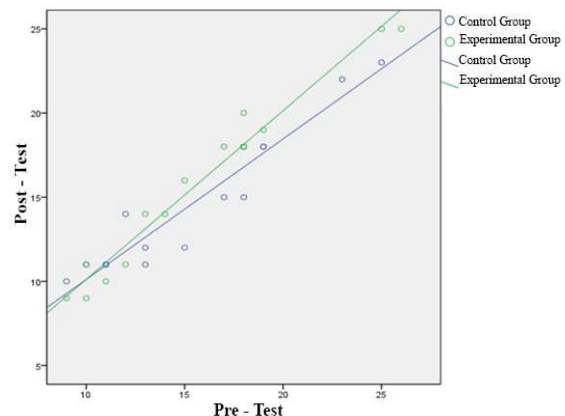
**Figure 1- Scatter Diagram of Pre-test and Post-test Anxiety**



**Figure 2- Scatter Diagram of Pre-test and Post-test of Children's Bullying**



**Figure 3- Scatter Diagram of Pre-test and Post-test of Children's Impulsivity**



**Figure 4- Scatter Diagram of Pre-test and Post-test of Children's Antisocial Behavior**

The next presumption is the homogeneity of the regression slope. Based on the results of the slope of regression homogeneity in Table 4, the estimated F that is not significant

( $P > 0.05$ ) and covariance analysis are met, because the data do not support the assumption of the slope of regression homogeneity.

**Table 4- Tests of Between-Subjects Effects for the Homogeneity of Regression Slopes**

Sources (Groups*Covariate)	Type III Sum of Squares	df	Mean Square	F	Sig
Anxiety-Pretest	55.759	1	55.759	3.896	0.059
Bullying-Pretest	12.103	1	12.103	1.993	0.170
Impulsivity-Pretest	16.094	1	16.094	3.880	0.060
Antisocial Behaviors-Pretest	4.879	1	4.879	3.814	0.062

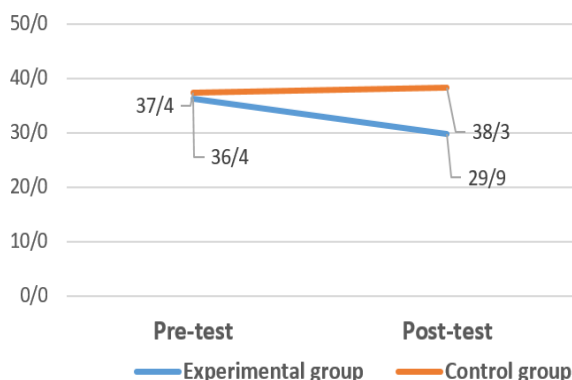
The univariate analysis of covariance was performed after reviewing and confirming the assumptions, the results of which are presented in Table 5.

**Table 5- Results of Analysis of Covariance Test on Research Variables**

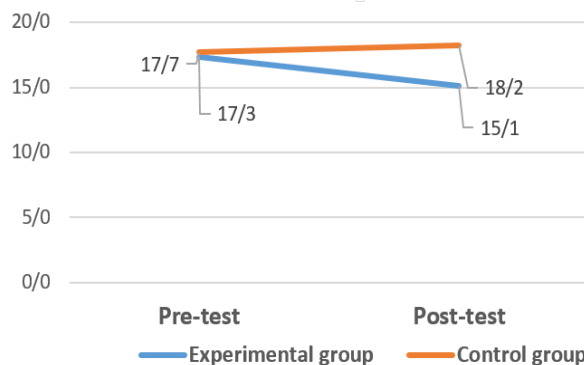
Dependent Variables	Sum of Squares	df	Mean Squares	F	Sig.	Effect Volume (Partial Eta Squared)
Anxiety	428.350	1	428.350	27.033	0.000	0.500
Bullying	55.498	1	55.498	8.815	0.006	0.246
Impulsivity	29.592	1	29.592	6.644	0.017	0.193
Antisocial Behaviors	6.674	1	6.647	4.725	0.039	0.149

As shown in Table 5, there is a significant between-group difference between the mean score of each Dependent Variables ( $P < 0.05$ ). It can be concluded that cognitive-behavioral play therapy has been effective in decreasing anxiety by 50%, bullying by 24.6%, impulsivity by 19.3%, and antisocial behaviors by 14.9% and the research hypotheses have been confirmed.

