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THE IMPACT OF SAND PLAY ON SOCIAL AND EMOTIONAL DEVELOPMENT OF CHILDREN

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Abstract

Sand play therapy is a non-verbal, expressive projective therapeutical approach based on Jung's principles. It was accepted as a counseling technique used partially in schools, being observed that sandplay can facilitate the development of physical, social, and academic skills. The study conducted on a lot of 20 preschool children (N=20) aims to measure the size of the effect that the Sand Play Workshop had on the development of social and emotional skills of the preschool children involved in the study. The data obtained indicates significant results both in the development of social skills (prosocial behavior, the interaction with the adults, and the interaction with children of the same age) and, the emotional skills (emotional regulation, and expressing and recognizing emotions). The Sand Play Workshops are inspired by the SandPlay Therapy principles, adapted to the educational settings, based on individual and small groups activities. The data obtained confirm the working hypothesis, therefore the sandplay workshops had an impact upon the stimulation of the preschoolers' social and emotional development, the results being similar to other recent researches.

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1. Introduction

Sand Play Therapy was developed by Dora Kalff, being inspired by Margaret Lowenfeld's (1979) "The World Technique", the first to use sand play as a therapeutic instrument. Margaret Lowenfeld was influenced by the psychoanalytical practice of Carl G. Jung.

Lowenfeld was also inspired by the book *Floor Games* written by Wells (1911; 2016). The author describes what was happening while her was playing with his children, on the floor, with cubes and small toys. The degree of children's involvement and creativity during these games determined Lowenfeld to equip her office with all sorts of small toys, miniatures and, artisanal, natural objects, with the help of which children could invent very different and creative scenarios. The sandbox appeared several months later. Lowenfeld wrote that this technique was developed by the children themselves, the purpose of this technique being to develop an instrument with the help of which the patient can manifest his emotional and mental state, without the need for the intervention of an adult to use transfer and countertransference (Lowenfeld, 1979; Zoja, 2013). Lowenfeld thought that it is more important to observe the final product and the work done with it than interpretation of the child's experience from the point of view of some theories that are used with adults.

About the same period, Melanie Klein started to use small objects in her therapy sessions with children but her approach was different from Lowenfeld's. She adapted Lowenfeld's technique, describing the processes she observed in the sand using a psychoanalytical approach deciding to transform it into a Jungian therapy method. She received Jung's very own approval. So, the new therapy form developed by Dora Kalff it is known as Sand Play and it was described for the first time in 1966.

Therefore, Sand play therapy is a non-verbal, expressive projective therapeutical approach based on Jung's principles, in which two sand trays are used one with wet sand and one with dry sand) and a collection of small toys and miniatures displayed on shelves at the clients reach. The miniatures represent aspects of the real world but also of fantasy world. The clients are invited to create a 3D static or dynamic picture representing their inner or utter world accessing their unconscious through the use of symbols (Allen, 2018). Although there are different opinions regarding the steps of a sand play therapy session, some of the therapists think that the sand tray should be visualized holistically rather than be divided into sections and categories (Yeh et al., 2015). In the educational approaches, the photos of the sand tray can be discussed with the child. It is believed that this kind of collaborative revision brings a new level of awareness when the experience of sand play is combined with cognitive awareness (Mitchell & Friedman, 1994).

Sand Play Workshops, as a social and emotional development program, is based on the very inclination of preschool children creatively express inner feelings, on the therapeutical and social function of play, on children's fascination for playing with sand and small toys but also on the interrelationship which exists between motricity, cognition and social and affective aspects of life.

2. Problem Statement

Sand Play Therapy was adapted to the educational context by Kristin Unnsteinsdottir (Islanda), psychotherapist and Sandplay therapist at Resource Center Ártúnsskóli from Reykjavík. Using this

therapy technique she initiated a recovery program for the primary school children who were having different learning, emotional, and behavior difficulties, her observations being included in her doctoral thesis (Pura & Bocoş, 2020). In her paper Sandtray Play in Education: A Teacher's Guide, elaborated with Unnsteinsdóttir and Turner (2016), the authors suggest a holistic approach to child's education through bringing the natural environment into the classroom (Unnsteinsdóttir & Turner, 2016).

