

A REVIEW: DETERMINATION OF THE EFFECTIVENESS OF SANDPLAY THERAPY IN THE DEVELOPMENT OF SOCIAL SKILLS AND REDUCTION OF AGGRESSION IN CHILDREN UNDER THE AGE OF 6 IN THE CITY OF BANDARABBAS

Razieh Zarei¹, Mahin Askari*²

- 1. Student in Clinical Psychology, Bandar Abbas Branch ,Islamic Azad University, Bandar Abbas, Iran**
- 2. Assistant Professor of psychology, Hormozgan University of Medical Sciences, Bandar Abbas, Iran**

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ABSTRACT

The present study aims to determine the effectiveness of Sandplay Therapy in the development of social skills and reduction of aggression in children under the age of 6 in the city of Bandarabbas. This is a quasi-experimental study with control group. 30 children under the age of 6 were selected using available sampling method. The training program of sandplay was implemented on the experimental group during ten one-hour sessions. Applied tools in the present study were Children's Social Skills Questionnaire of Gresham and Elliott, parents' form and Children's aggression scale. Collected data were analysed using statistical method of analysis of covariance (ANCOVA). The results showed that sandplay training increased the average rating of social skills of experimental group in post-test. Also sandplay training reduced the average rating of behavioural problems and total score of aggression in experimental group. This means that sandplay training has significantly led to the increase of social skills and the reduction of behavioural problems and aggression rating in children under the age of 6 in the city of Bandarabbas in Iran. In a general conclusion, it can be said that sandplay therapy has an important impact on the reduction of aggression in children. Therefore, it is necessary to pay attention to this issue in behavioural interventions for children.

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Introduction

Aggression has a special organization of arising as a defensive activity in humans [1]. Aggression is activated by biochemical and hormonal changes. Social factors can change and give direction to aggression and this can be accompanied with suprematism in individuals and be useful for them [2]. Despite its tangibility, the concept of aggression is considered as a relatively difficult concept. In fact, there is not too much consensus on the definition of the concept of aggression [3-5]. Thus, evaluation and treatment of aggression in children is quite different than in adults. The most common method in the investigation of children's problems is the game and play. Aggression is not related to a certain age or period of time. As it has been shown in various studies, aggression and violence exist from a young age and it continues during the time, in adolescence and during adulthood [6]. To treat the problems of children, it is not possible to use the same method of consultation with adults. Method of consultation with children requires more attention and skills. One of the methods used for the treatment of behavioural disorders in children is play therapy. Play therapy correlates children's inner thoughts with the outside world and helps children to bring under control foreign objects. Play therapy allows children to demonstrate

Corresponding Author: Mahin Askari, Assistant Professor of psychology, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

experiences, thoughts, emotions and tendencies that are threatening to them [7-9]. Among therapeutic games, sandplay therapy is a non-verbal technique in which children express their conflicts, desires and emotions by making their world in a sand tray [10]. Children have great fun of games and plays that are done with materials such as sand, wet clay, pottery clay, water, play-Doh etc. [11-13]. Both Freud and Klein emphasized on the importance of the past and self-strengthening and both of them believed that game is a natural environment and a way in which children can express themselves freely. Klein emphasized on the interpretation of the unconscious and subconscious meanings of child's play [8]. Sandplay therapy increases also social skills. When children are working together, they face real problems. In this case, cooperation and orientation help them. A group may be faced with a difficult play like digging tunnels and creating a zoo. When children see the collaboration in the play, they learn required social skills.

In a review of research background, Var-Williams showed that sandplay therapy in children could facilitate the communication between them. On the other hand, sandplay therapy reduces impulsive behaviour. Suadson [15] investigated the impact of play therapy on children with attention deficit hyperactivity disorder (ADHD). Obtained findings indicated the decrease of impulsive behaviours and the enhancement of self-esteem. Studies show that nonverbal expression of feelings and actions has a faster effect than using words and can be activated through sensory interventions. Vin rib [16] shows that emotional and social problems and aggression in early childhood can lead to the development of antisocial behaviours such as misbehaviour, abuse in school and violence in adolescence. In order to help preschoolers to solve their problems, dolls were used in a preschool in Portland. These dolls were Dina and Molly. Dina is a Dinosaur and Molly is a child in a size of a doll. Molly is shy and sensitive and has a quiet voice. Dina is intelligent and wise and works as a gentle expert. The researcher found out that children learned the expression of emotions, perspective of others, solving problems, finding friends and doing better things by these dolls in school and they practice their skills and competencies by training dolls.

