



Maternal aggression and child temperament in families with ARFID children in Indonesia


Yoyok Beki Prasetyo^{1*}, Fitri Wahyuni², Nursalam³, Rachmat Hargono⁴, Ahsan⁵,
Nur Melliza⁶

^{1, 2, 6} Nursing Science Program, Muhammadiyah University of Malang, East Java, Indonesia

³ Department of Advanced Nursing, Airlangga University, East Java, Indonesia

⁴ Department of Health Education and Behavioral Sciences, Airlangga University, East Java, Indonesia

⁵ Department of Nursing, Brawijaya University, East Java, Indonesia

 *Corresponding e-mail: yoyok@umm.ac.id

 <http://dx.doi.org/10.32505/atfaluna.v6i2.7286>

Submission : November 6, 2023

Revision : December 21, 2023

Accepted : December 30, 2023

Abstract

Aggressive behavior in parenting is a crucial factor for the temperament of children. This study evaluated the relationship between the mother's aggressive behaviors and her children's temperament. The research design applied a cross-sectional survey by using multistage sampling. Two hundred forty-five participants joined this study by responding to a questionnaire. Good aggressive behaviors from caregivers to protect children against physical and psychological harm and danger were observed in mothers aged 26-35 (89.9%) and well-educated mothers (96.8%). The data showed that 4.54 (\pm 0.912) mothers protect their children from unhealthy foods. The temperament of children was not related to age (p -value = 0.372), mothers' educational background (p = 0.824), and mothers' job status (p = 0.705). Family income had no relation with the child's temperament (p -value = 0.253). There was no relationship between mothers' aggressive behaviors and the temperament of children in avoidant restrictive food intake disorder (ARFID) child cases. The number of children and the aggressive behavior from the mother affected the child's temperament. This study contributes insight into the interplay between a mother's aggressive behaviors and her children's temperament. Subsequent research could delve deeper into specific factors influencing children's temperament in the ARFID case.

Keywords: *aggressive behavior; avoidant restrictive food intake disorder; children's temperament; maternal aggression.*



A. INTRODUCTION

Based on the behavioural system model theory, aggressive behaviour is a protective and preservation behaviour performed by individuals against other people from a variety of threats in the environment (Alligood, 2017). Research shows children's emotional intelligence contributes to aggressive behaviors (Gao et al., 2023). Aggressive behavior is often used to protect oneself and others (Ratu, 2015). Nurses or caregivers apply aggressive behavior to protect and improve individuals' health (Solon et al., 2018). Aggressive behavior is used to reduce pain and encourage the recovery of individuals, especially for family members (Cismaru & Le Pioufle, 2016). Aggressive behavior of caregivers is an attitude that protects against the physical and psychological disturbances in children (Jojon et al., 2017). The description above indicates that aggressive behavior is a protective or self-defence mechanism from various threats and is expected to improve health and reduce pain.

Aggressive tendencies are predominantly based on previous studies. First, a study in the USA with 1005 mothers who have children aged 12-36 months, reported that 77.2% of caregivers implemented a protection strategy for feeding children under five (Van Der Horst & Sleddens, 2017). Second, a study with 24 parents, who had children, aged 4-5 years, found that 77.78-80% of caregivers' use aggressive or protective parenting in children and use abusive language when speaking (Andari et al., 2018). Third, a study at Southwestern Ontario, Canada on 81 mothers with children with meager birth weight (ELBW) and 87 mothers with normal birth weight (NBW) reported aggressive behavior in 40% of caregivers with children with a low baby weight history and 26% of caregivers with children with healthy baby weight (Day et al., 2018).

Aggressive behavior in parenting is a crucial factor for the temperament of children. Children's physical and mental development is significantly influenced by the parenting style employed. A wide range of unfavourable parenting techniques, including verbal abuse, physical aggressiveness, and harsh behavior, are considered harsh parenting and have a detrimental impact on children (Liu et al., 2022). The previous study in a kindergarten in Jember showed that 73.9% of 46 respondents reported the bad temperament of 3-6 years old children with working mothers (Lusiana, 2009). A study in Manado with 30 mothers reported 53.3% of pre-school and 46.7% of kindergarten children had high temperaments (Yiw'Wiyoun et al., 2017). Another study with 40 mothers with 4 - 6 years-old children in Purwokerta reported that 40% of children aged 3-6 years had a high temperament due to a lack of communication with parents (Wardani, 2019).

Temperament is interpreted as a way for individuals to think and behave and refers to the individuals' way of life (Hockenberry et al., 2016). Temperament is characterized by a combination of emotional, motor, attention, and self-regulation processes that are first seen in infancy and maintain stability over time (Fawcett, 2017). The temperament level in children can be seen from several indicators, especially distractibility (Hartantya & Hakim, 2016). Children with high distractibility tend to divert their attention easily, while those with low distractibility tend to be less easily diverted (Harahap, 2019). Vulnerable attention or persistence measures how long a child pays attention to subsequent activities, even though

the difficulty is increased and there are obstacles to be faced (Carey & McDevitt, 2016). Temperament in children is a child's ability to control cognitive, attention, and emotional functions (Galitto, 2015; Ullsperger et al., 2016). Temperament is also defined as a reaction and self-regulation from individuals to the domains of affection, attention, and activity (Abulzi et al., 2017; Surkan et al., 2015). Temperament in children is a vital predictor for children's emergence of behavioral problems. Children with difficult temperaments can develop more behavioral problems in the future (Bao et al., 2016; Chong et al., 2016).

Heredity and the environment affect children's temperament (Dariyo, 2007). Environmental factors, such as parental regulations, can affect children's temperament. Several examples are inconsistency in parenting, excess criticism, too protective or aggressive towards children, and a lack of attention from parents (Fetsch & Jacobson, 1996). Caregivers must give additional care to children who tend to be aggressive (van der Horst & Sleddens, 2017).

