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## The Relationship Between Family Interaction Patterns and Pragmatic Abilities of Children with Autism Spectrum Disorder in Surakarta

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### ABSTRACT

**Background:** Children with Autism Spectrum Disorder (ASD) frequently demonstrate challenges in social communication, especially related to pragmatic language use. The development of these abilities is influenced by individual characteristics and the immediate environment, especially family interaction patterns, which play an important role in providing social communication stimulation. The purpose of this study was to investigate the relationship between family interaction patterns and the pragmatic skills of children with Autism Spectrum Disorder (ASD) in Surakarta.

**Method:** A quantitative approach was applied in this study using a descriptive correlational and cross-sectional design. Data were gathered from 60 respondents using structured questionnaires and observation sheets and subsequently analyzed with the Spearman Rank correlation test.

**Result:** The results showed that family interaction patterns were categorized as moderately supportive in 41 families (68.3%), supportive in 12 families (20%), and less supportive in 7 families (11.7%). The pragmatic abilities of children with ASD were categorized as moderate in 43 children (71.7%), good in 8 children (13.3%), and low in 9 children (15.0%). Based on the Spearman Rank correlation test, a correlation coefficient of  $r = 0.786$  and a p-value of 0.000 were obtained, indicating a strong positive correlation between family interaction patterns and the pragmatic abilities of children with ASD.

**Conclusion:** The findings demonstrate a strong and statistically significant association between family interaction patterns and the pragmatic abilities of children with ASD in Surakarta. A higher level of supportive family interaction is associated with enhanced pragmatic abilities among children.

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## INTRODUCTION

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition that affects multiple aspects of a child's development, particularly communication, social interaction, and behavior. According to the World Health Organization (2023), approximately 1 in 100 children worldwide is diagnosed with ASD. In Indonesia, the number of children identified with ASD has reached approximately 3.2 million (Badan Pusat Statistik, 2020). Specifically, in Surakarta, around 9.51% of children with special needs are diagnosed with ASD (Indiyana et al., 2021). These figures highlight the significant prevalence of ASD and emphasize the need for a deeper understanding of factors influencing communication development in this population.

One of the most affected aspects of communication in children with ASD is pragmatic ability. The American Speech-Language-Hearing Association (2022) defines pragmatics as the use of language in social contexts in accordance with communicative purposes. This includes turn-taking, understanding nonverbal cues, maintaining topics, and adjusting language based on the listener. Individuals with ASD frequently demonstrate challenges in sustaining conversations, interpreting implied meanings, and responding appropriately during social interactions. These limitations indicate impairments in pragmatic skills, which can significantly affect their daily social functioning (Ramandha et al., 2025).

The development of pragmatic ability is not solely determined by cognitive factors but is also strongly shaped by the nature of social interactions, particularly in the family context. Family interactions serve as the primary context where children learn how to use language socially. Warm, responsive, and structured interactions from parents and other family members provide essential support for enhancing pragmatic abilities. However, many individuals with ASD are raised in less optimal interaction environments due to limited parental knowledge, caregiving stress, or complex family dynamics.

Previous studies have shown that parental support is positively associated with expressive communication abilities in children with ASD (Fitri & Salsabila, 2024). Nevertheless, parental support represents only one aspect of broader family interaction patterns, which also include communication frequency, communication style, emotional closeness, and responsiveness among family members. Therefore, it is important to comprehensively examine family interaction patterns to better understand their contribution to pragmatic abilities among individuals with ASD.

A gap between ideal and actual family interaction patterns may have serious consequences for individuals with ASD, including social isolation, academic challenges, and difficulties in engaging with their environment. Limited pragmatic ability can hinder social integration and participation. Research by Nastiti and Fitri (2023) indicates that positive social interaction is closely related to expressive language development, highlighting the importance of supportive and responsive family environments.

Despite its importance, studies exploring how family interaction patterns are associated with pragmatic abilities among individuals with ASD remain limited, particularly within the Indonesian cultural context. Most previous studies have focused on general communication or social support rather than specifically addressing pragmatic skills. Therefore, this study seeks to examine how family interaction patterns are associated with pragmatic abilities among individuals with ASD in Surakarta, providing new insights into the influence of family dynamics on communication development in this population.

