

Age, Gender and Children Opinion with Social-Emotional Development among Preschool Children in Flood-Prone Areas

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ABSTRACT

Background: Preschool children are at a risk of social-emotional problems at 58.8%, with 72.2% of post-flood disaster children experiencing emotional behavior problems. In flood-affected areas, the self-concept of preschool children shows poor self-image (53.4%), low self-esteem (56.8%), and a negative self-role (52.3%).

Purpose: To understand the overview and factors correlation to the social-emotional development of preschool children in flood-prone areas.

Methods: This research was designed as a descriptive cross-sectional study. A total of 125 preschool children living in flood-prone areas were the research subjects. The ASQ-SE questionnaire was used to measure the social-emotional development of children. Spearman tests were conducted to determine the correlation between respondent characteristics and social-emotional development.

Result: This study shows 88% of preschool children living in flood-prone areas are at risk of experiencing social-emotional problems. The questions with the highest scores in the 36-month, 48-month, and 60-month questionnaires were related to children intentionally hurting themselves. Gender is significantly correlated with the social-emotional development of children in flood-prone areas ($p < 0.05$).

Conclusion: Preschool children in flood-prone areas are more likely to experience social-emotional problems. Gender plays a role in the social-emotional development of children. The results provide insight for pediatric nurses in developing interventions to prevent social-emotional problems in children with a family-centered care approach.

Keywords: Child Social-Emotional; Preschool; Flood-Prone Areas; Post-Disaster Children

BACKGROUND

Preschool-aged children go through a rapid social-emotional development phase, managing and expressing emotions comprehensively, both positive and negative emotions. They develop the ability to form relationships with other children and adults around them and explore their environment through the learning process (Kyle & Carman, 2014; Nurmalitasari, 2015). Social-emotional development encompasses emotional, personality, and interpersonal development.

Fifty percents of preschool children in developed countries show several anti-social behavior disorders which can develop into behavioral disorders later in life if they continue to be ignored (Suyami & Suryani, 2016). Based on 2018 Riskesdas data, it was found that 69.9% of preschool children in Indonesia experienced social development disorders. One manifestation of children experiencing barriers to social development is not wanting to play and share with their peers (Sukatin *et al*, 2020).

Factors influencing the social-emotional development of preschool children include the family, maturity, socioeconomic status, education, psychological factors or mental certainty (emotions and intelligence), environmental factors (e.g., environmental sanitation), and nutritional status (Peni, Ratnaningsih, & Laili, 2020; Susanto, 2017). Good nutritional status at an early age will affect a child's development in subsequent stages. The role of parents greatly influences the social development of preschool children, especially in encouraging children's social development (Chen *et al*, 2016).

The National Institute of Mental Health in 2009 stated that 10-15% of the total children worldwide experience mental and emotional disorders. The Report On The Second Australian Child And Adolescent Survey Of Mental Health And Wellbeing in 2015 explained that 1 in 7 or 13.9% of children aged 4-17 years experiences mental health problems. Early detection of deviations in mental-emotional issues in children aged 36-72 months finds 65% in the abnormal category, and 31.4% experience mental-emotional issues at ages 3-5 years (Rohani & Wahyuni, 2020). Preschool children are at a 58.8% risk of experiencing social-emotional problems (Hijrah Tiala, Haryanti, & Akhmadi, 2020).

Preschool children after flood disasters in North Samarinda experience emotional behavior problems at 72.2% (Julia, 2021). Research by North *et al*. (2019) reported that the effects of disasters include children becoming more attached to their parents, increased fear, increased aggression, difficulty sleeping, complaints of stomachaches and headaches, and the emergence of post-traumatic stress symptoms characterized by frequent discussions about the disaster, annoyance or worry when reminded of the disaster, playing and drawing about the disaster, and avoiding thinking about the disaster. Resilience in preschool children affected by floods is better compared to those who are not affected because it is supported by their social life and the mother's mental health history during pregnancy (Arshad, Mughal, Giallo, & Kingston, 2020). In flood-prone areas, the self-concept of preschool children shows poor self-image (53.4%), low self-esteem (56.8%), and a negative self-role (52.3%) (Suwargarini & Mubin, 2014).