There is a reciprocal relationship between the temperament of children and the aggressive behavior of the caregiver. Several characteristics and internal problems in children could affect parenting behavior and will cause parenting conflicts (Lippold et al., 2019; van Hollad De Graaf et al., 2018). Cognitive abilities and language skills are significantly related to parenting behavior. The development of a child's personality is the outcome of on-going, dynamic interactions between the child and the experiences from their social environments. High levels of parental support (such as warmth, stimulation, and sensitive responsiveness) are frequently linked to adaptive child outcomes in a range of developmental domains in typically developing children (Van et al., 2017). Children with better cognitive abilities affect more positive parenting behaviors (Woodward et al., 2018).

Avoidant restrictive food intake disorder (ARFID) is a disorder of difficulty in eating in children under five years old. In the diagnostic and statistical manual of mental disorders (DSM), ARFID is a new term introduced in 2013 that replaces feeding disorders of infancy or early childhood in DSM IV (Hay & Touyz, 2014; Ornstein et al., 2013). Further research is required to better understand ARFID due to its severe impact and could disrupt the future life of the affected children (Agh et al., 2015; Campbell & Peebles, 2014; Uher & Rutter, 2012), and this is caused by a failure to meet appropriate nutritional needs (Katzman et al., 2014; Zucker et al., 2015). Furthermore, ARFID will cause significant weight loss, dietary deficiencies, dysfunction of psychosocial skills, and a high dependency on enteral nutrition and oral supplementation (Sharp et al., 2017). The prevalence of ARFID is between 11-23% in various countries. In Japan, the incidence of ARFID in 2014 was 11% (Nakai et al., 2017). An increased incidence was found in several countries, such as 12.4% in 2013 in Canada; 22.5% in 2012 in the USA; and 5% - 23% in 2014 in the UK (Fisher et al., 2014; Mairs & Nicholls, 2016; Nicely et al., 2014). It is essential to observe the character of temperament in children with ARFID and to analyse the demographic factors that influence caregiver temperament and aggressive behavior. The temperament of children and the aggressive behavior of mothers are the primary indicators.

A mother's aggressive behavior is behavior that protects the child's safety. There still needs to be more research in this regard. The study from Fitri says that caregivers' behavior strongly influences children's temperament in their care; one of the caregivers' behaviors that cause children's high character is aggressive caregiver behaviour (Fitri, 2019). Another study says that caregivers use aggressive behavior to feed children with difficulty eating. Based on this, it is necessary to research the relationship between aggressive behaviors and children's temperament and analyse the determinant factors that affect the character of children who experience difficulty eating. This study has the primary objective of analysing the relationship between mothers' aggressive behaviour and their children's temperament.

B. METHOD

This research design is a cross-sectional survey. The research sample comprised 245 respondents, determined by the rule of thumb technique. Multistage sampling was used in this study with the inclusion criteria of mothers caring for ARFID children. These children do not suffer from chronic diseases or congenital disorders in eating (Prasetyo et al., 2019).

Multistage sampling with three sampling stages was used as the technique (Taherdoost, 2016). Stage 1 selected 3 out of 5 Public Health Centers in Singosari using a simple random sampling. Public Health Center was selected in Karangploso, Singosari, and Ardimulyo. Stage 2 was choosing the Integrated Health Post for the study sampling site in each Public Health Center. From the total 229 Integrated Health Posts in all 3 locations, about 46 Integrated Health Posts were selected by simple random sampling. Stage 3 was determining families from those 46 Integrated Health Posts. The inclusion criteria for participants were mothers with children under five years old and categorized as ARFID children. The children were not sick with chronic diseases and did not have congenital disabilities that might affect eating behavior. A total of 245 families with ARFID children participated in this study. The questionnaire was given to 245 participants at integrated health service posts or in their residences. Eight research assistants assisted in the data collection process. The data were obtained from August 2018-February 2019.

The child temperament questionnaire was adopted from a temperament assessment score for children (8 items). The scoring was evaluated using a Likert scale from 1, 3, 5 (low to high). The temperament of children was categorized into 3 groups, good ($X > \text{mean} + \text{SD}$); enough ($\text{mean} - \text{SD} \leq X \leq \text{mean} + \text{SD}$); less ($X < \text{mean} - \text{SD}$).

The aggressive sub-variable questionnaire was developed from the Johnson Behavioral System Models. It consists of five statements with the following indicators: 1) feeling safe, 2) the desire to get a sense of security, 3) feeling unsafe seeing the child's condition, 4) defending family members, and 5) protection from unhealthy food. The assessment was determined by a Likert scale (1: never, 2: rarely, 3: sometimes, 4: often, 5: always). The validity values were all above or equal to 0.4 and considered valid. Thus, the value of the reliability test was 0.63 and is considered as reliable. The aggressive behaviour was categorized into three groups, good ($X > \text{mean} + \text{SD}$); enough ($\text{mean} - \text{SD} \leq X \leq \text{mean} + \text{SD}$); less ($X < \text{mean} - \text{SD}$).

Data were analyzed by IBM SPSS 23.0 statistics software (SPSS Inc.) with the significance level set at $p < 0.05$. Demographic data of mothers and children have been displayed with percentages. Bivariate analysis was used with the chi-square technique and Spearman Rank (Rho) correlation.

The Public Health Faculty gave ethical approval Airlangga University research ethics committee, with the certificate number 333-KEPK. All participants provided signed informed consent for their participation, and their data was guaranteed for privacy and confidentiality.

C. RESULT AND DISCUSSION

1. Result

a. Characteristics of mothers and children

Based on the result (Table 1), most of the mothers were between 26-35 years (56.7%), with an average of 30.20 ± 6.12 years of age. The majority of mothers had a high school education (36.3%) and were not working (77.6%). Most families' monthly income was between IDR 1-2 million per month (51.4%) and had one child (42.4%). The maximum age of children was \leq three years (72.2%), with an average age of 2.10 ± 1.1 years, and primarily female (55.1%). The majority of children had an average body weight (80.4%), normal height (60.8%), and a normal body mass index (76.7%).

