



Research Paper

Effectiveness of Play Therapy Based on Social Cognition in Children With Internalized Behavioral Disorders

Saeed Rezaei^{1*} , Mohammad Bagher Hasanvand¹ 

1. Department of Psychology and Education of Exceptional Children, Faculty of Psychology and Education, Allameh Tabataba'i University, Tehran, Iran.



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ABSTRACT

Objectives: Internalizing disorders include disorders, such as major depressive disorder, dysthymia, and somatic disorders. In the diagnostic and statistical manual of mental disorders, 5th edition (DSM-5), post-traumatic stress disorder (PTSD) is recognized as a distinct group, but anxiety is a common symptom. This study aimed to investigate the effectiveness of play therapy programs based on social cognition in children with internalized behavioral disorders.

Methods: This study was an experimental design with a pre-test, post-test, and follow-up. The subjects were screened based on the inclusion criteria, then 20 children with internalized behavioral disorders were selected after the matching process, and they were randomly assigned to experimental and control groups (10 persons in each group). The intervention program was implemented in 10 sessions over 3 months. In this research, the Achenbach questionnaire (teacher report form) was used to assess students' behavioral problems.

Results: The results showed that play therapy with the social cognition method decreased the behavioral problems in children with the internalizing disorder ($P \leq 0.05$).

Discussion: It suggested that this supportive program can be implemented in a community of children with internalizing behavioral disorders.

*** Corresponding Author:**

Saeed Rezaei, PhD.

Address: Department of Psychology and Education of Exceptional Children, Faculty of Psychology and Education, Allameh Tabataba'i University, Tehran, Iran.

Tel: +98 (912) 9157991

E-mail: rezaei.saeed10@gmail.com

Highlights

- Internalizing disorders are associated with temperamental disorders, problems and some physical problems that a child faces in the growth process and cause behavioral dysfunction in children.
- The presented play therapy programs can be a pattern for respectable managers and educational planning, parents, and consultants.
- Play therapy based on social cognition has been effective in decreasing children's behavioral problems

Plain Language Summary

The main hypothesis in the present research is that play therapy based on social cognition decreases children's behavioral problems scores with internalized disorders. Internalizing disorders are directed inward and reflect a child's psychological and emotional state and typically include depressive disorders, anxiety disorders, and somatic complaints. Also, children with internalizing disorders can negatively affect their peers, siblings, and parents. This research's results showed that play therapy based on social cognition is effective in decreasing children's behavioral problems.

1. Introduction

Internalizing disorders are associated with temperamental disorders, problems related to self-awareness, anxiety, worry, illness, isolation, shyness, and some physical problems that a child faces in the growth process and cause behavioral dysfunction in children [1]. Internalizing disorders include disorders, such as major depressive disorder, dysthymia, and somatic disorders. In the diagnostic and statistical manual of mental disorders, 5th edition (DSM-5), post-traumatic stress disorder (PTSD) is recognized as a distinct group, but anxiety is a common symptom. In the DSM-5, children and adolescents may be diagnosed with one or more of seven anxiety disorders, such as specific phobia, separation anxiety disorder, social anxiety disorder, selective mutism, panic disorder, agoraphobia, and generalized anxiety disorder [2]. In this paper, depression and anxiety are addressed as internalizing disorders.

Depression is one of the most common mental disorders and its prevalence rate is growing day by day. Many of today's generation experience depression more than previous generations. Due to the occurrence and spread of this disorder, depression is illustrated in most psychological texts as the mental common cold which is slightly experienced by nearly all humans once or twice. Some mental and temperamental states, such as feelings of inability, impatience, sorrow, feeling of illness, hopelessness, discontent, discouragement, and lack of motivation are common experiences of depression-related states [3].

According to the classification of the DSM-5, anxiety disorders, are a part of mental disorders and include a large number of different disorders [1]. Anxiety is often considered as understanding a threatening situation and an attempt to protect against and take care of it. It should be noted that no special event requires this disorder. In other words, anxiety is a phobic reaction to an unreal event that is also external and distant. The main feature of anxiety disorder is excessive stress and worry as well as expectations with encouragement and concern about everyday events and activities [4].