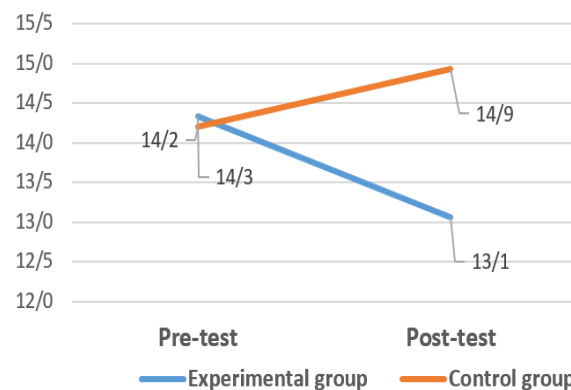
Graphs 5 to 8 show the means of the variables between the control and experimental groups.



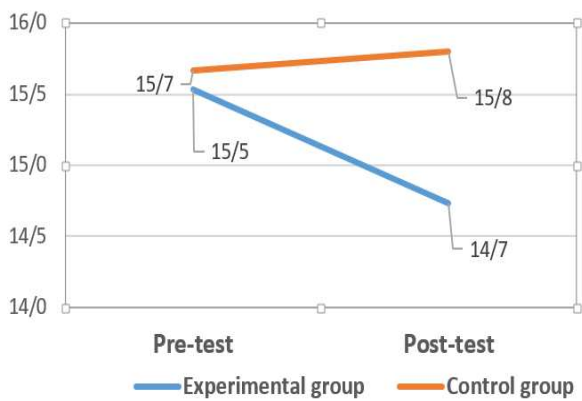
**Figure 5-** Average Pre-test and Post-test Scores of the Anxiety Component



**Figure 6-** Mean Scores of Pre-test and Post-test of Bullying Variable



**Figure 7-** Mean Pre-test and Post-test Scores of Impulsivity Variable



**Figure 8-** Mean Pre-test and Post-test Scores of Antisocial Behavior Component

As can be seen from Figures 5 to 8, post-test means in the experimental group were lower than the control group in the research variables. Taking into account the initial differences between the participants, it showed that cognitive-behavioral play therapy reduced anxiety, bullying, impulsivity, and antisocial behaviors in the experimental group.

## Discussion and Conclusion

The purpose of this study was to investigate the effect of cognitive-behavioral play therapy on anxiety, bullying, impulsivity, and antisocial behaviors in children with reactive attachment disorder. The results of the analysis of covariance showed that there was a significant difference between the values of anxiety disorder in the pre-test and post-test of the experimental group. Messmer (2019) showed that play therapy can increase the feeling of general health and self-esteem and reduce the symptoms of anxiety [23]. In these therapeutic situations, children can practice on social media and overcome all kinds of anxiety. Research has shown a greater reduction in CBT scores of mental and physical anxiety than other methods, including treatment through auditory and visual disturbances [24]. Deshpande & Shah (2019) also showed in a study that plays therapy is effective in reducing pain and anxiety in children after surgery [25].

The present study well confirms the significant and positive effect of cognitive-behavioral play therapy as a treatment and effective intervention in reducing anxiety. Because children's anxiety is caused by misinterpretations and misconceptions, for example, they may believe they are worthless or worry that they may not be able to function among their peers, feel lonely, and may be afraid of being judged by family and friends. Anxious children tend to reflect on negative thoughts. If negative thoughts and anxiety symptoms remain unchanged, they may experience an unpleasant child whose anxiety symptoms increase as they grow older.