Table 1. Characteristics of mother and children

Characteristic of Mother		N (%)
Age	Mean \pm SD	30.20 ± 6.120
	· 17-25 (Late Youth)	61 (24.9)
	· 26-35 (Early Adult)	139 (56.7)
	· 36-45 (Late Adult)	45 (18.4)
Education	· Elementary School	50 (20.4)
	· Junior High School	75 (30.6)
	· Senior High School	89 (36.3)
	· College	31 (12.7)
Job	· Working	55 (22.4)
	· Not working	190 (77.6)
Monthly income	· Above 2 million	63 (25.7)
	· Between 1-2 million	126 (51.4)
	· Under 1 million	56 (22.9)
Number of Children	· 1	104 (42.4)
	· 2	97 (39.6)
	· 3	36 (14.7)
	· 4	7 (2.9)
	· 5	1 (0.4)

Characteristic of Children		N (%)
Age	Mean + SD	2.10 ± 11.09
	· ≤ 3	177 (72.2)
	· > 3-5	68 (27.8)
Sex	· Male	110 (44.9)
	· Female	135 (55.1)
Body weight	· Overweight	2 (0.8)
	· Normal weight	197 (80.4)
	· Underweight	39 (15.9)
	· Significantly underweight	7 (2.9)
Height	· Tall	8 (3.3)
	· Normal	149 (60.8)
	· Short	38 (15.5)
	· Very Short	50 (20.4)
Body Mass Index	· Overweight	27 (11)
	· Normal	188 (76.7)
	· Thin	23 (9.4)
	· Very thin	7 (2.9)

Source: Author's own research

b. Aggressive behavior of mothers

The result (Table 2) showed that the mother's aggressive behaviour was related to age (p-value = 0.004). However, the aggressive behavior of mothers is not related to the mother's education level (p-value = 0.243), mothers' job (p-value = 0.062), family income (p-value = 0.163), number of children (p-value = 0.745), age of children (p-value = 0.679), gender of children (p-value = 0.178), body weight (p-value = 0.795), the height of children (p-value = 0.819), and body mass index of children (p-value = 0.678). Good aggressive behavior of the mother was observed in the age group 26-35 years (89.9%), working mothers (92.7%), those with a college education (96.8%), and those with a family income above 2 million/month (92.1%). Good aggressive behavior of the mother was primarily observed in those who had 3-5 years-old children (85.3%) and those with female children (86.7%). An indicator of aggressive behavior is eating problems in children. Mothers often protect children from unhealthy food 4.54 (±0.912). Meanwhile, the lowest indicator of the mother's aggressive behavior was defending family members 4.00 (±1.008) (Table 3).

Table 2. Mothers' aggressive behavior

No.	Respondent Characteristics	Aggressive Behavior			p-value
		Good (n (%))	Enough (n (%))	Less (n (%))	
1	Age (year):				
	17-25 (Late Youth)	47 (77)	14 (23)	0 (0)	0.004
	26-35 (Early Adult)	125 (89.9)	14 (10.1)	0 (0)	

	36-45 (Late Adult)	35 (77.8)	8 (17.8)	2 (4.4)	
2	Education:				
	Elementary School	44 (88)	5 (10)	1 (2)	0.243
	Junior High School	60 (80)	14 (18.7)	1 (1.3)	
	Senior High School	73 (82)	16 (18)	0 (0)	
	College	30 (96.8)	1 (3.2)	0 (0)	
3	Job:				
	Labor	51 (92.7)	3 (5.5)	1 (1.8)	0.062
	Non-Labor	156 (82.1)	33 (17.4)	1 (0.5)	
4	Income:				
	Above 2 million	58 (92.1)	5 (7.9)	0 (0)	0.163
	Between 1-2 million	100 (79.4)	24 (19)	2 (1.6)	
	Under 1 million	49 (87.5)	7 (12.5)	0 (0)	
5	Number of Children:				
	1	86 (82.7)	18 (17.3)	0 (0)	0.745
	2	82 (84.5)	13 (13.4)	2 (2.1)	
	3	31 (86.1)	5 (13.9)	0 (0)	
	4	7 (100)	0 (0)	0 (0)	
	5	1 (100)	0 (0)	0 (0)	
6	Child age (year):				
	≤ 3	149 (84.2)	26 (14.7)	2 (1.1)	0.679
	> 3-5	58 (85.3)	10 (14.7)	0 (0)	
7	Gender:				
	Male	90 (81.8)	20 (18.2)	0 (0)	0.178
	Female	117 (86.7)	16 (11.9)	2 (1.5)	

Source: Author's own research

Table 3. Aggressive behavior indicators

No	Indicator	Mean ± SD
1	Protection for children	4.54 ± 0.912
2	The desire to get a sense of security	4.44 ± 0.821
3	Feeling insecure due to children having difficulty in eating	4.23 ± 0.979
4	Feeling safe	4.10 ± 1.024
5	Defending family members	4.00 ± 1.088

Source: Author's own research

c. Temperament of children

According to the result (Table 4), it can be seen that the temperament of children is not related to age (p-value = 0.372), mother's education level (p-value = 0.824), mothers' work (p-value = 0.705), family income (p-value = 0.253), number of children (p-value = 0.169), age of children (p-value = 0.258), gender of children (p-value = 0.175), weight of children (p-value = 0.598), height of children (p-value = 0.055), and body mass index of children (p-value = 0.380).