Theoretically, based on social cognition theory, children's properties with the internalizing disorder are deficits in social cognition, lack of empathy skills, and low empathy interest. Social cognition has shaped the success basis in social communications. Social cognition is a complex process that a person acquires social insight and knowledge and applies to various social successes [5]. Baron Cohen [6] defined social cognition as a status in which a person remembers, analyzes, intervenes, and applies timely information related to the social world. Among the introduced cases in social cognition is empathy, empathy is a component of cognitive and affective and is defined as an emotional response to the affective situation of other people in affective conditions. Empathy is an essential ability for normal social function and interaction in the social world. Empathy is a leaven of the social world and allows a person to understand others' goals, intents, feelings, and affective and predict their behavior. The empathy mind theory or mind reading concepts [6]. In other words, empathy is mind-reading ability and awareness of others' intentions [7]. One

of the concepts related to empathy is mind theory, the major evolutions in evolutionary psychology during the two last decades around cognitive processes, other processes, and self-perception, known as the theory of mind ability. The mind theory includes fundamental cognitive abilities that underlie efficient and normal social interaction [8]. The mind ability is defined as an ability to understand that others can have a different thought, feelings, opinions, and conformity to us. In others, the mind theory is a cognitive ability for understanding others can have thought, feelings opinions, emotions, attitudes and intentions that differ from our intent, attitude, emotion, opinion, and thought. Normal growth of this ability has helped us to understand what ourselves and others performed [9]. Empathy is wider than the mind theory, which means that the mind theory is an inside factor of the empathy concept. The ability of the mind states and others' emotional perception is one of the empathy elements and another element of the affective response that is appropriate to other person's mind state [10].

In the twentieth century, a wonderful change occurred in behavioral disorders therapy so that play therapy is used as one of the effective therapies which play an effective role in decreasing negative symptoms. In this therapy, children express their failures and feelings via play (family enhancement and play therapy). Play therapy provides a safe environment for a child that accepted and confirmed their feelings and thoughts without judgment. Play is a natural way for children to show their problems. In group play therapy, children also can grow their moral judgment and learn how to contribute to others and regard all children equally. Also, they learn problem-solving strategies and how to establish social appropriate relationships with others and therefore their disobediences and oppositions are declined or eliminated [11].

Various research has confirmed that play therapy can reduce anxiety, negative emotions, aggression, and problems related to hospitalization in children and improve their social abilities and academic performance [12].

In Swan's research [13], play therapy can decrease some behavioral problems in children with mentally handicapped. In research accomplished by Sahin [14], the results showed that empathy teaching can be effective in decreasing students' coercive behavior. In Stulmaker and Ray's research [15], the results showed that play therapy significantly reduced the level of anxiety and aggression in children in the experimental group. Akbari and Rahmati [16] showed that play therapy in a cognitive-behavioral manner increased the cognitive

regulation of emotion and reduced anxiety and depression in children. Goodarzi et al. [17] showed that play therapy has a favorable effect on reducing aggression, stress, and anxiety in children. Morshed et al. [18] showed that group play therapy is effective in reducing the symptoms of children with disobedience disorder.

Despite the research conducted on the internalizing disorder, most emphasis on this disorder is on physical and sexual abuse and hereditary content, and less on the importance and role of empathy and social cognition in this disorder, and by an emphasis on this point, the sooner and rather behavioral problems of students can be recognized and decreased these problems by using therapy methods, the possibility to prevent their academic failure and outbreak of affective and behavioral disorders increases. Therefore, the main hypothesis in the present research is that play therapy based on social cognition decreases behavioral problem scores in children with internalizing disorder.

2. Materials and Methods

The current research was experimental research with time series (pre-test, post-test, follow-up) with a control group. The statistical population included all children aged 7 to 10 years in educational and rehabilitation centers in Karaj City welfare in 2014-2015. By cluster sampling, three areas were randomly selected. Then two centers were randomly selected. Then from any center, three classes were selected, and from any class, 15 people were selected and from 90 people, 20 students were selected. For those who have psychological files and or have been referred to a psychiatrist, 10 people are randomly placed in the test group and 10 people in the control group (Equation 1).

