



## Effect of Approach Play With Finger Painting on Social Interaction Ability among Autism Childrens's

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### Abstract

*Autism is a complex development disorder. Autism causes some disturbances in the areas of speech, communication, and social interaction. Some treatments can be done such as behaviour therapy, play therapy and speech therapy. One treatment is approach play with finger painting. Finger painting is a painting technique using finger directly without tools and brush. Finger painting can be used as a play tool and can train to develop a high sense of solidarity. The aim of this study was to analyze the effect of approach play with finger painting on autism children's social interaction in SLB Mutiara Tanjungpinang. The method of research used was quasi-experiment design with pretest and posttest, without control group. The sample was 7 children between 6 and 12 years old using total sampling design. This study was conducted at Sekolah Luar Biasa Mutiara Tanjungpinang. Data was collected using observation of ATEC (Autism Treatment Evaluation Checklist) modification. Data was analyzed with Wilcoxon Match Pair Test. The results showed that  $p$  value=0.025 ( $\rho$  value <  $\alpha=0.05$ ). The result of this study concluded that there was an effect of approach play with finger painting on social interaction ability among autism children's in SLB Mutiara Tanjungpinang. Based on the result, it is recommended that educational health institutions and special schools apply finger painting method to exercise social interaction among autism children's.*

**Keywords:** *austime children, finger painting, social interaction*

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## INTRODUCTION

A basic needs for growing children is sufficient play time (1). Aspects of child development can be grown optimally and maximally through play activities (2). According to Alfarizi 2014 (3) play can develop the imagination, ability, independence, creativity, and social skills of children. Play can also increase the cognitive and social abilities of children (4).

Child development will be hampered if the child is always limited in playing. Children who are always restricted in play will be passive individuals, easily hesitate, not confident, and do not take initiative, these children tend to wait to be ordered first (5). Finger painting is a particular painting technique using fingers and hands with watercolor without using a brush or painting with a finger using multiple colors to produce an image (6).

The effectiveness of finger painting is given to school-aged children. School age is defined as the age between 6-12 years old. According to Piaget theory, school-aged children are in concrete operational stage, in which children are able to use thought processes to experience events or actions (7). Finger painting can improve social skills including social interaction of children.

Pamadhi 2009 (8) said that fingers painting can train to develop a high sense of solidarity. Social development, including the social interaction of children will continue to grow with age and is influenced by the surrounding environment. Social interaction is the main requirement of social activity. The ongoing process of interaction is based on various factors such as imitation, suggestion, identification and sympathy (9).

However, children with special needs such as children with autism have problems or disorders in their development. Autism child disorder is characterized by three major disorders, social interaction disorders, communication disorders, and behavior disorders (10). Autism in childhood is a rare condition, the main problem of autism children is language disorders and all children with autism have problems with social relations (11).

There are some treatments for autism children. The treatments available include behavioral therapy, play therapy, and speech therapy (5). According to UNESCO data, 2011, every 6 out of 1000 people were suffering from autism, or about 35 million people with autism world wide (12). According to the latest data released by the *Center of Disease Control (CDS)* in America in March 2014, the prevalence of autism is 1 in 68 children and further, 1 in 42 boys and 1 in 189 girls (13). In Indonesia, it's predicted that the prevalence of autism from year to year has increased. According to Pratiwi and Dieny 2014 (14), the number of people with autism in

Indonesia has increased by 0.15% each year, or about 6,900 children each year. In Indonesia, in 2015, an estimated one per 250 children have Autism spectrum disorder, with approximately 12,800 children with Autism and 134,000 people with Autism spectrum disorder (12).