Table 4. Temperament of children

No.	Respondent Characteristics	Children's Temperament			p-value
		Easy (n (%))	Moderate (n(%))	Difficult (n(%))	
1	Age (year):				
	17-25 (Late Youth)	25 (41)	29 (47.5)	7 (11.5)	0.372
	26-35 (Early Adult)	70 (50.4)	59 (42.4)	10 (7.2)	
	36-45 (Late Adult)	27 (60)	15 (33.3)	3 (6.7)	
2	Education:				
	Elementary School	28 (56)	18 (36)	4 (8)	0.824
	Junior High School	33 (44)	37 (49.3)	5 (6.7)	
	Senior High School	46 (51.7)	35 (39.3)	8 (9)	
	College	15 (48.4)	13 (41.9)	3 (9.7)	
3	Job:				
	Labor	28 (50.9)	24 (43.6)	3 (5.5)	0.705
	Non-Labor	94 (49.5)	79 (41.6)	17 (8.9)	
4	Income:				
	Above 2 million	31 (49.2)	23 (36.5)	9 (14.3)	0.253
	Between 1-2 million	61 (48.4)	56 (44.4)	9 (7.1)	
	Under 1 million	30 (53.6)	24 (42.9)	2 (3.6)	
5	Number of Children:				
	· 1	41 (39.4)	51 (49)	12 (11.5)	0.169
	· 2	57 (58.8)	33 (34)	7 (7.2)	
	· 3	20 (55.6)	15 (41.7)	1 (2.8)	
	· 4	3 (42.9)	4 (57.1)	0 (0)	
	· 5	1 (100)	0 (0)	0 (0)	
6	Child age (year):				
	· ≤3	90 (50.8)	70 (39.5)	17 (9.6)	0.258
	· > 3-5	32 (47.1)	33 (48.5)	3 (4.4)	
7	Gender:				
	· Male	57 (51.8)	48 (43.6)	5 (4.5)	0.175
	· Female	65 (48.1)	55 (40.7)	15 (11.1)	
8	Body weight:				
	Overweight	1 (50)	1 (50)	0 (0)	0.598
	Normal weight	103 (52.3)	78 (39.6)	16 (8.1)	
	Underweight	16 (41)	19 (48.7)	4 (10.3)	
	Significantly underweight	2 (28.6)	5 (71.4)	0 (0)	
9	Height:				
	Tall	5 (62.5)	1 (12.5)	2 (25)	0.055
	Normal	75 (50.3)	62 (41.6)	12 (8.1)	
	Short	12 (31.6)	22 (57.9)	4 (10.5)	
	Very Short	30 (60)	18 (36)	2 (4)	
10	Body mass index:				
	Overweight	17 (63)	10 (37)	0 (0)	0.380
	Normal	93 (49.5)	78 (41.5)	17 (9)	
	Thin	8 (34.8)	13 (56.5)	2 (8.7)	
	Very thin	4 (57.1)	2 (28.6)	1 (14.3)	

Source: Author's own research

The more difficult temperament of children was observed in 17-25 years-old mothers (11.5%), with a college education (9.7%), without occupation (8.9%), family income above 2 million per month (14.3%), only child (11.5%), more than three years-old children (9.6%), and families with female children (11.1%). Also, it was observed in the group of children with lower body weight (10.3%), tall children (25%), and children with very thin bodies (14.3%).

It can be observed (Table 5) that the weakest of the child temperament indicators is persistence, with a mean of 1.90 ± 1.192 , and the most dominant is environmental sensitivity (3.50 ± 1.514).

Table 5. Indicators of child temperament

Indicator	Mean \pm SD
Persistence	1.90 \pm 1.192
Mood quality	2.07 \pm 1.299
Activity level	2.17 \pm 1.480
Adaptation	2.24 \pm 1.278
Regularity	2.24 \pm 1.480
Distractibility	2.72 \pm 1.467
Approach or withdrawal	2.73 \pm 1.539
Physical sensitivity	3.50 \pm 1.514

d. The relationship between the behavior of the mother and aggressive behavior and temperament in children

Based on the result (Table 6), it can be seen that 84.5% of mothers demonstrated good aggressive behavior. Within this group were 40.8% ARFID children with good temperament, moderate temperament (38%), and less temperament (5.7%). In the mothers with 'enough' aggressive behavior (14.7%), there were 20 children (8.2%) who had a good temperament, 10 had a moderate temperament (4.1%), and six (2.4 %) had less temperament. The small number of mothers who showed less aggressive behavior (0.8%) had children with a good temperament (0.8%). This indicates that most mothers had good aggressive behavior combined with the good temperament of their children. There was no relationship between the aggressive behavior of the mother and the temperament of children in ARFID cases (p-value = 0.607).

Table 6. The correlation between mother’s aggressive behaviour with children’s temperament

Mother’s aggressive behavior	Good	Fair	Poor	Total	P Value
	n (%)	n (%)	n (%)		
Good	100 (40.8)	93 (38)	14 (5.7)	207 (84.5)	0.607

Fair	20 (8.2)	10 (4.1)	6 (2.4)	36 (14.7)
Poor	2 (0.8)	0	0	2 (0.8)
Total	122 (49.8)	103 -42	20 -8,2	245 -100

Source: Author's own research

e. Factors related to child temperament

The number of children is predicted to have a negative effect on child temperament ($\beta = -1,322, p = 0.046$). Aggressive behavior in providing a sense of security in children is predicted to have a positive effect on children's temperament ($\beta = -1,132, p = 0.007$). Maternal age, child age, family advocacy, and protection against unhealthy food do not affect the child's temperament (Table 7).

Table 7. Factors related to children's temperament based on multiple linear regression

Variable	B	SE	β	t	p
Constant	19.412	5.324		3.646	.000
Mother's age	-.015	.088	-.014	-.165	.869
Child age	-.363	.628	-.065	-.577	.564
Number of children	-1.322	.659	-.175	-2.007	.046
Security	-1.132	.418	-.186	-2.708	.007
Family advocacy	.311	.407	.054	.764	.446
Protection against unhealthy eating	-.020	.476	-.003	-.041	.967

Source: Author's own research

2. Discussion

The mother's aggressive behavior is related to maternal age. The mother's age determines her maturity regarding rational and motorized productivity (Mila et al., 2016). When the mother is mature, she confers the ability to provide care and pay attention to the nutritional status of children. This can be useful, especially in children who have difficulty eating (Sudirman et al., 2017). Mothers who display good aggressive behavior have higher levels of trust and satisfaction and lower levels of contradiction in interpersonal relationships (Ebrahimi et al., 2017). Good maternal aggressive behavior is related to the mothers' education and determines the quality of care. Mothers with high education have better accessibility and opportunities to receive new information. This helps improve children's cognitive and psychological abilities and growth and development (Santy & Irtanti, 2018). Mothers with a higher level of education can think critically about their available resources and better understand what is good and bad for their children (Syam, 2013).