$$1. n_1 = n_2 = \frac{(S_1^2 + S_2^2)(Z_{1-\alpha/1} + Z_{1-\beta})^2}{(\bar{X}_1 - \bar{X}_2)^2}$$

$$X_1 = 2.4$$

$$X_2 = 1.9$$

$$S_1 = 0.3$$

$$S_2 = 0.45$$

$$n = 10$$

The experimental group participated for 3 months in a play therapy program based on social cognition and the control group did not receive any therapy service. In this research, the Achenbach questionnaire (teacher report form) was used to for measure students' behavioral problems. This measure has 113 items based on the

Table 1. The intervention program

Sessions	Title and Task	Method	Aim	Content and Play Explanation
1	Acquaintance	Play role by a therapist	Decrease anxiety	Initial acquaintance and explanations presentation about sessions, drawing a happy person by the child and expressing jubilation reason, explaining happy face change when uncomfortable event happens.
2	Express emotions	Peers group	Cognition by feelings	Defining an event that causes them happy and expressing happy reason and child's reaction, asking about other children reaction to the same event, expressing other children's feelings about their friends' happy feelings.
3	Focus	Play role by a therapist	Empathy	Tell a story by the child and other child inattention to its story and expressing the child feeling about inattention toward him/her, then story restatement by the child and other child's attention to its story and expressing the child feeling about its speeches.
4	Group test	Movie	Empathy	Picking up some chairs beside each other, running children around chairs, and helping together for sitting all members on chairs by off music, one chair is diminished for each success.
5	Focus and express feeling	Peers	Empathy	Sitting the therapist and children around the table along with two cubes for each member, tell an uncomfortable event and reaction along it simultaneous with giving a cube, then children put instead of it further cube and next story.
6	Cooperation	Movie	Empathy	Simulating earthquake situations, specifying physician and secretary and injured carriers, transferring injured to clinic and therapy.
7	Puzzle	Peers	Cognition of Feeling and empathy	Presenting papers containing different faces with stories related to faces to children, emotional connection to related story by child, and discussion about one of the available emotions in the paper.
8	Guess	Play role by a therapist	Cognition of Feeling and empathy	Performing dumb shows by subjects about different feelings and emotions.
9	Diagnosis of emotion	Play role by a therapist	Empathy	Providing various pictures, including sorrow, unhappiness, and nervousness, selecting one of the pictures by a child and playing picture role, other children request him/her to feel better.
10	Cooperation	Peers	Empathy	Painting with empathy subjects and helping a fellow with closed eyes by the child along with directing other group members.

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Likert scale. The questionnaire validity was calculated at about 83% using Cronbach's alpha coefficient. Also the internal correlation of scales has been calculated from 27% narrative index (physical problems and offense behavior) to 97% (extroverted and aggressive behavior). This study was approved by the Ethics Committee of the University of Allameh Tabataba'i and the ethical code was IR.Atu.REC.1399.892.

Procedure

In the current research, social cognition techniques based on empathy were used to decrease behavioral problems in children with internalizing disorder. Play therapist seeks to decrease behavioral problems using social cognition techniques and other toys. After the determination of the experimental group, students and their parents are invited for participating in a session. Then students were familiarized with the entire playhouse. The intervention method in the current research is based on the principles of play therapy based on sustainable

social cognition. Table 1 lists the intervention program based on title, method, goal, content, and play explanation.

3. Results

After performance tests, data were collected and analyzed in two parts (descriptive and inferential statistics). In the descriptive part, Mean±SD were calculated. Inferential statistic covariance analysis and repeated measure analysis were used to compare and study groups' diversity in pre-test, post-test, and follow-up.

In Table 2, the comparison of the average pretest scores of behavioral problems in children with behavior disorders based on experience in the two groups implies that average pretest scores are not different. It means that two groups are homogeneous before intervention. In post-test and follow-up stages, in the experimental group, behavioral problems based on experience in the testing group are more evident than the control group.