According to all the above-mentioned, conducting such a study is essential and important. On the other side, the findings of the present study will greatly help the therapists of children and adolescents. Finally, doing such studies will help researchers and research institutions to choose a more applied research topic according to the culture and gender. In overall, the findings of this research confirmed the fact that few studies have been done concerning the impact of sandplay therapy on the reduction of aggression in children. Therefore, this lack in this domain of research encouraged the researcher to conduct such a study. So generally, the objective of this study is to explore the effect of sandplay therapy on the development of social skills and reduction of aggression in children under the age of 6 in the city of Bandarabbas in Iran.

Research method

Research design: The present research is a quasi-experimental study. Research design consists of pre-test and post-test with control group that includes two groups; each of these two groups were evaluated two times. Implementation of a pre-test did the first measurement and the second measurement was conducted after applying the independent variable in the experimental group with a post-test in both experimental and control groups.

Subjects: Surveyed statistical population consists of all children under the age of 6 in the city of Bandarabbas that were present during the year 1394 (March 2015-March 2016) in kindergartens of the city of Bandarabbas. Sampling was done using available method. Since the present study is quasi-experimental (pre-test & post-test) with control group, for determining sample size, by considering the acceptable level of error in results (0.05), statistical power (0.08) and effect size (0.05), 15 samples were selected for each group. Basically, there exist different points of view concerning the determination of sample size in experimental studies. Some experts believe that the number of 15 will suffice as sample size for each group in experimental studies [17]. Given that available method is used for selecting samples, so for this purpose, two kindergartens were randomly selected among the kindergartens under the supervision of welfare organization of Iran. Then, 30 children of these kindergartens were selected and were divided randomly into two groups of 15 children. One of these groups was considered as experimental group and the other one was considered as control group; and then the experimental group was under the test of sandplay therapy. Firstly, one of these groups was randomly selected as the experimental group and the other one was selected as control group and pre-test that was designed by children's parents was implemented on both groups. The experimental group was under sandplay therapy during nine one-hour sessions and the other group was considered as control group. After this period of the intervention of sandplay, the parents of two groups responded again to research questionnaires about their children.

Tools

1. Children's social skills questionnaire, parents' form: Based on the findings of Grashem and Elliott (1990), this questionnaire contains two forms of scale special for teachers and parents. Each form includes two principal parts of social skills and behavioural problems. Parents' form contains 39 items about social skills and 10 items in the field of behavioural problems. Teachers' form contains 30 items about social skills and 10 items in the field of behavioural problems. Each item has three-point answers with the options of "never", "sometimes" and "often". In addition to the evaluation of behavioural problems that prevent the children from developing social skills, this questionnaire helps the researcher in terms of planning and future interventions [18]. In Iran, the results of factor analysis of Shahim [18] show that this questionnaire is of acceptable validity. In this study, test-retest reliabilities [19] for 35 children during a period of 4-5 weeks in parents' and teachers' forms were respectively 0.70 and 0.71 and regarding behavioural problems in parents' and teachers' forms, reliabilities were respectively 0.56 and 0.79. Testing the internal consistency of questionnaire has been done using Cronbach's alpha method and its amount was 0.83.

2. Children's aggression scale: This scale is a questionnaire including 42 questions with Likert rating for evaluating physical aggression and verbal-reactive interfaces in children under the age of 6. This questionnaire was designed for the first time in 2008 by Vahedi et al. [20] using the questionnaire of school children's aggression of Shahim and aggression questionnaire of Ahvaz in order to assess different dimensions of aggression in preschool children. In the present research, according to the objective of study, three first subscales were used. This questionnaire is in a 5-point Likert scale; the score of each subscale is in fact the total score of all questions of this subscale and the score of all subscales calculates the total score of questionnaire. Research findings of Vahedi et al. [20] show that Cronbach's alpha coefficient in the total score of aggression questionnaire is 0.98. Factor analysis of this scale provided four factors of verbal aggression, physical aggression, relational aggression and impulsive aggression by using principal factors and after Varimax rotation. These factors confirm the validity of scale [20]. Testing the internal consistency of questionnaire was done by Cronbach's alpha method and Cronbach's alpha coefficient of this study is 0.83.