Working mothers displayed better aggressive behavior than mothers who did not work. Working mothers have more experience, information, and knowledge about protection and the growth of children (Santy & Irtanti, 2018). Working mothers also have better quality time with their children, even though the intensity is low. Mothers who work in the formal sector, such as in education and health or other professional jobs, provide the opportunity to interact with colleagues and are more exposed to information related to education and child growth and development compared to mothers who do not work. Regarding the quality of time to interact with children, working mothers are better than mothers who don't work. Mothers who do not work have more time but no quality to support their child's body and development (Horwood et al., 2020). Therefore, the attention to children's protection and development can be monitored well (Lusiana, 2009). Good maternal aggressive behavior is comparable with a better family income. All children need financial support (Santy & Irtanti, 2018). Unemployed mothers will be more frustrated in caring for children and carrying out household activities. Frustration makes them have a lower aggressive behavior compared to working mothers, not to mention it can also lead to unpleasant situations. Therefore, mothers will avoid or overcome this situation by behaving aggressively (Aristawati, 2016).

Mothers with more children had better aggressive behavior than mothers with a single child. This is due to previous experience in protecting children, and they can better observe the signs of normal growth and development for cognitive and emotional aspects (Aristawati, 2016). In contrast, mothers who just have their first child have more challenges developing their parenting skills. In the beginning, the mother will be faced with a variety of feelings, such as shock and irritation. The mother may have an ideal perspective on motherhood, but the reality does not match expectations. Thus, mothers with experience will behave more aggressively than mothers with little parenting experience (Shafwati, 2019).

Good maternal aggressive behavior was observed in groups of children aged 3-5 years. The growth of cognitive, interpersonal skills and autonomy happens in preschool children (3-5 years) (Linkiewich et al., 2021). At this stage, children can control and develop their self-confidence. Parents should not forbid or become too angry with their children because it makes children feel inadequate and doubtful about their abilities (Wijirahayu et al., 2016). Age affects children's cognitive development and interpersonal development, where children not only interact with their parents but also interact with their peers (Karaki et al., 2016).

Aggressive behavior was higher in families with female children. This is due to female children having more difficulty eating than male children (Kesuma et al., 2015). The research (Kusuma et al, 2015) was conducted at a preschool in Riau with a total sample of 79 respondents. Mothers who have children with nutritional disorders have better aggressive behavior compared to normal ones. This is due to the mothers' desire to protect their children by following strategies such as eating healthy food, providing fruit and vegetables, and modifying how they serve the (van der Horst & Sleddens, 2017).

A worse children's temperament occurred in children with 17-25 years-old mothers, due to the lack of experience in taking care of children. The mother's age is a crucial factor and influences parenting because being too young or old make the mother unable to carry out parenting roles and consequently affects children's temperament (Syam, 2013). Disorders in children's cognitive and emotional development lead to several problems, such as a lack of knowledge and cognitive skills (Fitri, 2019). A worse temperament in children is also shown in the non-working mothers group. This is because unemployed mothers do not receive the latest information on how to treat children compared to employed mothers, this information is necessary to nurse the children in the best way; as a consequence, without this information, they tend to spoil their children (Prasetyo et al., 2022). Therefore, children always get what they want (Santy & Irtanty, 2018). Also, how to take good care of their children will support the growth and development of children's temperament (Rajhans et al., 2015).

The temperament of children is less affected by better income. This is because the mother always gives their children what they want. This means that their children do not express their emotions freely. If this continues, those emotions will explode uncontrollably, often in children with difficult temperaments (Yiw'Wiyouf et al., 2017). The current findings indicate that mothers with better income will spoil their children by giving them what they want (McRae et al., 2019). This can also cause a temper tantrum, an explosion of emotion or anger for a child when the request is rejected. If tantrums are not treated early, this can become a severe problem from 3 years until adulthood (Santy & Irtanti, 2018).

A poor temperament in children is often associated with children's difficulties in adapting. Children will have difficulty sleeping, eating, and defecating regularly. Children's temperament depends on their nutritional status. The highest percentage of difficult temperaments occurred in children with nutritional disorders. This happens because children tend to experience an unfavourable temperament at five. The poor temperament of children affects their eating patterns, such as a tendency to enjoy snacking. Therefore, they will become full during mealtime, refuse to eat, and choose to play (Kesuma et al., 2015). Temperament also influences a child's appetite (Lukens & Silverman, 2014). It has been proposed that early childhood temperament plays a role in explaining why certain children are more prone than others to display reduced appetite self-control. According to studies, children's eating habits and avoidance are related to temperamental features that are crucial for emotional self-regulation (Liew et al., 2020).

There is no observed relationship between the mother's aggressive behavior and the children's temperament. This is because the temperament of children is influenced by the effective functions of the family, parenting, and family communication patterns (Squires et al., 2014). There is a relationship between the effective or internal function of the family and children's temperament. Each family member can develop a positive self-image, act as a role model, and model compassion. The previous study showed a relationship between the effective function of the family and the tantrum temper behavior

in children (Fitri, 2019). Authoritarian parenting results in a difficult temperament in children, and democratic parenting can also impact the temperament of children. Unemployed respondents follow this kind of parenting and tend to have a difficult temperament with children. It happens because of mothers who tend to be permissive parents. It is parenting that fully controls the children to follow their parent's rule; if they do not, the parent will punish their children (Campbell & Peebles, 2014).

Parental ignorance affects the temperament of children as well. It can lead parents to criticize or punish their children. Parents are susceptible to their child's temperament; they do not simply tell them what must be done, but they adapt their demands and upbringing styles to the child's temperament (Mendo-Lázaro et al., 2019). Parenting models that conflict with the temperament of children cause disruptions in the temperament of children (Harahap, 2019). In this study, the communication pattern with temper tantrums indicates that children's emotional development is influenced by changing patterns of interaction and communication in the family. Communication between parents and children is essential as it bridges relationships between family members (van der Horst & Sleddens, 2017).

The smaller number of children in the family will increase the mother's empathy in providing parenting and a mother's empathy affects a child's temperament. Mothers who have good empathy for children (not easily angry, not stressed, and not having depression) have an impact on children's emotions and temperament. Children will be more mature because of their mother's empathy as the caregiver strongly influences their behaviour (Fitri, 2019). Furthermore, aggressive caregiver behavior causes high child temperament (Kesuma et al., 2015).

