
KINETIC PLAY SAND AFFECTS SOCIALIZATION AND INDEPENDENCE OF PRESCHOOL CHILDREN

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Abstracts

Background: Socialization and independence problems in preschool children, namely children cannot eat alone, cannot wear and take off their clothes, cannot wear and take off their shoes, cannot clean up their games after playing, cannot socialize or interact with others, and other things. Socialization and independence problems in each child are different according to the child's age, and issues in children can be handled by providing appropriate stimulation. Stimulation that can be done is to play exploration centres (playing sand). **Purpose:** This study aims to identify kinetic play sand's effect on preschool children's socialization and independence. **Methods:** This research is a quantitative study with a pre-experiment, one-group post-test design. The non-random sampling technique is quota sampling. **Results:** The results of the study based on univariate analysis of pre-test scores are mean 5.00 (48 months), mean 4.33 (54 months), mean 6.67 (60 months), mean 7.67 (66 months), and median 8.08 (72 months). The results of the post-test score increased, namely mean 6.50 (48 months), mean 7.00 (54 months), mean 8.33 (60 months), mean 8.33 (66 months), and median 8.50 (72 months). The results of bivariate analysis of *p* values were 0.007 (48 months), 0.015 (54 months), 0.038 (60 months), 0.025 (66 months), median 0.025 (72 months). Bivariate analysis obtained *p* value <0.05. **Conclusion:** The conclusion of this study is the effect of kinetic play sand on socialization and independence in preschool children. The results of this study are expected to add educational socialization and stimulation to increase and develop socialization and independence in preschool children.

Keywords : Kinetic Play Sand, Socialization and Independence, Preschool Children

1. Introduction

The process of growth and development at the preschool age began to occur steadily. Socialization and independence problems in preschool-age children, namely children cannot eat alone, cannot wear Socialization their clothes, cannot wear

and take off their shoes, cannot clean up their toys after playing, cannot socialize or interact with others, want always to be accompanied by parents or caregivers in every activity, keep crying when left by parents or caregivers, and other things. The problem of socialization and

independence in each preschool-age child differs according to the preschool-age (Khadijah & Nurul, 2021).

If not addressed, the impact of socialization and independence problems on preschool children is that preschool-age children socialize and are independent of others, spoiled, shy, easy to cry, hopeless, passive, and other things. The impact of socialization and independence problems on preschool children will complicate life and success in the future. Apsocializationmulation can address problems in preschool-age children (Hartutik et al., 2021).

Play stimulation is one way to facilitate interventions to train socialization and independence in preschool children. Games that can be done in preschool children to teach socialization and independence, namely by doing center activities, including art and creation centers (self-creation, anti-colouring), design centers (my house, my palace, skyscrapers), imagination centers (fishermen go to sea), exploration centers (playing sand) and preparation centers (making things from objects) (Nurfadilah et al., 2021).

Kinetic play sand is a sand that can be kneaded, easily blended, easily formed, and not quickly dried (Smith et al., 2020). Kinetic play sand or sand

play can be found in stores that sell children's toys with ready-made properties or shapes. Researchers can also make kinetic play sand or sand play by mixing safe ingredients for preschool-age children, such as rice flour, food colouring, and cooking oil. Sand games for preschoolers are fun activities because they involve preschoolers acting to do something (manipulation), gaining experience (exploration), and stringing together (construction) to create or realize the imaginary world of preschool-age children (Bouchard, 2021).

2. Methods

The study was quantitative, with a one-group pre-test and post-test design, which is carried out by making initial observations (pre-test) before the intervention and re-making final observations (post-test) after the intervention. The sampling technique is a non-random sampling technique, namely quota sampling, with a sample number of 30 respondents consisting of 6 children aged 48 months, three children aged 54 months, three children aged 60 months, six children aged 66 months and 12 children aged 72 months. The study was carried out for two weeks.

The instrument used to measure socialization and independence is a

modified observation sheet from KPSP or PDQ (Pre-screening Development Questioners), and Denver II (Nurhidayah et al., 2020), consisting of 9 – 10 questions. Researchers and enumerators conducted interrater reliability tests on ten preschool-age children. Based on the principle of statistical test kappa interrater reliability, the conclusion is that there is a similar perception regarding the assessment of socialization and independence in preschool children observed. The data collection technique used in this study was direct observation of children. The pre-test is implemented by observing and assessing one-on-one socialization and independence in preschool-age children for one day. The kinetic play sand intervention was carried out for two days, namely the first day in groups and the second day individually and doing a post-test.

