

## THE RELATIONSHIP BETWEEN GADGET USAGE HABITS, PARENTING STAYLES AND EATING PATTERNS OF CHILDREN AGED 4-7 YEARS WITH THE NUTRITIONAL STATUS

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### ABSTRACT

**Introduction:** The rapid advancement in technology and information has significantly transformed the field of communication technology. Today, many parents intentionally give gadgets to their children, believing that these devices can serve as a distraction to keep children calm while they are at work, and to make them feel comfortable at home. However, when gadget usage is uncontrolled and used merely as a distraction tool, it may impact children's behavior and nutritional status. **Objectives:** This study aims to explore the effects of gadget usage habits, parenting styles, and Eating Patterns on the nutritional status of children aged 4-7 years. **Methods:** This research uses a descriptive observational design with a cross-sectional approach. The study population includes children aged 4-7 years who use gadgets, with a total sample size of 55 children. Data analysis was carried out using the Chi-Square Test. **Results:** The findings show a significant influence of the three variables—gadget usage, Eating Patterns, and parenting style—on the nutritional status of children, with a p-value of 0.00, which is less than 0.05. It can be concluded that gadget usage, parenting style, and Eating Patterns significantly affect the nutritional status of children aged 4-7 years. **Conclusions:** There is a noticeable impact of gadget usage habits, parenting styles, and Eating Patterns on the nutritional status of children aged 4-7 years.

## Introduction

Technology and information have developed very rapidly, marked by significant progress in this field. One of them is the development of increasingly widespread gadgets, almost all individuals from children to adults now have mobile phones or smartphones (Triastutik, 2018). Communication and information are important needs for all levels of society. Moreover, with the increasingly easy access to information and various interesting features offered by gadget or smartphone services, children quickly become accustomed and familiar with using them (BAHARUDDIN, 2020). Apart from providing various convenience features, using gadgets for a long time has a negative impact on children's development (Mayenti & Sunita, 2018). The bad impact of using gadgets on children can have an impact on children's health and social conditions. This is like making children become closed individuals, violent behavior, and threats of cyberbullying (Miranti & Putri, 2021).



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Parents often give gadgets to their children intentionally, because they assume that the device can function as a toy that helps calm the child when the parents are working and make the child comfortable at home. In addition, the surrounding environment also influences how children are used to interacting with gadgets. If children use gadgets too often, this has the potential to cause addiction (Pamungkas et al., 2023). Several previous studies have shown that most parents allow their children to use gadgets for educational reasons. However, in reality, most children actually use gadgets or tablets for entertainment, such as playing games (ANGGARENI, 2019).

Screen time is the time spent by children with digital devices. Modern life today makes screen time a normal thing in everyday life. The effects of screen use on a person depend on several factors and the most important factor is how long they spend looking at the screen. Long-term use can affect the frontal cortex of the brain and has almost the same effect as cocaine (Simanjuntak, 2023). The recommendations issued by WHO (2020) state that children up to the age of 1 year are not recommended to have screen time, children aged 2-4 years should have screen time of no more than 1 hour, children aged 5-17 years should have screen time of no more than 2 hours.

Preschoolers are early childhood children aged around 3-6 years, where their growth and development are rapid. One important aspect in the development of children at this age is eating habits. Consuming balanced nutritious food is very important because it can affect their health and quality of life in the future (Harlistyarintica & Fauziah, 2020). Excessive use of gadgets can pose health risks, so the role of parents in accompanying and supervising children's use of gadgets is very important (ANGGARENI, 2019). Parenting is the attitude of parents in interacting, guiding, fostering, and educating their children in everyday life, with the hope that children can be successful in life. This parenting pattern is a series of intensive interactions in which parents play a role in directing children to develop life skills (Hidayat & Maesyaroh, 2022).

Low-income families may form unhealthy eating patterns for children. In fact, good eating patterns contribute to the creation of a healthy lifestyle in the family. At preschool age, children often enter a phase of difficulty eating. If this problem persists for a long time, the child's growth and development can be disrupted due to insufficient nutritional intake. Children's eating patterns are also greatly influenced by the family's lifestyle, as seen from the child's habit of consuming fast food. This habit is often formed because parents introduce fast food without giving their children an understanding of the dangers of excessive consumption. Parents have a responsibility to ensure that their children get sufficient and quality food intake. With the right parenting, children can grow and develop optimally, becoming strong human resources. (Myrnawati & Anita, 2015).

The impact of long-term gadget use can affect children's nutritional status. Likewise, unhealthy eating patterns will significantly affect their nutritional status. Several previous studies have shown that factors that can affect health problems in school-age children include socio-economic, behavioral, biological, and food availability risk factors. Socio-economic factors include income, education level, and culture and religion. Food availability includes the quality, safety, and quantity of food. Behavioral factors include lifestyle, types of children's activities, and unhealthy eating patterns, while biological factors include age, gender, and endurance (Hasanah, 2015).