Sandplay was accepted as a counseling technique used partially in schools, being observed that sandplay can facilitate the development of physical, social, and academic skills (Mitchell & Friedman, 1994). The studies that confirm these findings became more numerous. Thereby Noyes (1981) reported that experiencing sandplay determined the improvement of social relationships and conflict management skills, self-esteem development, and literacy skills. These therapy techniques were proven useful in the case of cognitive and emotional development of the children. Russo et al. (2006) found the benefits of sand play therapy regarding academic and behavioral processes. After data analysis, it was observed that in the case of 5-8 years old children it is remarked a faster transition from the preoperative operational thinking to concrete thinking, while in the case of the teenagers with the age between 12 and 18 years old it was remarked a faster transition from the concrete thinking to the abstract thinking (Russo et al., 2006). Yeh et al. (2015), who had 32 students involved in their research, also found that Sand Play therapy sessions had a positive impact on the students' academic performance (in Maths and English) and behavior.

In a recent study on 30 adolescents, Kim and Jang (2020) found that in the case of the 16 adolescents included in the experimental group it was identified an improvement of self-acceptance, self-efficacy, and empathy (cognitive empathy, emotional empathy, and social empathy) in contrast with the control group.

The positive effects of sand play therapy were observed also in a study made by Sun et al. (2019). The data obtained from the study on 24 students indicated that sand play therapy contributed to reducing anger, developing self-control, and improvement of interpersonal relationships.

Sandplay therapy was used with special needs children also. According to Lu et al. (2010), sand play therapy helped children with autism spectrum disorders to develop expressive language, social interactions and adopting symbolic and spontaneous play.

Shen and Armstrong, (2008) used group sand play therapy with young adolescent girls to facilitate the development of a positive self-image and to raise the level of self-esteem.

3. Research Questions

What is the impact of the sand play workshops upon the development of the social and emotional skills in the case of preschool children?

4. Purpose of the Study

To establish the impact of the sand play workshops upon the development of the main social and emotional skills in the case of preschool children.

5. Research Methods

5.1. Participants

The group of the participants consists of 20 children between 3, 8 years old and 4, 3 years old, with an average age of 3, 11 years old, 12 girls and 8 boys, with physic and intellectual development according to their age. Participation in the study was voluntary and with the consent of the children's legal representatives.

5.2. Measurement Tools

To measure the dependent variables, respectively the social and emotional skills of the preschoolers, the study used the Behavioral Observation Scale/Grid proposed by The Early Childhood Education Curriculum (MEN, 2017).

The Grid includes 35 items organized into two main scales: social development and emotional development.

The Grid of social development is organized into 4 subscales: the interaction with the adults (8 items); peer interaction (5 items); acceptance and respect for diversity (4 items); prosocial behaviors (6 items).

The Grid of emotional development is organized into 3 subscales: experimenting and expressing emotions (3 items); understanding and emotion recognition (7 items); emotion regulation (3 items).

The observed behaviors are measured on the Likert scale with 5 values as follows: Very rarely – 1pt; rarely – 2pt.; sufficient – 3pt.; often – 4pt.; very often – 5pt., the scoring limits being: the development of the social skills minim 24pt. – maximum 120pt. and the development of the emotional skills minimum 11pt. – maximum 55 pt.

5.3. Research Procedure

The research has an experimental design. Research data was collected through the behavioral grid based on systematic observation in the pre (T1) and post-experimental stages (T2) during two weeks for each stage. The experimental stage consisted of the introduction of the dependent variable, which is Sand play Workshops. The workshops took place over 16 weeks, each workshop with a duration of 40 min (Kaduson & Schaefer, 2020). The activities unfolded in three modules (Table 1).

Module I (M I) – individual activities, focused on the relationship child-adult, two sessions

Module II (M II) – two by two activities, focused on the relation child – child, 2 sessions

Module III (M III) – group activities, focused on the relationship child – group of children, 8 sessions

The groups had different children every two group sessions to create a favorable context for group cohesion.