The government's attention in Tanjungpinang to children with autism is good enough. Characterized by the existence of several schools for children with special needs. Based on the initial study conducted on November 17, 2016 7 children have Autism in Sekolah Luar Biasa Negeri Tanjungpinang, and 70% of children have a social interaction disorder. In Sekolah Luar Biasa Mutiara Tanjungpinang, 85% have social interaction problems such as lack of eye contact, aloofness, not interacting with others, and engrossment in his own environment. Based on the results of interviews in Sekolah Luar Biasa Mutiara Tanjungpinang, they have never done research on finger painting and children with Autism. Based on the initial study, and data showing the increase of Autistic children in Indonesia each year, it is necessary to implement a method to improve social interaction, such as playing finger painting, which also trains fine motor of skills children. The study's aim was to know and analyze effect of approach play with *finger painting* on Autistic children's social interaction.

## **MATERIALS AND METHODS**

Finger painting is a particular painting technique using fingers and hands with watercolor without using a brush or painting with a finger using multiple colors to produce an image (6). In this study finger painting activities are made in the form of standard operational procedures so that the play activity becomes more structured and systematic. In this study finger painting was done in groups, so that autistic children can learn to interact with each other. The method of research used was *quasi experiment design with pretest*

and posttest without control group. The sample population of this study were all autistic students ages 6-12 years old in Sekolah Luar Biasa Mutiara Tanjungpinang. The sample technique for this study was *total sampling*. The sample size was 7 children with Autism. Inclusion criterias in this study were children with autism, children with school age (6-12 years), willingness to be respondent who represented by parents, children who are not sick. This study was conducted at Sekolah Luar Biasa Mutiara Tanjungpinang. The study was conducted in March 2017 for a week with frequency six times. This data collection used a modified observation sheet from the ATEC (*Autism Treatment Evaluation Checklist*). The Autisme Treatment Evaluation Checklist (ATEC) was developed by Bernard Rimland and Stephen M. Edelson of The Autism Research Institute. It consists of 4 subtests: 1. Speech/Language Communication (14 items), 2. Sociability (20 items), 3. Sensory/ Cognitive Awareness (18 items), and 4. Health/Physical/ Behavior (25 items). This study used a modified ATEC, and only used a subtest measuring sociability. The score assessment was divided into yes and no for each item, with the score for yes as 1 and score for no as 0. From the score it was interpreted to be either high 14 satisfied (76%-100%), satisfied (56%-75%), and unsatisfied ( $\leq 55\%$ ). The bivariate analysis used in this study was non parametric test, a statistic test of *Wilcoxon* test ( $\alpha = 0,05$ ).

## RESULTS AND DISCUSSION

### Frequency Distribution Of Respondent Characteristics By Age and Sex

This study used frequency and percentag to describe the gender and age of participant in 2017.

Based on **Table 1**, it is shown that more than half of respondents were male (57.1%), and more than half of respondents age were 6-9 years old (57.1%). Boys are more likely to have

**Table 1. Frequency Distribution of Respondent Characteristics By Age and Gender**

Variable	n	%
Gender		
Female	3	42.9
Male	4	57.1
Age (Years old)		
6-9 Years old	4	57.1
10-12 Years old	3	42.9
Total	7	100

Autism with a ratio 4:1. This data reflects with what Wiyani 2015 reports (5) Autism claims to happen in 5 out of every 10,000 births with four times as many males as female, but girls may show more severe symptoms. This is because male have testosterone hormones that have an opposite effect on the female hormone estrogen, the hormone testosterone inhibits RORA (retionic acid related orphan receptor alpha) work that regulates brain function, while estrogen improves the performance of RORA (15).

The results of study by Hall et al. 2012 (16) show that male and females differ significantly in the social function of the brain and explains that the social function of the brain contributes to the greater vulnerability of males with Autism over female. Research from Rahmawati 2012 (17) shows that females have lesser social interaction than males of the same age. This is consistent with the data obtained where prettest data showed that less social interaction ability dominated female of the same age range.

Respondent's characteristic data about age indicate that more than half of respondents were 6-9 years old. According to Salwa 2012 (18), the largest age group who suffer from Autism is the age group of 5-9 years and age 10-14 years old. Usually, symptoms of Autism occur when children are 1.5 to 2 years old. Until that age, the child develops normally, but then the development stops and declines. The setbacks make children experience Autism symptoms, including social relation problems behavior, problems and communication issuses (5).