Children cannot express their thoughts and feelings like adults. Children Playing acts like adults talking. Play therapy can have general consequences, such as reducing anxiety and increasing self-esteem, or specific outcomes, such as changing behavior

and improving relationships with family and friends [26]. In Cognitive-Behavioral Therapy (CBT), it is believed that behavior is created through cognitive processes that a person's thoughts determine how he or she feels and behaves in different situations. Emotions are a large part of a person's perception of events, and in cognitive-behavioral play therapy, the child is allowed to act spontaneously and recognize her negative thoughts and express her feelings [27].

Muslim *et al.* (2019) in a quasi-experimental study showed that cognitive-behavioral therapy is very effective in increasing students' cognition of bullying [28]. In this study, there is a significant difference between the values of bullying in the pre-test and post-test of the experimental group. Therefore, cognitive-behavioral play therapy has been effective in reducing bullying. People can help reduce negative moods by paying attention to positive emotions and reviewing and controlling mood and re-evaluating emotions. Accepting emotional states instead of avoiding and restraining emotions and modifying emotional states helps to manage people's moods as much as possible. In their findings on victimization and bullying, Lomas *et al.* (2012) stated that bullies express more negative emotions than positive ones and cause others to view them as violent and to accept their bullying behaviors that cognitive-behavioral play therapy can help identify and manage these negative emotions [29].

Research by Han *et al.* (2020) confirms the effect of CBT on improving symptoms such as anxiety control, impulsivity [30]. Group play therapy also reduces aggression and impulsive behaviors [31]. The present study also showed the reduction of impulsivity through cognitive-behavioral play therapy concerning children with reactive attachment disorders Because impulsivity can be defined as the motivation to act quickly and without thinking or without considering possible events and impulsive people have high-risk, unplanned, and unpredictable behaviors [32]. impulsive children make mistakes in evaluating others and cognition and thinking are impaired and pay more attention to aggressive stimuli. They interpret the events as threatening and usually do not pay attention to the consequences of their behavior [33].

The goal of cognitive-behavioral therapy programs identify negative spontaneous thoughts so that children can correct their thoughts and replace them with appropriate thoughts, therefore, cognitive-behavioral play therapy can be effective in this regard in children.

Badamian & Moghaddam (2017) showed the effect of group behavioral-cognitive play therapy in reducing incorrect responses and increasing correct responses and flexibility in aggressive children [34]. Swan *et al.* (2019) showed that children had fewer anxiety symptoms and problem behaviors in the classroom after participating in group play therapy [35]. In this study, there is a significant difference between the values of antisocial behaviors in the pre-test and post-test of the experimental group. Therefore, cognitive-behavioral play therapy has been effective in reducing antisocial behaviors. Behavioral characteristics of children are clearly defined in their

games. For example, an aggressive child may hit her dolls or break her toys while playing<sup>[36]</sup>.

The play therapy allowed the child to express his annoying feelings and inner problems through play which reduces antisocial behavior and cognitive-behavioral play therapy changes maladaptive behaviors to adaptive ones and through the feedback of this method of treatment, they realize that their behavior is wrong and the treatment process indirectly corrects their undesirable behavior.

Since cognitive-behavioral play therapy by introducing children's dysfunctional thoughts to them and replacing appropriate behaviors and establishing proper communication with others and behavior modification techniques and rewards can significantly help to reduce antisocial behaviors in these children.

It should be noted that in the present study, considering that the subjects of this study are preschool children in the age group of 4 to 6, caution should be exercised in generalizing findings to other groups. Due to the existing limitations, it is suggested that researchers in the future conduct research in the same way on other age groups to generalize the results to other pages with more confidence. The results of this research can be used in schools and other educational places due to the effectiveness of this treatment and it prevents the consequences of these disorders at older ages by diagnosing and treating these children.

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