5.4. The Sand Play Workshop

Table 1. The content of the Sand Play Workshop

Week	Theme	Objectives	Materials
W1	Me and my family (free play)	O1-to focus on the relationship child - adult O2-to encourage metaphorical communication O3-to obs. the way the child sees himself in his family O4-to expose the rules of using the play materials	-water -sand miniatures
W2	The friendship umbrella (guided play)	O1-to focus on the relationship child - adult O2-to encourage metaphorical communication O3-to obs. the way the child sees himself in a group O4-to discuss the individual differences O5-to respect the play rules	-water -sand miniatures
W3	The friendship umbrella (guided play)	O1- two by two activities, focused on the relation child O2- to encourage metaphorical communication O3- to discuss what does friendship mean O4- to discuss the individual differences (physical, interests)	-water -sand -miniatures -storybook
W4	A mountain of friends (guided play)	O1- two by two activities, focused on the relation child O2- to encourage metaphorical communication O3- to discuss what does friendship mean O4- to discuss the individual differences (emotions)	-water -sand -miniatures -storybook
W5	The mouse and his secrets (free play)	O1- small group activities, focused on the relationship child – group of children O2-- to encourage metaphorical communication O3- to encourage children to talk about themselves	-water -sand miniatures
W6	My town (free play)	O1- small group activities, focused on the relationship child – group of children O2-positive/negative behaviors O3-to encourage children to accept and respect diversity	-water -sand -miniatures
W7	I am unique (free play)	O1-to encourage cooperation O2- to discuss the individual differences between children(emotions, interests, physical appearance) O3-to obs. the way children share toys	-water -sand -miniature
W8	What do we celebrate (free play)	O1- to encourage cooperation O2-to remark positive behaviors to him/her self and others O3-creating a story in the sand to picture a positive behavior	-water -sand -miniatures
W9	Garbage bag technique (guided play)	O1-to encourage self-talking O2- awareness, with help, of things that bother them O3-support in finding solutions to the problems mentioned O4-development of empathy	water,sand,miniatures, - teachers book „101 play therapy techniques”
W10	The Garden with emotions Fear (guided play)	O1-to recognize the facial expression associated with fear O2-to discuss situations in which children were afraid O3-to picture in the sand the emotion of fear, related to the story they heard O4-to develop empathy	-storybook -water -sand -miniatures
W11	, Super Me” (guided play)	O1-to discuss what happens in the body when we experience fear, how does this feel O2- to recognize the facial expression associated with fear	-water, sand, miniatures -teachers book, 101

	play)	O3-to talk about emotion regulation techniques O4-to encourage shy children	play therapy techniques”
W12	The Garden with emotions Anger (guided play)	O1- to recognize the facial expression associated with anger O2- to discuss situations when children were angry O3- to picture in the sand the emotion of anger, related to the story they heard	-storybook -water, -sand -miniatures
W13	The angry hedgehog (Guided play)	O1- to recognize the facial expression associated with anger O2-to identify negative behaviors associated with anger from the story the heard O3- to talk about emotion regulation techniques	-storybook -water, -sand -miniatures
W14	The Garden with emotions Sadness (guided play)	O1-to recognize the facial expression associated with sadness O2- to discuss situations in which children were sad O3- draw in the sand the emotion of sadness, related to the story they heard O4- to develop empathy	-storybook -water, -sand -miniatures
W15	The Garden with emotions Happiness (guided play)	O1- to recognize the facial expression associated with happiness O2-to discuss situations in which children were happy O3- to picture in the sand the emotion of happiness, related to the story they heard	-storybook -water -sand -miniatures
W16	I am a rainbow of emotions (guided play)	O1-to discuss what happens in the body when we experience different emotions, how does each emotion feel O2-to talk about emotion regulation techniques O3-to picture the story in the sand	therapeutical story - coloured sand - water