Findings of research

Descriptive analysis

The mean and standard deviation of the questionnaire of social skills and aggression in children, parents' form in research groups in pre-test and post-test are shown in (table 1).

Table 1: Mean and standard deviation of social skills and behavioural problems and the total score of aggression in research groups, pre-test and post-test

Dimensions	Test	Experimental group		Control group	
		Mean	Standard deviation	Mean	Standard deviation
Social skills	Pre-test	20.13	4.82	18.73	5.25
	Post-test	42.60	5.42	19.60	5.38
Behavioural problems	Pre-test	13.73	2.46	12.26	90.1
	Post-test	8.80	1.42	12	1.46
Total score of aggression	Pre-test	52.40	7.35	50.80	6.12
	Post-test	38.06	4.25	49.80	6.48

As it can be seen in table, the average score of social skills in experimental group in pre-test is (20.13) and this amount in post-test is (42.60). The average score of behavioural problems in experimental group in pre-test is (13.73) and this amount

in post-test is (8.80). The average score of aggression in experimental group in pre-test is (52.40) and this amount in post-test is (38.06).

Inferential analysis

One of the basic assumptions of analysis of covariance (ANCOVA) is "equal variances" and its results can be seen in table (2) for all dimensions of social skills questionnaire and the dimension of behavioural problems and total score of aggression. Also in(table 2), adjusted averages in dependent variable for each group are shown.

Table 2: Adjusted scores of groups and Levene's test results about the basic consumption of "equal variances" in two groups.

Scales	Groups	Mean	Standard deviation error	F test	First degree of freedom (numerator)	First degree of freedom (denominator)	Significance level
Social skills	Experimental	42.04	0.96	2.68	1	28	0.113
	Control	20.15	0.96				
Behavioural problems	Experimental	8.70	0.38	0.027	1	28	0.87
	Control	12.09	0.38				
Total score of aggression	Experimental	37.69	1.18	0.235	1	28	0.632
	Control	50.17	1.18				

As it can be seen in (table 2), significance level of all dimensions is more than 0.5 and this shows that the basic assumption of equal variances in two experimental and control groups is approved. Also, the average score of social skills in experimental group in 42.04 and in control group is 20.15. Other results are also shown in table.

First hypothesis: Sandplay Therapy is effective on the increase of social skills in children under the age of 6 in the city of Bandarabbas. For testing this hypothesis, univariate analysis of covariance was used. The results can be seen in table (3).

Table 3: Analysis of covariance of social skills score in post-test in two groups

Source	Sum of squares	Degree of freedom	Mean square	F	Significance level	ETA
Pre-test	446.66	1	446.66	32.57	0.001	0.54
Group membership	3521.69	1	3521.69	256.61	0.001	0.90
Error	370.53	27	13.72	-	-	-
Corrected total	4784.70	29	-	-	-	-

According to obtained results from (table 3), it can be concluded that sandplay therapy increased the score of social skills in post-test. The results of ANCOVA show that there is a significant difference between groups in the level (0.001) and this means that sandplay therapy increased the average score of social skills in post-test.

Second hypothesis: Sandplay Therapy is effective on the reduction of behavioural problems in children under the age of 6 in the city of Bandarabbas. For testing this hypothesis, univariate analysis of covariance was used. The results can be seen in (table 4).

Table 4: Analysis of covariance of behavioural problems score in post-test in two groups

Source	Sum of squares	Degree of freedom	Mean square	F	Significance level	ETA
Pre-test	2.43	1	2.43	1.17	0.28	0.04
Group membership	77.33	1	77.33	37.31	0.001	0.58
Error	55.69	27	2.07	-	-	-
Corrected total	135.20	29	-	-	-	-

According to obtained results from (table 4), it can be concluded that sandplay therapy reduced the score of behavioural problems in post-test. The results of ANCOVA show that there is a significant difference between groups in the level (0.001) and this means that sandplay therapy reduced the average score of behavioural problems in post-test.