Table 2. Descriptive parameters of children's behavioral problems variable or in experience-based scales

Variables	Groups	Mean±SD		
		Pre-test	Post-test	Follow-up
Anxiety/ depression	Control	6.1±2.13	6.3±2.16	5.8±2.09
	Experimental	6.8±2.14	2.4±1.34	4.3±1.76
Aloofness/ depression	Control	3.7±0.94	3.6±1.17	3.6±0.84
	Experimental	4.1±1.37	1.3±0.67	2.2±0.78
Physical complaints	Control	6.1±1.66	6.1±1.52	6±1.56
	Experimental	5.9±1.59	1.7±0.67	3.4±1.50
Social problems	Control	5.6±2.54	5±2.44	5.4±2.45
	Experimental	7.1±3.38	2.8±2.44	4.4±3.27
Thinking problems	Control	5.3±1.05	5.3±1.33	5±1.15
	Experimental	6.2±2	1.6±1.26	3.2±1.68
Attention problems	Control	16.5±9.25	15.5±8.19	17±8.39
	Experimental	18±10.79	8.08±7.3	12.6±10.98
Law breaking behaviors	Control	4.9±4.04	4.7±4.16	4.7±3.88
	Experimental	5.5±3.24	1.7±1.33	3.4.31
Disruptive behavioral disorder	Control	14.2±8.43	12.7±6.83	12±8.83
	Experimental	15.0±9.56	7.14±5.7	8.9±8.74
Total	Control	58.6±31.8	55.5±28.11	55.5±30.17
	Experimental	68.4±31.96	24.5±20.22	229.16±4.2

In Table 3, the pretest scores average of the children with behavioral problems in the two groups implies that the average pretest scores are not very different. It means that two groups are homogeneous before interference. In the follow-up and the post-test stages, behavioral problems were different in the experimental and control groups.

Based on Table 4, it can conclude that play intervention program teaching based on social cognition leads to decrease behavioral problems. Therefore, the research hypothesis is confirmed (95% confidence).

As can be seen in Table 5, the F characteristic is significant. That is, with a probability of 95%, we can conclude that the variation is significant. Therefore, a play intervention program is effective base on the so-

cial cognition in children with behavioral problems in the post-test and follow-up stages.

As can be seen in Table 6, it can be concluded that a play intervention program based on social cognition leads to decrease behavioral problems in children. Therefore, the research hypothesis is confirmed (95% confidence).

As can be seen in Table 7, according to the significance of the results of the follow-up stage in the experimental group, the play intervention programs are effective based on social cognition in decreasing behavioral problems in children.

Table 3. Descriptive parameters of children's behavioral problems in DSM-based scales

Variables	Groups	Mean±SD		
		Pre-test	Post-test	Follow-up
Emotional problems	Control	4.2±0.63	3.6±1.07	31.41±4.7
	Experimental	46±1.26	6.9±16	2.9±0.87
Anxiety problems	Control	3.9±0.73	9.9±4.1	3.9±0.87
	Experimental	5.2±1.03	2±1.15	3.1±1.1
Physical problems	Control	6±0.66	5.3±1.56	5.3±1.32
	Experimental	6.1±0.87	1.3±0.48	2.9±0.567
ADHD problems	Control	9.6±4.24	8.7±5.22	9.1±4.48
	Experimental	12.1±5.72	5.2±3.82	7.7±4.59
Contrastive behavior problems	Control	4.1±2.02	3.3±2	3.7±1.76
	Experimental	5.1±1.72	1.8±1.316	3.2±1.81
Conduct problems	Control	6.2±4.21	6.5±4.27	6.2±4.34
	Experimental	7.2±4.49	2.7±2.45	4.66±4.19
Total	Control	32±10.04	31.5±10.38	31.9±9.56
	Experimental	40.3±10.92	14.6±6.56	24.4±9.94

ADHD: attention-deficit hyperactivity disorder.

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4. Discussion

As this research results showed, play therapy based on social cognition has had an effect in decreasing behavioral problems, so that the total score average of behavioral problems is decreased after therapy. These results are consistent with other therapists and researchers' results related to children's behavioral problems. For example, Aghajani et al. [19] showed that play therapy can reduce generalized anxiety disorder (GAD) in children. Zolrahim and Azmoudeh [20] showed that students in the process of cognitive-behavioral play therapy learn how to communicate well with other peers and thereby gradually reduce their aggressive behaviors and social anxiety.