Univariate analyses at ages 48, 54, 60 and 66 months were normally distributed data using the mean. Data at 72 months is abnormally distributed using the median, and bivariate analysis uses a dependent t-test and Wilcoxon test.

3. Results

3.1 Univariate Analysis

Variable	Mean/Median	SD	Min-Max	95% CI	n
Preschool age 48 months	Mean 5.00	2.366	2 - 8	2.52 - 7.48	6
Preschool age 54 months	Mean 4.33	1.528	3 - 6	0.54 - 8.13	3
Preschool age 60 months	Mean 6.67	2.517	4 - 9	0.42 - 12.92	3
Preschool age 66 months	Mean 7.67	1.033	6 - 9	6.58 - 8.75	6
Preschool age 72 months	Median 8.08	0.996	7 - 9	7.45 - 8.72	12

Variable	Mean/Median	SD	Min-Max	95% CI	n
Preschool children 48 months	Mean 6.50	1.761	4 - 8	4.65 - 8.35	6
Preschool age 54 months	Mean 7.00	1.000	6 - 8	4.52 - 9.48	3
Preschool children 60 months	Mean 8.33	2.082	6 - 10	3.16 - 13.50	3
Preschool age 66 months	Mean 8.33	0.816	7 - 9	7.48 - 9.19	6
Preschool children 72 months	Median 8.50	0.522	8 - 9	8.17 - 8.53	12

3.2 Bivariate Analysis

Variable	SD	SE	p-value	n
Preschool Children age 48 months	2.366	0.966	0.007	6
Preschool Children age 54 months	1.528	0.822		
Preschool Children age 60 months	1.000	0.577	0.015	3
Preschool Children age 66 months	2.517	1.453		
Preschool Children age 72 months	2.089	1.202	0.038	3
Preschool Children age 66 months	1.033	0.422		
Preschool Children age 66 months	0.816	0.333	0.025	6
Preschool Children age 66 months	0.816	0.333		

Variable	Mean Rank	p-value	n
Socialization and independent in preschool children aged 72 months	Before Intervention 0.00	0.025	12
	After Intervention 0.00		

4. Discussion

4.1 Socialization and Independence in Pre-School Children Before Kinetic Play Sand Intervention

Results of the study in children aged 72, 66, 60, 54, 48 months. When observations were made, it was found that there were still some children whose socialization and independence were not by their age. This result is not by the target of socialization and independence development through Stimulation, Detection and Early Intervention of Child Growth and Development (SDIDTK) in the Pre-Screening Developmental Questionnaire (PDQ), and Denver II (Ministry of Health of the Republic of Indonesia, 2019), where children should be able to carry out aspects of socialization and independence according to their age. Socialization and independence are aspects related to the independent inability of preschool-age children (eating alone, cleaning up toys after playing), separating from mothers or nannies, socializing and interacting with their environment and so on (Febrianti et al., 2023).

The reason is that preschool-aged children can quickly draw conclusions from errors in their reasoning (transductive) and consider everything

they do to be the right action (Balqis & Rizqiyah, 2021). There are still preschool children who are challenging to manage, easy to draw conclusions based on their will and feel that all the actions they take are correct, so providing appropriate stimulation to improve aspects of socialization and independence in preschool children is very necessary. Factors that affect the socialization and independence of preschool-age children are based on internal and external factors. Internal factors originate from within preschool-age children that can affect the socialization and independence of preschool-age children, such as genes or heredity, birth order, physical condition, talent, intellectual potential, age maturity level per individual that differs from one child to another, and gender. External factors come from within preschool-age children that can affect the socialization and independence of preschool children, such as parenting patterns at home in educating their children, the education system provided at school by their teachers, and the system in community life in their environment, this is by theory (Suryaningsih et al., 2020).

Socialization and independence in preschool children are not by their age stage, so action must be taken to

improve these aspects by providing the latest stimulation that supports improved aspects of socialization and self-reliance as well as appropriate in preschool-age children by parents/guardians, teachers at school and health workers, to help preschool children so that their development and growth are achieved optimally (Anjastria & Mandala, 2022).

4.2 Socialization and Independence in Preschool Children After Kinetic Play Sand Intervention

There is a development of socialization and independence in preschool children aged 72, 66, 60, 54, and 48 months after being given kinetic play sand intervention. There was an increase in the mean and median scores of each age before and after the intervention. Socialization and independence in preschool children are characterized by the ability of preschool children to stand alone without depending on others, such as making decisions on everything related to their activities and needs. Socialization and independence that arise in preschool children determine a preschool-age child's potential (ability or inability) to adjust to various situations or conditions he faces because, directly or indirectly, socialization and independence will affect his life process

(Muslihan, 2021). Socialization and independence refer to the ability of preschool children to act according to the target of socialization and independence development through stimulation, one of which is the provision of kinetic play and interventions (Debora et al., 2020).