Researchers concluded that age the symptoms of Autism are increasingly seen clearly, especially exemplified by social interaction issues.

### Frequency Distribution of Autistic Children's Social Interaction Ability Before and After Approach Play with Finger Painting at SLB Mutiara Tanjungpinang

This study used frequency and percentage, which were used to describe the social interaction ability before and after approach play with finger painting in 2017.

**Table 2. Autistic Children's Social Interaction Ability Before and After Approach Play with Finger Painting**

Social Interaction Ability	Pretest		Posttest	
	n	%	n	%
High satisfied	1	14.3	3	42.9
Satisfied	2	28.6	3	42.9
Low satisfied	4	57.1	1	14.3
Total	7	100	7	100

**Table 2**, indicates there was an increase of respondents with high satisfaction of social interaction ability from 1 person (14.3%) before the approach of playing with finger painting (pretest) to 3 people (57,1%) after given approach to play with finger painting (posttest).

Social interaction is defined as the relationship between individuals that generates a mutually beneficial exchange, and influences each other in an effort to achieve changes in behavior and changes to create better conditions (19). Autistic children have problems with social interactions, According to Murtie 2014 (10) Autism is a developmental disorder of the nervous system experienced by a person, and usually obtained from birth or development as a toddler, In general, children with Autism will have difficulty developing attitudes, difficulty building relations with others, unable to communicate normally, and have difficulty developing social relations that create mutual understanding. The results showed the ability of social interaction of children with Autism before being given a play

approach with finger painting where more than half were in the low satisfaction group.

The results of observation indicated that children who's social interaction ability is grouped as low satisfaction are likely the children who are less active during learning, closed and passive, and more silent, with difficulty to interact. The theory by Priyatna 2010 (20) said that Autistic children have problems in aspects of social interaction, not interested in playing with friends, prefer to be alone, show no or little eye contact, avoid being looked at, and happy to force other to do what they want. Low satisfaction of social interaction in Autistic children can be caused by one-way communication.

Based on case study by Rahayu 2014 (21) communication patterns of children with Autism in social interaction is one-way communication where the child has not been able to communicate well and still needs guidance or stimulus assistance in interacting.

Low satisfaction of social interaction ability can also be caused by the lack of parent and family role in assisting children during time spent at home. Full attention and guidance from parents is needed to help improve the Autistic children's self-development, especially social interaction (22). In addition, the lack of a child's ability to communicate also affects the process of interaction of Autistic children with others.

At the time that treatment of finger painting approach begins, respondents formed into groups, where each group consists of 2-7 respondents. This is done to train the child to be more cooperative when orders are given, and so the child can become accustomed to not being alone. The social interaction ability of the Autistic children after being given approach play with finger painting done in groups increases to satisfaction and satisfied.

Based on the results of observation, children who have satisfactory social interaction ability are children who have enough communication

to interact with one another. According to Mashudi 2012 (9), Communication is one of the conditions where social interaction occurs. Good communication skills will help the Autistic children to understand and convey information, ask for something, and convey and express his wishes.

The result of the observation indicate that the respondents who have high satisfaction and satisfactory ability after given the approach of play with finger painting, (done in groups) have an increased ability to imitate voice or movement, are cooperative, can gather with friends, do not avoid contact with others, and can share and get together with other friends when there is activity. The results are considered with reseacrh by Ayu 2014 (23), in which efforts to improve the social ability of children with Autism including social interaction can be done with play therapy such as with play or *we play*.

**Effect Of Approach Play With *Finger Painting* On Autism Children’s Social Interaction In SLB Mutiara Tanjungpinang**

In this study was used the t-test. That was used to analyze the effect of approach play with finger painting on Autistic children’s social interactin in SLB Mutiara Tanjungpiang in 2017.