Hereditary and environment influence children's temperament (Chong et al., 2016). The hereditary factor is temperament conditions that have been carried out since birth. It is stable and permanent. Temperament is characterized by a combination of innate characteristics regarding emotional, motor, attention, and self-regulation processes that were first seen in infancy and relatively maintained stability over time (Gallitto, 2015). In the case of an environmental factor, it could be from their parents. Some of them are parents' rules that are inconsistent with children, too much criticism, too protective or aggressive towards children, and lack of attention and affection from parents (Fetsch & Jacobson, 1996). One result is that the child tends to dislike food. It makes caregivers tend to be aggressive.

The level of temperament in children can be seen from the temperament indicator, such as distractibility (Hockenberry et al., 2016). High distractibility causes children to easily distract their attention, while low distractibility causes children's attention not to be easily diverted (Harahap, 2019). Persistence is a parameter to measure how long children pay attention to activities given and continue activities even though it feels difficult and faces obstacles (Persistence) (Careyn & McDevitt, 2016).

The mother's aggressive behavior can be seen by giving security to their children. It is a contributing factor to build good behavior in children. In addition, providing security is a form of self-defense mechanism or protection from various threats in the surrounding environment and social behaviour (Fawcett, 2017). This protective and caring behavior affects a therapeutic relationship between caregivers and children and produces a lasting response. In the case of children with ARFID who are depressed, they need help from family members or caregivers to provide protection, direction, and support. Infant children who have difficulty eating at preschool will get more behavior problems in the future. Children with difficult temperaments show more frustration, anger, withdrawal, and anxiety (Bao et al., 2016).

The number of children and the aggressive behavior from the mother affected the child's temperament. Mothers who have fewer children have more opportunities to provide empathetic parenting. This empathy produces a better child's temperament. A sense of security from a mother against a child also determines the child's temperament.

The age of the mother influenced the aggressive behavior of the mother (Lopez et al., 2018). The most dominant indicator was the feeling of protecting her child, especially with eating problems. Mothers often protect children from unhealthy food. The mother's aggressive behaviour was not related to the children's temperament. It was strongly influenced by the effective function of the family, parenting patterns, and family communication patterns (Hughes et al., 2017; van der Horst & Sleddens, 2017).

D. CONCLUSION

Mothers' aggressive behavior, which is categorized as good, including giving protection to children and defending family members, becomes the critical factor that can decide whether the growth and development of the children will be good or the opposite. Although a mother's aggressive behavior does not correlate with children's temperament, it can provide safe and confident feelings to facilitate the children's growth and development to adapt to their environment. Further research can be performed to analyze the effect of family affective functions, parenting patterns, and family communication patterns on children's temperament. Maternal aggressive behavior protects children who experience ARFID from unhealthy food. Maternal aggressive behavior was not related to the child's temperament. Family affective function factors, parenting and communication patterns strongly influence a child's temperament.

E. REFERENCES

- Abulizi, X., Pryor, L., Michel, G., Melchior, M., & van der Waerdan, J. (2017). Temperament in infancy and behavioral and emotional problems at age 5.5: The EDEN mother-child cohort. *PLoS One*, *12*(2), 1–17. <http://doi.org/10.1371/journal.pone.0171971>
- Ágh, T., Kovács, G., Pawaskar, M., Supina, D., Inotai, A., & Vokó, Z. (2015). Epidemiology, health-related quality of life and economic burden of binge eating disorder: A

systematic literature review. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity*, 20(1), 1–12. <http://doi.org/10.1007/s40519-014-0173-9>

Alligood, M. R. (2017). *Nursing theorists and their work*. (9th ed). New York: Elsevier.

Andari, A. A., Rosenda, D., & Supriadi, A. (2018). The relation of overprotective parenting with early childhood speech ability in the digital era. *Jurnal Pendidikan Usia Dini*, 9(1), 39–43. <http://doi.org/10.17509/cd.v9i1.11349>

Aristawati, A. R. (2016). Relationship between self-control and aggression in mothers who have early childhood: Malang. *Jurnal Psikologi Indonesia*, 5(2), 145–153. <https://doi.org/10.21070/psikologia.v6i1.1210>

Bao, P., Jing, J., Jin, Y., Hu, X., Liu, B., & Hu, M. (2016). Trajectories and the influencing factors of behavior problems in preschool children: A longitudinal study in Guangzhou, China. *BMC Psychiatry*, 16(1), 178. <https://doi.org/10.1186/s12888-016-0864-z>

Campbell, K., & Peebles, R. (2014). Eating disorders in children and adolescents: State of the art review. *Pediatrics*, 134(3), 582–592. <https://doi.org/10.1542/peds.2014-0194>

Carey, W. B., & McDevitt, S. C. (2016). *Child behavioral assessment & management in primary care*. (2nd ed). Scottsdale: Behavioral-Developmental Initiatives.

Chong, S. Y., Chittleborough, C. R., Gregory, T., Mittinty, M. N., Lynch, J. W., & Smithers, L. G. (2016). Parenting practices at 24 to 47 months and IQ at age 8: Effect-measure modification by infant temperament. *PLoS One*, 11(3), e0152452. <http://doi.org/10.1371/journal.pone.0152452>

Cismaru, M., & Le Pioufle, A. (2016). Helping families affected by depression: Incorporating prosocial and caregiving literature. *International Business Research*, 9(12), 23–31. <https://doi.org/10.5539/ibr.v9n12p23>

Dariyo, A. (2007). *Child development psychology first three years*. Bandung: Refika Aditama.

Day, K. L., Dobson, K. G., Schmidt, L. A., Ferro, M. A., Sigal, S., Boyle, & van Lieshout R. J. (2018). Exposure to overprotective parenting and psychopathology in extremely low birth weight survivors. *Child: Care Health Development*, 44(2), 234–239. <http://doi.org/10.1111/cch.12498>

Ebrahimi, L., Amiri, M., Mohamadlou, M., & Rezapur, R. (2017). Attachment styles, parenting styles, and depression. *The International Journal of Mental Health & Addiction*, 15(5), 1064–1068. <https://doi.org/10.1007/s11469-017-9770-y>

Fawcett, J. (2017). *Applying conceptual models of nursing: Quality improvement, research, and practice*. US: Springer Publishing Company.