This result is influenced by habits instilled and taught in preschool children before with other stimulation. Based on the results of the study, increased socialization and independence in preschool children, in this study, there was an increase with varying values from various factors (internal and external); this is by theory (Wahyuningsih, 2021). In the ongoing research during the intervention, almost all preschool children were enthusiastic about the kinetic play sand intervention given because they had never received such stimulation, so even with only two interventions, there was an increase in aspects of socialization and independence in preschool children. Researchers can conclude that training aspects of socialization and independence in preschool-age children can be done by providing appropriate stimulation, as well as sufficient time to improve aspects of socialization and independence in preschool children achieved optimally;

this is by the theory of Stimulation Detection and Early Intervention of Child Growth and Development (SDIDTK) in the Pre-Screening Developmental Questionnaire (PDQ or KPSP). Denver II (Sholikhah et al., 2020).

4.3 The effect of kinetic play sand on socialization and independence in preschool-aged children

There is an influence of the independent variable on the dependent variable, where there is an increase in the mean and median score in improving aspects of socialization and independence in preschool children before and after being given kinetic play sand. The provision of kinetic play sand as stimulation in improving aspects of socialization and independence in preschool-age children can be seen from the child's play process in the form of groups and individuals to cause communication, give in to each other, socialize, clean up toys, help between friends, follow the rules and require children to make decisions so that it makes children train socialization and independence in children (Mardiati & Hartati, 2020). This success adds to the success of research stimulation on improving aspects of socialization and independence in preschool children because kinetic play sand influences

socialization and independence in preschool children.

Kinetic play sand is a natural evolution of informal play with soil practised by children worldwide because sand play has a long and fascinating history for children worldwide. Sand is becoming the most common and suitable method of play for preschool-aged children because playing with sand is a fun activity. In everyday life, especially in a sandy cape area (beach), you will often find sand that can be played (Nuryulianti & Ernawati, 2021).

The benefits of kinetic play sand or sand play in preschool children are chosen as a medium to train socialization and independence because kinetic play sand or sand play is a fun activity and involves preschool children in acting to do something (manipulation), gain experience (exploration), and string (construction) to create or realize the imaginary world of preschool children (Umah & Rakimahwati, 2021). The provision of the kinetic play sand method or sand game researchers adapted from the research of Rufaida and Dunggio. Based on the research "Application of Sand Play to Improve Fine Motor Skills in Group A Kindergarten Children", this study consists of two cycles, each with

stages: planning, implementation, observation action, and reflection. The yield of cycle I is 49% and increases in cycle II by 87%. Based on a study entitled "Improving Children's Fine Motor Skills and Creativity Using a Scientific Approach through Magic Sand Media in Children in Pohuwato Regency" using two cycles. Using a scientific approach through magic sand media can improve fine motor skills and increase creativity (Trinurmi, 2020).

5. Conclusions

1. Socialization and independence in preschool children before the intervention of Kinetic Play Sand: age 48 months mean = 5.00, age 54 months mean = 4.33, age 60 months mean = 6.67, age 66 months mean = 7.67, age 72 months median = 8.08.
2. Socialization and independence in preschool children after the intervention of kinetic play sand: age 48 months mean = 6,50, age 54 months mean = 7.00, age 60 months mean = 8.33, age 66 months mean = 8.33, age 72 months median = 8.50.
3. P value <0.05 means kinetic play has an influence on socialization and independence in preschool children.

6. Suggestion

1. For Children's Preschool Age

Kinetic play sand is an educational game that stimulates, improves and develops socialization and independence in preschool children so that schools can apply it to children.

2. For Parents

Parents can apply kinetic play sand interventions at home as educational games as preschool stimulation to increase and develop socialization and independence in preschool-age children.

3. For the Nursing Profession

The results of this study are expected to help the role of nurses as educators in providing education and conducting kinetic play sand as an intervention to stimulate the development of preschool children, especially in the development of socialization and independence.

4. For the Next Researcher

The results of this study are expected to be used as reference material or reading for further research and as primary material to continue research related to the effect of kinetic play sand on stimulation to increase and develop socialization and independence in preschool children by paying attention to other factors that

can affect independence in preschool children.

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