Third hypothesis: Sandplay Therapy is effective on the reduction of aggression in children under the age of 6 in the city of Bandarabbas. For testing this hypothesis, univariate analysis of covariance was used. The results can be seen in (table 5).

Table 5: Analysis of covariance of aggression score in post-test in two groups

Source	Sum of squares	Degree of freedom	Mean square	F	Significance level	ETA
Pre-test	278.01	1	278.01	13.32	0.001	0.33
Group membership	1150.60	1	1150.60	55.14	0.001	0.67
Error	563.32	27	20.56	-	-	-
Corrected total	1837.86	29	-	-	-	-

According to obtained results from(table 5), it can be concluded that sandplay therapy reduced the score of aggression in post-test. The results of ANCOVA show that there is a significant difference between groups in the level (0.001) and this means that sandplay therapy reduced the average score of aggression in post-test.

Discussion and conclusion

The results of ANCOVA of the 1st hypothesis showed that sandplay therapy has a significant effect on the increase of social skills score. Obtained results in the domain of the improvement of social skills are consistent with the results of previous studies (21,22). Since play therapy sessions are held in groups, children have a lot of interactions for doing their homework during the game. Getting guidance, moving, giving and taking different things to each other give more recognition to children about themselves. Being in the group of play therapy leads to the reduction of stress and this reduction facilitates their interaction with others. According to the above-mentioned, during play therapy, especially sandplay therapy, it can be expected that social skills of children improve. Booyk and Goodwin [23] mentioned this point that both methods of drawing with sand

and sandplay are health conditions that activate the psychic energy and make possible the transition from one state of mind to another state. Sandplay therapy is founded based on the theories of Yong. He says: An emotional experience that is not expressed and perceived by cognitive words can be defined by taking visual form to itself. In this world, the use of sand, water, objects or hands create something extraordinary and what happens unconsciously in the mind of a person is transferred to his creator hands.

The results of ANCOVA of 2nd hypothesis show that there is a significant difference in groups in the level (0.001) and this means that sandplay therapy reduced the average score of behavioural problems in children in post-test. The results of the present study are consistent with the results of previous studies [13,24]. Sandplay therapy draws the attention to inner world and emotional needs and allows the mind to recover repressed memories of the past. In other words, non-verbal and symbolic components of sandplay lead to gaining insight into problems and the creation of spontaneous and positive changes in unconscious [13]. Another explanation of this issue is that child explores and does experiments during the play. He discovers how to deal with the world around and how to be familiar with techniques of life, skills and symbolic processes. When the child has self-confidence and self-esteem, he gets prepared to learn other skills and accept less admitted patterns [25].

The results of ANOVA of 3rd hypothesis show that there is a significant difference between groups in the level (0.01) and this means that sandplay therapy reduce the average score of aggression in children in post-test. These results are consistent with the results of the studies [26-28]. Different studies show that emotional and social problems in early childhood can lead to the development of antisocial behaviours like misbehaviour, abuse in school and violence in adolescence. And play therapy is one of the most important and efficient ways to help children. In order to help preschoolers to solve their problems, sandplay therapy was practiced in a preschool in Portland. The researcher found out that children learned the expression of emotions, perspective of others, solving problems, finding friends and doing better things by sandplay and enhanced their skills through this play.

One of the most important challenges and restrictions of this study is the limited sample of children under the age of 6. Also, since the present study in quasi-experimental, so we should be prudent in generalizing the results to all children. According to challenges and restrictions of this study, it is recommended that sandplay therapy be compared with other therapies in the field of the improvement of social skills and reduction of aggression in order to determine the effectiveness of each therapy. It is also suggested that the effectiveness of sandplay therapy on social skills and aggression be investigated by using single subject designs. And It is also recommended that workshops about sandplay therapy and its therapeutic effects be held for parents and also teachers of kindergartens and schools.

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