## METHOD

A quantitative approach with a descriptive correlational design was used to analyze the association between family interaction patterns and pragmatic abilities among individuals with ASD. A cross-sectional approach was utilized, where data collection was conducted at one specific time point without any intervention or manipulation of variables. The population in this study consisted of families of children with ASD in Surakarta. The sample included children with ASD within the school-age range who were enrolled in special education institutions and lived with their nuclear families. Biological parents or family members with direct familial relationships who were actively involved in daily interactions with the child were selected as respondents.

This study used a total sampling technique, meaning that all members of the population who met the research criteria were included as participants. Therefore, the entire accessible population was involved in this study. The inclusion criteria included children with ASD who lived with their families and were actively engaged in daily interactions, as well as biological parents or family members who consented to take part in the research. Respondents outside the family unit, those who did not complete the questionnaire, or those not actively involved in the child's daily communication were excluded.

Data collection was carried out using structured questionnaires to assess family interaction patterns and observation sheets to evaluate the pragmatic abilities of individuals with ASD. The instruments used in this study had been tested for reliability, yielding a Cronbach's Alpha coefficient of 0.944, which reflects a high level of internal consistency. Data analysis was conducted using descriptive (univariate) and inferential (bivariate) statistical methods. A normality test was performed using the Kolmogorov–Smirnov test, which showed that the data were not normally distributed. Therefore, the Spearman Rank correlation test was used to determine the relationship between family interaction patterns and pragmatic abilities.

## RESULTS AND DISCUSSION

In this study, the sample consisted of 60 respondents, all of whom were families of children with ASD in Surakarta. The respondents were recruited from several special education institutions, including SLB Mitra Ananda, SLB BC Autis YBA, Mutiara Al-Islam Center, and SLB Autis Harmony. The results of the study are presented below:

### Descriptive Analysis

Table 1. Distribution Based on Age

Age	Frequency	Percentage
5	5	8.3%
6	5	8.3%
7	14	23.3%
8	16	26.7%
9	7	11.7%
10	13	21.7%
Total	60	100%

Based on the results, most children were 8 years old (26.7%), followed by 7 years (23.3%) and 10 years (21.7%). The smallest proportions were found in children aged 5 and 6 years (8.3% each). This indicates that the majority of respondents were in the middle childhood stage, which is a critical period for communication development.

Table 2. Distribution Based on Gender of Children with ASD

Gender	Frequency	Percentage
Male	43	71.7%
Female	17	28.3%
Total	60	100%

Source: Primary data, analysed using SPSS 26.0

The majority of children with ASD were male (71.7%), while females accounted for 28.3%. This finding is consistent with previous studies indicating a higher prevalence of ASD in males.

Table 3. Distribution Based on School Origin

School	Frequency	Percentage
SLB Mitra Ananda	18	30%
SLB BC Autis YBA	17	28%
Mutiara Al-Islam Center	15	25%
SLB Autis Harmony	10	16.7%
<b>Total</b>	<b>60</b>	<b>100%</b>

Most respondents were from SLB Mitra Ananda (30.0%), followed by SLB BC Autis YBA (28.3%), Mutiara Al-Islam Center (25.0%), and SLB Autis Harmony (16.7%). This shows that the sample was obtained from various educational settings.

Table 4. Distribution Based on Parent Gender

Gender	Frequency	Percentage
Male	9	15%
Female	51	85%
<b>Total</b>	<b>60</b>	<b>100%</b>

Most respondents were female (85.0%), while males accounted for 15.0%. This indicates that mothers were more involved in caregiving and data reporting.

Table 5. Distribution Based on Father's Occupation

Occupation	Frequency	Percentage
Private Employee	30	50 %
Entrepreneur	14	23.3%
Civil Servant	10	16.7%
Laborer	5	8.3%
Teacher	1	1.7%
<b>Total</b>	<b>60</b>	<b>100%</b>

Most fathers worked as private employees (50.0%), followed by entrepreneurs (23.3%), civil servants (16.7%), laborers (8.3%), and teachers (1.7%). This reflects the socioeconomic background of the families.

Table 6. Distribution Based on Mother's Occupation

<b>Occupation</b>	<b>Frequency</b>	<b>Percentage</b>
Housewife	39	60 %
Entrepreneur	8	13.3%
Private Employee	7	11.7%
Teacher	3	5.0%
Civil Servant	2	1.7%
Laborer		
<b>Total</b>	<b>60</b>	<b>100%</b>

Most mothers were housewives (65.0%), followed by entrepreneurs (13.3%), private employees (11.7%), teachers (5.0%), civil servants (3.3%), and laborers (1.7%). This suggests that most mothers had more time for daily interaction with the child.