6. Findings

Table 2. Descriptive statistics for the variables measured

Experimental Phase	Interaction with adults	Interaction with peers	Acceptance and respect fir diversity	Prosocial behaviors	Emotional expression	Understanding and emotion recognition	Emotion regulation
N	20	20	20	20	20	20	20
Mean	20,30	11,50	13,70	16,40	6,80	18,25	7,15
Median	20,50	11,50	12	16	6,50	19	7
Std. deviation	3,88	2,56	9,42	3,06	1,10	2,97	,93
Minimum	13	7	8	10	5	10	6
Maximum	28	17	53	24	9	21	9
% of total	43,6%	42,5%	48,3%	43,4%	43,3%	41.1%	43,2%

	Sum							
	% of total N	50,0%	50,0%	50,0%	50,0%	50,0%	50,0%	50,0%
	N	20	20	20	20	20	20	20
	Mean	26,30	15,55	14,65	21,35	8,90	26,15	9,4
	Median	27,5	15,5	15	22	9	21	9
	Std. deviation	3,13	1,93	1,03	2,10	1,33	11,27	,82
Post-test	Minimum	19	12	13	18	7	19	8
	Maximum	30	20	16	24	13	73	12
	% of total Sum	56,4%	57,5%	51,7%	56,6%	56,7%	58,9%	56,8%
	% of total N	50,0%	50,0%	50,0%	50,0%	50,0%	50,0%	50,0%

Analyzing the data from the first table (see table 2), the results show that significant differences exist between the measured variables in the two experimental conditions –pre and post-test.

Thereby, after the preschooler's evaluation in the pre-test, these have difficulties in the following area: emotional expressions (M=6,80), emotion regulation (M=7,15), interaction with peers (M=11,50), acceptance, and respect for diversity (M=13,70), and understanding and emotion recognition (M=18,25). Instead, following the reevaluation that took place immediately after the end of the educational program, the preschoolers registered improvements in the following areas: interaction with peers (M=15,55), expressing emotions (M=8,90), understanding and emotions recognition (M=26,15), and emotion regulation (M=9,4).

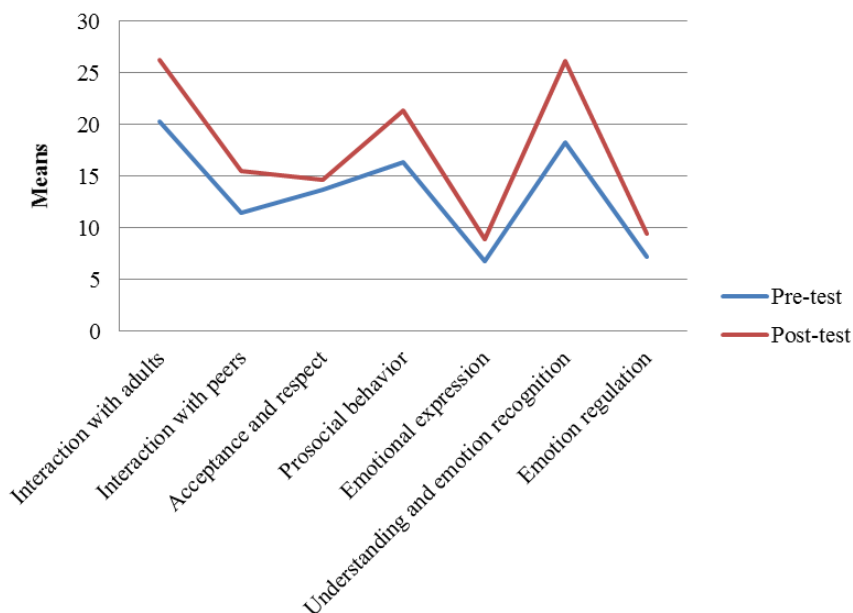


Figure 1. Graphical representation of the results obtained in the two experimental conditions

According to the data presented in Figure 1, significant changes are found in the social and emotional development of the preschoolers between the two experimental conditions T1 and T2 (pre and post-experimental). Thus the preschoolers manage to improve interaction with adults (T1-M=20.5, SD=3.85; T2-M=26.3, SD=3,13) (have sustained visual contact with an adult while interacting, use polite language, ask questions, answer questions, ask for help when needed, signal problematic situations, offer help when needed, follow instructions) and interactions with peers (T1- M=11.55 SD=2.56; T2-M=15.55, SD=1.93) (initiate positive contact with their peers, share different objects, ask for help from their peers, offer help to their peers, they play in small groups). Improvements were registered also in prosocial behaviors (T1- M=15.95, SD=3.85 T2 – M=21.4, SD=2.16) (following simple rules without adult intervention, recognize positive behaviors in others and their self, cooperating during playing and searching for efficient conflict resolution techniques).