OBJEVTIVE

This study aims to describe the social-emotional development of preschool children in flood-prone areas

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METHODS

The research design was a cross-sectional study. A total of 125 preschool children living in one of the neighborhoods severely affected by floods were sampled for this study. Inclusion criteria included preschool children, both boys and girls, aged 3-6 years (up to 72 months at the time of data collection), without disabilities, mental retardation, and Down syndrome, and not taking medication that could affect behavior (anti-epileptic, anxiolytics, ADHD, psychosis medications). Parents of the children involved in the study were one of the biological parents living in the same household as the child. This research has obtained ethical clearance from the Ethics Committee of Health Research, Poltekkes Kemenkes Semarang with No. 0041/EA/KEPK/2023.

The instrument used to measure the social-emotional development variable of preschool children in this study was the Ages and Stages Questionnaire Social Emotional (ASQ-SE) questionnaire in the Indonesian version, which has been tested for validity and reliability by Ariyani in 2017 with a Cronbach's alpha value of 0.743 > 0.60. The ASQ-SE questionnaire consists of 36 question items and three types: 36 months, 48 months, and 60 months. Each question item has three answer choices on a Likert scale (0, 5, and 10 points): often or always, sometimes, rarely, or never.

Table 1. ASQ-SE

ASQ-SE	Social Emotional Development	
	No Risk	Risk
36 months (for ages 33 months to 41 months 30 days)	≤ 105	>105
48 months (for ages 42 months to 53 months 30 days)	≤ 85	>85
60 months (for ages 54 months to 72 months)	≤ 95	>95

Brookes Publishing Company, 2021

This research took place in July 2023 in a region severely and extensively affected by floods in Pekalongan, Central Java. Data collection was conducted following the principles and rules stated in the research ethical clearance.

Data analysis used the SPSS version 25 software package. Univariate analysis aimed to describe the frequency and percentage of social-emotional development of preschool children categorized as at risk or not at risk. Bivariate analysis aimed to describe the relationship between respondent characteristics, including father's education, mother's education, father's occupation, mother's occupation, family income, gender, and children's opinions about floods, with the social-emotional development of children. Correlation tests used Spearman with a significance value of $p < 0.05$.

RESULTS

More than 50% of respondents are 3 years old, as indicated by their responses on the ASQ-SE questionnaire for 36 months. Among those who expressed joy during floods (40.8%), their reasons included the enjoyment of playing in the water freely. On the other hand, 44% of those who did not like floods mentioned sadness because they couldn't leave the house,

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disgust with the dirty and foul-smelling environment, and frequent illnesses. Family-related factors showed that over 40% of mothers and fathers had relatively low levels of education.

Table.2 Characteristics of respondents (n=125)

Characteristic	Category	F (%)
Father's Education	SD	52 (41,6)
	JUNIOR	44 (35,2)
	SMA	19 (15,2)
	College	10 (8,0)
Mother's Education	SD	51 (40,8)
	JUNIOR	41 (32,8)
	SMA	23 (18,4)
	College	10 (8,0)
Father's Work	Formal	79 (63,2)
	Informal	46 (36,8)
Mother's Work	Work	59 (47,2)
	Not Working	66 (52,8)
Family Income	≥ UMR	62 (49,6)
	< UMR	63 (50,4)

Primary Data, 2023

The main result found was the social-emotional development of preschool children in flooded areas using the ASQ-SE instrument as much as 88% at risk of experiencing social emotional problems. The social-emotional development measured on ASQ-SE consists of the domains of self-regulation, compliance, communication, adaptive functioning, autonomy, affect, interaction with others. These results represent screening or early detection and do not mean that children have experienced social emotional problems in flooded areas.

Table.3 Overview of Socio-Emotional Development of Preschool Children in Pekalongan Flood Area (N = 125)

Variable	Mean ± SD	Min-Max	Social Emotional Development			
			Risk		No Risk	
			f	%	f	%
36 months questionnaire (3 years)	133.88 ± 30.52	90 - 210	39	31.2	10	8
Questionnaire: 48 months (4 years)	146.03 ± 40.56	65 - 200	26	20.8	3	2.4
60-month questionnaire (5-6 years)	141.17 ± 35.77	70 - 220	45	36	2	1,6
Sum			110	88	15	12

ASQ-SE: Ages and Stages Questionnaire Social Emotional

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Bivariate analysis using Spearman correlation analysis with a meaning value of <0.05 found that gender had a meaningful relationship with the social-emotional development of preschoolers in flooded areas ($p = 0.043$).

Table 4. Correlation of Independent Variable with the Social Emotional Development of Preschoolers in Flooded Areas

Variable	Social Emotional Development			
	r	p	Mean±SD	p
Children's Age	0,169	0,06		
Child Gender	-0,181	0,043*		
Children's Opinions on Floods	-0,103	0,251		
Father's Education SD JUNIOR SMA College			1,90±0,940	0,065
Mother's Education SD JUNIOR SMA College			1,94±0,957	0,466
Father's Work Formal Informal			1,37±0,484	0,159
Mother's Work Work Not Working			1,53±0,501	0,965
Family Income ≥ UMR < UMR			1,50±0,502	0,432

Spearman test (p value of <0.05).