Fetsch, R. J., & Jacobson, B. (1996). *Children's anger and tantrums*. Colorado: Colorado State University.

Fisher, M. M., Rosen, D. S., Ornstein, R. M., Mammel, K. A., Katzman, D. K., Rome, E. S., Callahan, S. T., Malizio, J., Kaerney, M. N. S., Walsh, B. T. (2014). Characteristics of avoidant/restrictive food intake disorder in children and adolescents: A “new Disorder” in DSM-5. *Journal of Adolescent Health*, 5(1), 49–52. <https://doi.org/10.1016/j.jadohealth.2013.11.013>

- Fitri, L. N. (2019). Relationship of family affective function with temper tantrum behavior in children. Master's thesis. University of Jember.
- Gallitto, E. (2015). Temperament as a moderator of the effects of parenting on children's behavior. *Development and Psychopathology*, 27(3), 757–773. <https://doi.org/10.1017/S0954579414000753>
- Harahap, R. D. (2019). The relationship between parenting style and the temperament of school-age children in Tanjung Rejo village, Dusun XI, Percut Sei District, Deli Serdang Regency. Master's thesis. University of Sumatera Utara.
- Hartantya, N. P., & Hakim, L. (2016). The influence of fear of failure, achievement motivation and interest in learning towards academic procrastination on the task of accounting services companies. *Jurnal Pendidikan*, 5, 1–6.
- Hay, P., & Touyz, S. (2014). Implications for the journal of eating disorders and its authors. *Journal of Eating Disorders*, 2(3), 1–2. <http://doi.org/10.1186/2050-2974-2-3>
- Hockenberry, M., Wilson, D., & Rodgers, C. (2016). *Wong's essentials of pediatric nursing*. (10th ed). Amsterdam: Elsevier.
- Jojon, Wahyuni, T. D., & Sulasmini. (2017). The relationship of over protective parenting parents to the development of school-age children in SDN Tlogomas 1, Lowokwaru District, Malang. *Nurs News (Meriden)*, 2(2), 524–535.
- Mila, A., Kurniawan, V. E., & Zatihulwani, E. Z. (2023). The relationship between mother's parenting patterns and difficult eating behavior in pre-school age children. *Nurse and Holistic Care*, 3(2), 53–63. <https://doi.org/10.33086/nhc.v3i2.4882>
- Katzman, D. K., Stevens, K., & Norris, M. (2014). Redefining feeding and eating disorders: What is avoidant/restrictive food intake disorder? *Paediatrics & Child Health*, 19(8), 445–456. <http://doi.org/10.1093/pch/19.8.445>
- Kesuma, A., Novayelinda, R., & Sabrian, F. (2015). Factors related to the behavior of preschoolers eating difficulties. *Jurnal Online Mahasiswa Program Studi Ilmu Keperawatan Universitas Riau*, 2(2), 953–961.
- Lippold, M. A., Fosco, G. M., Hussong, A., & Ram, N. (2019). Child effects on lability in parental warmth and hostility: Moderation by parents' internalizing problems. *Journal of Youth and Adolescence*, 48(5), 963–978. <http://doi.org/10.1007/s10964-019-00983-7>
- Lukens, C. T., & Silverman, A. H. (2014). Systematic review of psychological interventions for pediatric feeding problems. *Journal of Pediatric Psychology*, 39(8), 903–917. <https://doi.org/10.1093/jpepsy/jsu040>
- Lusiana, E. (2009). Difference in risk of temper tantrums of preschool age children between working and non-working mothers in Roudlotul Atfal MAN 2 Kelurahan Gebang, Patrang District, Jember Regency. Master's thesis. University of Jember.
- Mairs, R., & Nicholls, D. (2016). Assessment and treatment of eating disorders in children and adolescents. *Archives of Disease in Childhood*, 101(12), 1168–1175. <http://doi.org/10.1136/archdischild-2015-309481>

- McRae, E. M., Stoppelbein, L., O'Kelley, S. E., Fite, P., & Greening, L. (2019). Predicting child behavior: A comparative analysis between autism spectrum disorder and attention deficit/hyperactivity disorder. *Journal of Child and Family Studies*, 28(3), 668–683. <http://doi.org/10.1007/s10826-018-1299-6>
- Nakai, Y., Nin, K., Noma, S., Hamagaki, S., Takagi, R., Teramukai, S., & Wonderlich, S. A. (2017). Clinical presentation and outcome of avoidant/restrictive food intake disorder in a Japanese sample. *Eating Behaviors*, 24, 49–53. <http://doi.org/10.1016/j.eatbeh.2016.12.004>
- Nicely, T. A., Lane-Loney, S., Masciulli, E., Hollenbeak, C. S., & Ornstein, R. M. (2014). Prevalence and characteristics of avoidant/restrictive food intake disorder in a cohort of young patients in day treatment for eating disorders. *Journal of Eating Disorders*, 2(1), 1–8. <http://doi.org/10.1186/preaccept-1149759184129961>
- Ornstein, R. M., Rosen, D. S., Mammel, K. A., Callahan, S. T., Forman, S., Jay, M. S., Fisher, M., Rome E., & Walsh, B. T. (2013). Distribution of eating disorders in children and adolescents using the proposed DSM-5 criteria for feeding and eating disorders. *Adolescent Health Brief*, 53(2), 303–305. <http://doi.org/10.1016/j.jadohealth.2013.03.025>
- Prasetyo, Y. B., Kurnia, A. D., Masruroh, N. L., Nursalam, N., Hargono, R., Ahsan, A., & Kumbuyono. (2019). Factors influencing promotive behaviours in mothers of Indonesian children with avoidant restrictive food intake disorder. *Journal of Taibah University Medical Sciences*, 14(5), 454–459. <http://doi.org/10.1016/j.jtumed.2019.07.003>
- Rajhans, P., Missana, M., Krol, K. M., & Grossmann, T. (2015). The association of temperament and maternal empathy with individual differences in infants' neural responses to emotional body expressions. *Development of Psychopathology*, 27(4), 1205–1216. <https://doi.org/10.1017/S0954579415000772>
- Ratu, C. N. (2015). Relationship between father involvement (fathers involvement) in parenting with aggressive behavior in SMKN 2 students in Kupang. Bachelor's thesis. Christian University of Satya Wacana.
- Santy, W., & Irtanti, T. A. (2018). Parenting patterns affect temper tantrums in children aged 2-4 years in Paud Darun Najah, Gading Village, Jatirejo, Mojokerto. *Journal of Health Sciences*, 7(1), 73-81. <https://doi.org/10.33086/jhs.v7i1.490>
- Shafwati, D. Y. (2019). The relationship between self-control and aggression in mothers who have early childhood. Bachelor's thesis. University of Muhammadiyah Malang.
- Sharp, W. G., Volkert, V. M., Scahill, L., McCracken, C. E., & McElhanon, B. (2017). A Systematic review and meta-analysis of intensive multidisciplinary intervention for pediatric feeding disorders: How standard is the standard of care? *The Journal of Pediatrics*, 181, 116-124.e4. <https://doi.org/10.1016/j.jpeds.2016.10.002>
- Solon, M., Putri, O.L., & Naing, P.M. (2018). Pengaruh edukasi dengan pendekatan teori model behavioral system dorothy e. Johnson terhadap penurunan tekanan darah pada pasien hipertensi di puskesmas jongaya kecamatan tamalate kota makassar. *Jurnal Mitrasebat*, 8(1), 110-117. <https://doi.org/10.51171/jms.v8i1.367>