Table 7. Family Interaction Patterns

Category	Frequency	Percentage
Less Supportive	7	11.7%
Moderately Supportive	41	68.3%
Less Supportive	12	20%
Total	60	100%

Most families showed moderately supportive interaction patterns (68.3%), followed by supportive (20.0%) and less supportive (11.7%). This indicates that family interaction patterns are generally adequate but not yet optimal.

Table 8. Pragmatic Ability of Children with ASD

Category	Frequency	Percentage
Low	9	15%
Moderate	43	71.7%
Good	8	13.3%
Total	60	100%

Most children demonstrated moderate pragmatic ability (71.7%), followed by good (13.3%) and low (15.0%). This suggests that most children have not yet reached optimal pragmatic communication skills.

### Bivariate Analysis

Table 9. Normality Test

Variable	Sig
Family Interaction Patterns	0.012
Pragmatic Ability	0.004

Normality was assessed using the Kolmogorov–Smirnov test, as the sample size in this study exceeded 50 respondents. The results showed a significance value of 0.012 for family interaction patterns and 0.004 for pragmatic ability. A dataset is regarded as having a normal distribution when the significance value exceeds 0.05. Since both variables had significance values below 0.05, the data were considered not to follow a normal distribution. Accordingly, a non-parametric approach was adopted, and the Spearman Rank correlation was utilized to analyze the association between the variables.

Table 10. Spearman Rank Test

Test	Sig	Corelation Coefficient
Spearman Rank Test	0.000	0.345

The Spearman Rank correlation analysis showed a correlation coefficient ( $r$ ) of 0.786 with a significance value ( $p$ ) of 0.000 and a total sample size of 60 respondents. This finding suggests a statistically significant, strong positive association between family interaction patterns and pragmatic abilities among individuals with ASD. The positive correlation suggests that better family interaction patterns are associated with higher levels of pragmatic ability in children.

### Discussion

The findings indicate that many families demonstrated moderately supportive interaction patterns, while many individuals with ASD exhibited moderate levels of pragmatic ability. This suggests that although family interactions are present, they may not yet be fully optimized to support the development of pragmatic communication skills.

The analysis revealed a strong and statistically significant relationship between family interaction patterns and pragmatic abilities in individuals with ASD ( $r = 0.786$ ;  $p < 0.001$ ). This result indicates that better family interaction patterns are associated with higher levels of pragmatic ability. The strength of this relationship suggests that family interaction plays a substantial role in shaping children's communication skills, particularly in the use of language within social contexts.

From a theoretical perspective, pragmatic ability develops through continuous social interaction. The family serves as the primary environment where children first learn to use language functionally, including turn-taking, maintaining topics, interpreting nonverbal cues, and adjusting communication based on social context. When family members provide responsive, consistent, and supportive interactions, children are given more opportunities to practice and develop these skills. Conversely, limited or less responsive interaction may hinder the development of pragmatic abilities.

These findings are consistent with previous studies. Fitri and Salsabila (2024) reported that parental support is positively associated with expressive communication skills in children with ASD. Similarly, Nastiti and Fitri (2023) emphasized that positive social interaction plays a crucial role in language development. This study extends previous research by specifically focusing on pragmatic ability as a key outcome variable, highlighting the importance of family interaction patterns in supporting social communication.

In addition, the descriptive results showed that most mothers were actively involved in caregiving, which may contribute to the frequency and quality of interaction experienced by children. Frequent daily interaction provides more opportunities for children to engage in meaningful communication, which is essential for pragmatic development.

However, this study has several limitations. The use of a cross-sectional design does not allow for the determination of causal relationships between variables. Furthermore, the study was conducted within a limited geographical area, which may limit the generalizability of the findings. Future studies are recommended to use longitudinal designs and include a larger and more diverse sample to better understand the development of pragmatic abilities in children with ASD.

## CONCLUSION

This study concludes that a significant and strong relationship exists between family interaction patterns and pragmatic abilities among individuals with ASD in Surakarta. More supportive family interaction patterns are associated with higher levels of pragmatic ability in children. These findings emphasize the important role of the family as the primary environment in supporting the development of communication skills, particularly pragmatic abilities. Therefore, families are encouraged to create more responsive, consistent, and supportive interaction patterns to optimize children's communication development.

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