

The Effectiveness of Play Therapy Based on Focusing on the Range of Attention and Impulsivity Level in Students with Attention Deficit/ Hyperactivity Disorder

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Abstract

The purpose of the study was to determine the effectiveness of attention-focused plays on the attention and impulsivity of students with attention deficit/ hyperactivity disorder (ADHD). The design of this research was quasi experimental with pre-test, post-test and control group. The statistical population consisted of all boy students with ADHD in Shahrood, at 2016-17 academic year. The participants included 24 students who were selected through purposive sampling and assigned to two experimental and control groups. The research tools were attention deficit/ hyperactivity disorder rating scale, Conner's Behavioral Problem Questionnaire, teacher versions and parent version, and the Toulouse & Piron Comet Squares. The experiment group received training in 10 sessions 50 minutes, but the control group did not receive any interventions. One way and multiple variance analysis of covariance showed that the experimental group scores significantly decreased in the impulsivity variable and the range of attention in the experimental group was significantly higher than the control group. So, play therapy through increasing sensations focus may be effective in increasing attention and decreasing impulsivity of students with ADHD.

Keywords: Attention deficit/ hyperactivity disorder, attention range, impulsivity, play therapy

Introduction

Attention Deficit/ Hyperactivity Disorder is one of the psychiatric disorders that due to its onset in childhood (Rodríguez, et al., 2014) and many undesirable consequences, have attracted the attention of families and researchers (Ramesh, et al., 2018). The main feature of ADHD is a stable pattern of inattention or impulsivity that interferes with a person's behavior (Hossein Khanzadeh, 2017) and has three subgroups with the titles of dominant type of attention deficit, dominant type of hyperactivity-impulsivity and combined type (Anastopoulos, 2018). One treatment that can help reduce the problems of children with ADHD is play therapy (Jayne & Ray, 2016). Play therapy strengthens pre-social skills and reduces problems with everyday life skills. In addition, it leads to the strengthening of behavioral and emotional skills (Mora, et al., 2018). Although, various studies have shown the effectiveness of play therapy in improving

emotional-behavioral disorders and increasing children's skills but, their interventions have not been based on concentration. Therefore, due to the high prevalence of ADHD and the existence of research evidence indicating the effect of play therapy on similar psychological variables in these children. The present study seeks to answer the question of whether play-focused therapy affects the attention span and impulsivity of students with ADHD.

Method

The present study was quasi-experimental with a pretest-posttest design with a control group. The statistical population included male students with dysfunctional / ADHD in the second year of elementary school in the academic year of 2016-2017, of which 24 were selected by purposive sampling and were divided into experimental and control groups, with 12 people per group. Inclusion criteria included people's satisfaction and lack of additional disabilities such as physical disabilities, exit criteria and absence for more than two sessions in training sessions. The experimental group also received 10 sessions of 50-minute training, while the control group did not receive any type of intervention. The following questionnaires were used to collect information:

Attention Deficit / Hyperactivity Disorder Rating Scale: This scale was developed by the American Psychiatric Association (2013) to rank ADHD, which consists of 18 items in a 4-point Likert scale ranging from 0 to 54. The validity coefficient of this scale was 0.92 by Cronbach's alpha method.

Connors Parent Questionnaire: This questionnaire was developed by Connors (1970) to assess parental feedback. It has 48 items and scores on a 4-point Likert scale. The reliability coefficient of the retest is 0.58 and the Cronbach's alpha coefficient is 0.73.

Connors Teacher Questionnaire: This questionnaire was developed by Connors (1999) to diagnose children with ADHD which includes 38 items scored in a four-point scale. The retest reliability coefficient of this scale during one month to one year ranged from 0.72 to 0.92 and Cronbach's alpha coefficient was 0.93, with the validity between teachers' scoring was 0.70.

Toulouse & Piron squares test: This test was developed by Henry Piron (1986) and revised by Toulouse and Toulouse & Piron. This test is used to measure the selective and voluntary attention of individuals. The validity of this test was 0.75 using Cronbach's alpha and 0.81 using split halving and its validity was 0.81 using simultaneous execution with Wechsler memory test.

Findings

In Table 1, descriptive indicators of research variables in pre-test and post-test are reported separately for groups. Also, to evaluate the assumption of homogeneity of variance of attention score in the experimental and control groups, Levin test was used and it was observed that the

attention score in the experimental and control groups was not significant. Therefore, it can be concluded that the variance of the attention span variable in the groups is homogeneous.

Table 1: Descriptive indicators of research variables by experimental and control groups
 (N = 24)

Variable	Condition	Group	Mean	standard deviation
Attention score	Pre-test	Experiment	37.67	5.72
		Control	37.17	5.45
	Post-test	Experiment	48.75	4.41
		Control	38.17	4.23
Level of impulsivity (response teacher)	Pre-test	Experiment	61	2.52
		Control	61	2.52
	Post-test	Experiment	51.50	4.52
		Control	60.75	3.31
Level of impulsivity (parent-response)	Pre-test	Experiment	49.83	4.36
		Control	50.25	4.01
	Post-test	Experiment	41.67	5.15
		Control	50.50	4.48

The result of Table 2 shows that there is a significant difference between the two groups in the amount of attention, the effect size of 0.83 shows that this difference is large and significant in society. Examination of the assumption of homogeneity of regression slope of pre-test and post-test of impulsivity (teacher-response) in the experimental and control groups showed that the regression slope of pre-test and post-test of impulsivity (teacher-response) in the two groups of experimental and control means is not ($p > 0.05$, $F=1.04$). Therefore, it can be concluded that the regression slope of pre-test and post-test are equal in the groups.

Table 2: Results of one-way analysis of covariance of experimental and control group differences in attention

Source	Squares sum	Df	Squares mean	F	sig	Effect size
Pre-test	287.25	1	287.25	48.39	0.001	0.69
Group	630.27	1	630.27	106.17	0.001	0.83
membership	124.66	21	5.93			
Error						

Table 3 shows the final estimated mean of impulsivity (parents-response) indicating that the mean of the experimental group in impulsivity is significantly lower than the mean of the control group.

Table 3: Final estimated mean averages of impulsivity (response parent and response teacher) in groups

	Group	Mean	Difference in mean	Standard error	Sig
Parents answer	Experiment	41.88	-8.39	0.86	0.001
	Control	50.28			
Teacher Answer	Experiment	51.50	-9.25	1.15	0.001
	Control	60.75			

Conclusion

The present study was designed and conducted to evaluate the effectiveness of focused play therapy on focus on attention span and impulsivity in students with attention deficit. hyperactivity disorder. The results showed that play-focused therapy focused on increasing the range of attention in students with attention deficit. hyperactivity disorder. Another finding of the study showed that play therapy focused on mindfulness was effective in increasing attention span and reducing impulsivity in students with attention deficit. hyperactivity disorder by increasing mindfulness. Due to the time limit in this study, the follow-up test was not used. Lack of control over the socio-economic status of the sample family, lack of control over some disturbing variables such as the type and severity of the disorder were other limitations of this study. It is suggested that in future research, the social and economic status of the subjects and follow-up periods be considered. In future research, in order to increase speed and accuracy, if possible, research samples should be collected from psychiatric clinics instead of schools. Due to the confirmation of the effectiveness of play therapy, medical and educational centers, especially schools, teachers and therapists can use these games to treat and educate these people.

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