- Squires, C., Lalanne, C., Murday, N., Simoglou, V., & Vaivre-Douret, L. (2014). The influence of eating disorders on mothers' sensitivity and adaptation during feeding: A longitudinal observational study. *BMC Pregnancy Childbirth*, *14*(1), 1–9. <http://doi.org/10.1186/1471-2393-14-274>
- Sudirman, Hartati, & Wulansari, A. (2017). Hubungan pengetahuan ibu dengan tahap pencapaian tumbuh kembang balita usia 4-5 tahun di Kelurahan Medono Kota Pekalongan [The relationship between mother's knowledge and the stage of achieving growth and development of toddlers aged 4-5 years in the Medono Village, Pekalongan City]. *Jurnal Litbang Kota Pekalongan*, *1*(1), 1–13. <https://doi.org/10.54911/litbang.v1i2i0.12>
- Surkan, P. J., Charles, M. K., Katz, J., Siegel, E. H., Khattry, S. K., LeClerq, S. C., Stoltzfus, R. J., & Tielsch J. M. (2015). The role of zinc and iron-folic acid supplementation on early child temperament and eating behaviors in rural Nepal: A randomized controlled trial. *PLoS One*, *10*(3), e0114266. <https://doi.org/10.1371/journal.pone.0114266>
- Syam, S. (2013). The relationship between parenting style and the incidence of temper tantrums for toddlers at PAUD Dewi Kunti Surabaya. *Ejurnal Promkes Fakultas Kedokteran Universitas Airlangga*, *1*(2), 164–169.
- Taherdoost, H. (2016). Sampling methods in research methodology; How to choose a sampling technique for research. *International Journal of Academic Research in Management*, *5*(2), 18–27. <http://dx.doi.org/10.2139/ssrn.3205035>
- Uher, R., & Rutter, M. (2012). Classification of feeding and eating disorders: Review of evidence and proposals for ICD-11. *World Psychiatry*, *11*(2), 80–92. <https://doi.org/10.1016/j.wpsyc.2012.05.005>
- Ullsperger, J. M., Nigg, J. T., & Nikolas, M. A. (2016). Does child temperament play a role in the association between parenting practices and child attention deficit/hyperactivity disorder? *Journal of Abnormal Child Psychology*, *44*(1), 167–178. <http://doi.org/10.1007/s10802-015-9982-1>
- van der Horst, K., & Sleddens, E. F. C. (2017). Parenting styles, feeding styles and foodrelated parenting practices in relation to toddlers' eating styles: A cluster-analytic approach. *PLoS One*, *12*(5), e0178149. <http://doi.org/10.1371/journal.pone.0178149>
- van Holland De Graaf, J., Hoogenboom, M., De Roos, S., & Bucx, F. (2018). Socio-demographic correlates of fathers' and mothers' parenting behaviors. *Journal of Child and Family Studies*, *27*(7), 2315–27. <http://doi.org/10.1007/s10826-018-1059-7>
- Wardani, P. P. K. (2019). The relationship of parental communication patterns to the incidence of temper tantrums in preschool children in PAUD X Baturraden. Master's Thesis. Muhammadiyah University of Purwokerto.
- Wijirahayu, A., Krisnatuti, D., & Muflikhati, I. (2016). Mother-child attachment, child growth, and emotional and social development of preschool children. *Jurnal Ilmu Keluarga & Konsumen*, *9*(3), 171–182. <https://doi.org/10.24156/jikk.2016.9.3.171>

- Woodward, K. E., Boeldt, D. L., Corley, R. P., DiLalla, L., Friedman, N. P., Hewitt, J. K., Mullineaux, P. Y., Robinson, J., & Rhee S. H. (2018). Correlates of positive parenting behaviors. *Behav Genet*, *48*(4), 283–297. <https://doi.org/10.1007/s10519-018-9906-2>
- Yiw' Wiyouf, R. M. S., Ismanto, A., & Babakal, A. (2017). The relationship of communication patterns with the incidence of temper tantrums in pre-school age children at the Islamic Center kindergarten in Manado. *E-Journal Keperawatan*, *5*(1), 1–7.
- Zucker, N., Copeland, W., Franz, L., Carpenter, K., Keeling, L., Angold, A., & Egger, H. (2015). Psychological and psychosocial impairment in preschoolers with selective eating. *Pediatrics*, *136*(3), e582–590. <http://doi.org/10.1542/peds.2014-2386>.