Azadi et al. [21] showed that play therapy with a cognitive-behavioral approach is effective in reducing aggression in school children. All discussed research showed that play therapy based on social cognition is effective in internalizing disorders and its effect on behavioral problems and then the mental health and educational success of these students are permanent. Therefore, if these problems are continued and intensified, it causes the outbreak of behavioral problems in children, families, and society. Therefore, it seems the content of play therapy based on social cognition has a crucial effect on improving empathy and social relationship in children with internalized disorders. Empathy in these children has limitations. Besides, a therapist can concentrate on it. The logic of play therapy is relied on social interaction and improving internal potential by social interaction [19]. Based on previous research

Table 4. Summary of covariance analysis

Change Sources Indices	Squares Sum	df	Squares Mean	F	Sig.	Eta	Test Power
Pretest effect	32000	1	32000	53.348	0.0001	0.748	1
Group effect	4805	1	4805	8.011	0.011	0.308	0.763
Error	10795	18	599.833	-	-	-	-
Total	47602	20	-	-	-	-	-

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Table 5. Results of four-folded indices of F concerning the durability of social familiarity-based intervention program impact on reducing children's behavioral problems

Change Sources Indices	Squares Sum	df	Squares Mean	F	Sig.	
Time effect	Supposed Sphericity	5627.033	2	2813.517	21.081	0.0001
	Gllycerate Haws Green	5627.033	1.068	5268.767	21.081	0.0001
	Hevin-Flatt	5627.033	1.080	5211.980	21.081	0.0001
	High Band	5627.033	1.000	5627.033	21.081	0.0001
Error	Supposed Sphericity	5071.633	38	133.434		
	Gllycerate Haws Green	5071.633	20.292	249.933		
	Hevin-Flatt	5071.633	20.513	247.239		
	High Band	5071.633	19.000	266.928		

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Table 6. Summary of covariance analysis

Change Sources Indices	Squares Sum	df	Squares Mean	F	Sig.	Eta	Test Power
Pretest effect	10626.050	1	10626.050	140.753	0.000	0.887	1.000
Group effect	1428.050	1	1428.050	18.916	0.000	0.512	0.984
Error	1358.900	18	75.494				
Total	13413.000	20					

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and theoretical bases, it is worth highlighting that children with internalized disorders, such as conduct disorder, aggression, and other internal symptoms should be changed to external symptoms and the therapist can

have an effective role. Theoretically, play therapy with special emphasis on social cognition has an effective role in enhancing the theory of mind. Some researchers discussed some prior studies that highlighted social

Table 7. Results of four-folded indices of F related to repeated measurements of follow-up test concerning the durability of social familiarity-based interfering program

Change Sources Indices	Squares Sum	df	Squares Mean	F	Sig.	
Time effect	Supposed Sphericity	2038.800	2	1019.400	25.332	0.0001
	Gllycerate Haws Green	2038.800	1.08	1878.208	25.332	0.0001
	Hevin-Flatt	2038.800	1.100	1853.068	25.332	0.0001
	High Band	2038.800	1.000	2038.800	25.332	0.0001
Error	Supposed Sphericity	1529.200	38	40.242	-	-
	Gllycerate Haws Green	1529.200	20.625	74.145	-	-
	Hevin-Flatt	1529.200	20.904	73.152	-	-
	High Band	1529.200	19.000	80.484	-	-

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cognition and improving empathy [21]. However, the theory of mind in children showed that internalized disorders are related to defects of empathy and inability to other sensations. Play therapy focused on improving this ability and in some cases increasing it.

This research also had limitations like other research. No exact statistic exists about behavior disorder prevalence in respective institutes, such as welfare. Also, children's distribution in rehabilitation centers is not accomplished based on mental disorder statistics and diagnostic guides. Due to the results, it is suggested that a new presentation concerning the improvement of children's empathy skills with the internalizing disorder can decline somehow the behavioral problems of these children. Provided play therapy programs can be a pattern for respectable managers and educational planning, parents, and consultants. Also, play therapy can be applied to decreasing other groups, such as autism, deafness, and blind behavioral problems.

5. Conclusions

Our result highlighted the effect of play therapy based on social cognition in children with internalizing disorders. These results have important implications for future studies that seek to improve childhood disabilities using play therapy.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of the University of Allameh Tabataba'i. (Code: IR.Atu.REC.1399.892)

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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