Significant improvements are found also regarding the social skills development on all the three examined subscale: expressing emotions (T1- M=6.75, SD=1.11; T2- M=8.95, SD=1.31) (emotional awareness, proper expressing of emotions, showing empathy for others by gestures), understanding and emotion recognition (T1 – M=18.2, SD=2.98; T2- M=20.3, SD=1.65) (naming/labelling basic emotions, recognizing his/her facial expressions of the basic emotions as well as for others, identification of the consequences of expressing emotions).

Significant improvements are also registered in the development of emotion regulation (T1- M=7.15, SD=.93; T2- M=9.45, SD=.82) (using efficient self-regulation strategies, improved tolerance for frustrating situations, waiting to be paid attention).

Table 3. Paired Samples t test Results

Outcome	Pre-test		Post-test		n	95% CI for Mean Difference	t	df	d
	M	SD	M	SD					
Interaction with adults	20.5	3.85	26.3	3.13	20	-7.99; -3.6	5.52*	19	.78
Interaction with peers	11.55	2.56	15.55	1.93	20	-5.06; -2.9	7.87*	19	.55
Acceptance and respect for diversity	11.75	2.12	21.4	3.18	20	-24.65; 4.95	1.4	19	-
Prosocial behaviors	15.95	3.85	21.4	2.16	20	-7.23; -3.67	6.40*	19	.68
Emotional expression	6.75	1.11	8.95	1.31	20	-2.96; -1.43	6*	19	.72
Understanding and emotion recognition	18.2	2.98	20.3	1.65	20	-13.15; -3.04	3.35**	19	1.3
Emotion regulation	7.15	.93	9.45	.82	20	-2.87; -1.7	8.44*	29	.51

Analyzing the data from table 3, significant differences are noted, from a statistical point of view, between the two conditions pretest-post regarding the skills from the social and emotional domain. Therefore, following the calculation of the test t for pair samples, it was obtained a: $t_{(19)} = 5.52$, $p=0.00$ for interaction with adults; a $t_{(19)} = 7.87$, $p=0.00$ for interaction with peers; $t_{(19)} = 6.40$, $p=0.00$ for prosocial behaviours; ; $t_{(19)} = 6$, $p=0.00$ emotional expression; $t_{(19)} = 3.35$, $p=0.03$ for understanding and emotion recognition and a $t_{(19)} = 8.44$, $p=0.00$ for emotion regulation. Calculating the size effect for each pair, the strongest effect of the suggested program was on: understanding and emotion recognition ($d=1.3$), interaction with adults ($d=.78$) and emotional expression ($d=.72$).

7. Conclusion

7.1. Final conclusions

The present study intended to investigate the size effect of the program Sand play workshop had upon the preschooler's social and emotional development.

Based on the results obtained, there is a significant improvement of the social and emotional skills on six of the seven analyzed subscales. Sand play facilitated a significant development of prosocial behaviors, interaction with adults, and peer interaction. There were no significant differences regarding acceptance and respect for diversity. Regarding emotional skills, the data obtained show significant changes in the development of emotional regulation and in expressing and recognizing basic emotions. The data obtained confirm the working hypothesis, therefore the sandplay workshops had an impact upon the stimulation of the preschoolers' social and emotional development, the results being similar to other recent researches (Kim & Jang, 2020; Sun et al., 2019).

7.2. The limits of the research and new directions of action

Beyond the results obtained and their value, this research has a number of inherent limitations. The results obtained have no statistical value and cannot be generalized. In this respect, it is recommended to extend the present research, by selecting a statistically significant sample. Also, comparing the results obtained with those of a control sample, would provide a much more valuable connotation to the study.

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