DISCUSSION

Social emotional development of preschoolers who use gadgets 58.6% normal, monitor 27.6% (16 respondents) and need expert referral 13.8% (Safitri & Nizami, 2021). As many as 33.3% of children in prison are at risk of experiencing social emotional problems (S, Ortale, Querejeta, Quintero, & Sanjurjo, 2019). Preschoolers are at risk of social emotional problems (58.8%) that have a significant relationship with fathers' involvement in parenting (Hijrah Tiala, Haryanti, & Akhmadi, 2020). The interpretation of the social-emotional development of preschool children is the same as the study above because it uses the same instrument, namely ASQ-SE and in this study it was found that 88% of preschool-age children living in flooded areas are at risk of experiencing social emotional problems, while the interpretation in Safitri and Nizami's (2021) study uses the ASQ-SE 2 instrument.

The picture of the social-emotional development of preschoolers in flooded areas can be explained from some question items that score more, resulting in a high overall score as well. At 36 months the 3 items that scored highest were questions 22, 29, 30: "Did your child hurt

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himself intentionally?"; "Does your child attempt to harm another child, adult or animal (for example, by kicking or biting)?"; and "Does your child show unnatural attractions such as holding genitals, likes to look at pictures about sexual organs, says dirty about sexual organs?". At the age of 48 months the following items scored the most were questions 23, 31, 36: "Did your child hurt himself intentionally?"; Does your child attempt to harm another child, adult or animal (for example, by kicking or biting?); "Has anyone else ever raised their concerns about your child's behavior?" Furthermore, at the age of 60 months the highest number of scores was on question items number 23, 31, 33: "Did your child hurt himself intentionally?"; "Does your child take turns and share when playing with other children?"; "Does your child wake up more than 3 times during the night?"

In this study, it was found that there is a relationship between sex and social emotional development. Research Eurenus *et al* (2021) Playing outdoors for more than 3 hours on a weekday and sitting in front of a screen during weekends >1 hour increases the risk of social emotional problems in boys, while screen time of more than 1 hour every day increases girls' social emotional problems. Further explained related to unhealthy lifestyles found more in boys than girls. At the same level of social-emotional problems girls have more difficulty in activities, inherent behavior and repetitive behavior; Men tend to score high on items that break things on purpose, having trouble saying friends' names and expressing feelings (Vaezghasemi et al., 2020).

This study showed that there was no relationship between a child's age and a child's social-emotional development. This is supported by research (Mejah, Yazid, Bakr, & Amat (2019) that age and gender have no influence/correlation with the social emotional of preschoolers. But other studies state that the higher the age of the child, the more able to control emotions and social skills will increase (Chen, 2016).

The environment is one of the factors that affect the socio-emotional development of children. Early childhood social-emotional development is strongly influenced by the environment, and positive social-emotional will make it easier for children to get along and learn better and carry out other activities in the social environment well (Salsabila, 2021). Family parenting greatly affects the socio-emotional development of children because it is a good stimulus for early childhood social-emotional development (Salsabila, 2021; Tatminingsih, 2019). Children who do not live in the same house with their mothers are more at risk of experiencing delays in social-emotional development (Qu et al., 2020). Social emotional problems are more commonly found in children who have parents who do not live together and have unhealthy lifestyles such as rarely eating vegetables, rarely brushing teeth, not reading books regularly (Eurenus et al., 2021). The environment in this study was described by children's opinions about flooding, so there was no meaningful relationship. Further research can be done by taking other variables that are directly related to flooding in children.

Children's opinions about floods consist of likes, dislikes, boredom and fear. This opinion can represent the feelings experienced by the flood. This variable may not be very specific in describing children's emotions about flooding. Therefore, future research can assess in depth children's emotions specifically related to flooding.

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CONCLUSION

The social-emotional development of preschool-age children living in flooded areas is 88% at risk of experiencing social-emotional problems. Child gender has a significant correlation with children's social-emotional development in flooded areas. Researchers will then need to look for other factors that relate to or determine the social-emotional development of preschoolers in flooded areas, especially environmental factors. In addition, intervention studies can be developed to reduce the risk of social emotional problems for preschool children in flooded areas with a *family intervention* approach.

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