**Table 3. Effect Of Approach Play With *Finger Painting* On Autism Children’s Social Interaction In SLB Mutiara Tanjungpinang in 2017**

Variable	n	Median (minumun-maximum)	SD	p
Social Interaction Ability Before	7	1 (1-3)	0.787	0,025
Social Interaction Ability After	7	2 (1-3)	0.756	

Based on **Table 3**, it was found that the result before the treatment approach play with finger painting of 7 respondents obtained median value of 1 (low satisfaction), SD (0.787), after the approach play with finger painting obtained

median value of 2 (satisfied), SD (0.756).

From the data analysis, it was indicated there was an increase in Autistic children’s social interaction ability in Sekolah Luar Biasa Mutiara Tanjungpinang. To know the difference of value from before and after, this study used the Wilcoxon test and result of the statistical test p-value was equal to 0.025. This means that the approach play with finger painting can increase Autistic children’s social interaction ability.

The results indicate there was an increase in Autistic children’s social interaction ability. The *pre test* showed that more than half of Autistic children had low satisfaction of social interaction, after given the approach play with finger painting *post test* data showed the difference in Autistic children’s social interaction ability.

When the post test was finished, respondents showed good social contacts and communication with peers, teachers and researchers, different when the pre test respondents did not show social contacts and good communication with peers, teachers and researchers. The effect on improved social interaction ability after finger painting was done in groups, was because children learn to interact with their friends and teachers as facilitators to encourage and stimulate social interaction. This agrees with research by Septyasih et al. 2014 (24) which indicates an increase in Autistic children’s social interaction ability after a group play approach. Play is an activity that children love. Play is also an important activity for children’s development, by which children can develop emotionally, physically, cognitively develop, independence, imagination, and socialization (3).

Play has several benefits, such as for the development of sensomotor, cognitive development, creativity and socialization of children (25). The socialization process can occur in play, where children will learn to mingle, work in groups, learn to give and receive each other (26). According to Pamadhi 2009 (8) finger

painting can be used as a play tool. Finger painting is a particular type of painting technique using fingers and hands, using watercolor without using a brush to produce an image. Finger painting can increase the sense of independence (8). Research by Risanti et al. 2013 (27) shows that there is an increase in children's emotional social development through finger painting. The main function of play found in finger painting in this research is social development characterized by the ability of children to interact with their environment. Hidayat 2012 (28), said socialization process can occur through the game being played.

From the results and the discussion, it was indicated that the approach to play with finger painting in groups can help Autistic children can learn basic social skills such as attention, responsiveness, and cooperative attitude.

## **CONCLUSION AND SUGGESTION**

This study concludes that the majority of children with Autism are aged 7-9 years old, and males are diagnosed with Autism more frequently than females. The social interaction of Autistic children before and after approach play with finger painting differed. Before approach play with finger painting, more than half of Autistic children had low satisfaction of social interaction ability, (57.1%). After the approach play with finger painting, social interaction ability has increased to high satisfaction for 3 people (48.9%) and satisfied/satisfactory for 3 people (48.9%). The effect of approach play with finger painting on Autistic children's social interaction was analyzed using the statistical test, Wilcoxon test, and obtained  $0,025 < p\text{-value} (0.05)$  which means there a significant effect of approach play with finger painting on Autistic children's social interaction.

Other researchers are expected to continue to develop research on the social interaction of Autistic children in order to better refine the discussion and treatment or other alternative

methods to stimulate the ability of social interaction with Autistic children. Further research can be a study that aims to know the effectiveness of approach play with finger painting to the social interaction ability of Autistic children with a larger sample, or different types and different research designs. Studying the family's role, especially the the role the regarding parents social interaction with Autistic children and finger painting. For people who have children with autism, after learning about the importance of stimulating social interaction skills with play approaches, the community, especially families with Autistic children can provide and apply stimulation approaches to play with finger painting or other play approaches in the home environment. The role of families, especially parents, is important as they can maximize stimulants, which can maximize the development of Autistic children, especially in social interaction. The implications of this study focus on pediatric nursing where nurses act as nursing care providers (care giver) so as to improve the quality of nursing care services, especially pediatric nursing, and when nurses act as educators through the approach of playing with finger painting to improve Autistic children's social interaction ability.

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