A preliminary study in Segala Anyar Village, revealed that children aged 4-7 years have started using gadgets even though the devices do not belong to them, but to their parents or older siblings. These children tend to be quieter and more engrossed in their gadgets, so they rarely interact with their peers. Unlimited gadget usage time, sometimes lasting for hours, causes regular eating patterns to become irregular, often only once or twice a day. This leads to a tendency to consume snacks or fast food. Therefore, it is important to reduce dependence on



gadgets and encourage social interaction and healthier eating patterns. Based on the background that has been explained, researchers are interested in conducting further research regarding the influence of gadget usage habits, Parenting Stayles and eating patterns on the nutritional status of children aged 4-7 years.

## Methods

This study was designed as a descriptive observational study using a cross-sectional approach. The research was conducted at Madrasah Nurul Ijtihad Tenang, located in Segale Anyar, Pujut District, Central Lombok, West Nusa Tenggara. The population of interest included children aged 4 to 7 years, attending Madrasah Ibtidaiyah (MI) Grade 1 and Kindergarten, who were identified as gadget users. A total sampling method was applied, encompassing 55 participants: 15 from Kindergarten A, 25 from Kindergarten B, and 15 from Grade 1 MI.

The independent variables in this study were the level of gadget use, parenting patterns, and eating patterns, while the dependent variable was the nutritional status of the children. Data were collected by means of direct interviews with mothers or caregivers of the children who were the samples in this study through three structured instruments: Gadget Use was assessed using a 10-item questionnaire, with responses categorized as often, sometimes, or never. Eating Patterns were measured through the Food Frequency Questionnaire (FFQ), which evaluates the frequency of various food groups consumed by children. Parenting Style was determined through a 9-item questionnaire designed to classify parenting into three different styles: authoritarian, democratic, and permissive. The nutritional status of the children was classified based on anthropometric measurements, following the standard nutritional index.

Statistical analysis was performed using the chi-square test to evaluate associations between the independent variables and nutritional status. A 95% confidence interval (CI) was applied, and significance was set at  $p < 0.05$ .

## Results

### 1. Analysis of the Relationship between Gadget Use and Nutritional Status

**Table 1. Chi Square Test Between Gadget Use and Nutritional Status**

Gadget Use	Nutritional status			Total	p-Value
	Malnutrition	Normal	Overnutrition		
High	10	13	1	24	0,013
Medium	1	19	3	23	
Low	0	7	1	8	
Total	11	39	5	55	

Based on the cross-tabulation analysis using the Chi-Square test, the value of  $\rho = 0.013$  ( $\rho < 0.05$ ) was obtained. This shows that there is a significant influence between the use of gadgets and the nutritional status of children aged 4-7 years.

### 2. Analysis of the Relationship between Parenting Stayles and Nutritional Status

**Table 2. Chi Square Test Between Parenting Stayles and Nutritional Status**

Parenting Stayles	Nutritional status			Total	p-Value
	Malnutrition	Normal	Overnutrition		
Authoritarian	5	9	4	18	0,025
Democratic	6	22	3	31	
Permissive	1	4	1	6	
Total	12	35	8	55	



The results of the cross-tabulation analysis using the Chi-Square test showed a value of  $\rho = 0.025$  ( $\rho < 0.05$ ). This indicates that there is a significant influence between Parenting Styles and nutritional status of children aged 4-7 years.

### 3. Analysis of the Relationship between Eating Patterns and Nutritional Status

**Table 3. Chi Square Test Between Eating Patterns and Nutritional Status**

Eating Patterns	Nutritional status			Total	p-Value
	Malnutrition	Normal	Overnutrition		
Deficit	3	30	0	33	0,000
Normal	8	9	0	17	
Over	0	4	1	5	
<b>Total</b>	<b>11</b>	<b>43</b>	<b>1</b>	<b>55</b>	

The results of the cross-tabulation analysis using the Chi-Square test showed a value of  $\rho = 0.00$  ( $\rho < 0.05$ ). This concludes that there is a significant influence between Eating Patterns and nutritional status of children aged 4-7 years.

### Discussion

Information on gadget usage among Kindergarten and MI students at Madrasah Nurul Ijtihad NW Tenang was collected using a 10-question survey that evaluated the children's daily gadget habits. Statistical analysis, conducted using appropriate software, revealed a relationship between gadget use and the nutritional status of children aged 4 to 7 years. The Chi-Square test produced a p-value of 0.013, indicating a statistically significant association between these two variables.

Gadget usage duration refers to the amount of time spent on devices such as smartphones, tablets, or laptops, typically measured in hours per day. Ideally, screen time should not exceed 2 hours per day. However, the questionnaire results revealed that most respondents reported using gadgets for longer durations. Consistent with Tanjung's study in Yogyakarta, it was found that most children used gadgets provided by their parents, with many being introduced to these devices as early as age 2. Parents often permit early exposure to technology, using gadgets as a source of entertainment and a way to keep children calm (Tanjung et al., 2017). Other research also explains the same thing, where the duration of use of electronic devices such as gadgets is related to the influence on nutritional status (Oktaviola et al., 2023).

In the analysis of the relationship between Parenting Styles and nutritional status, the  $\rho$  value was obtained = 0.025, which means that there is an influence on nutritional status. This shows that there is a strong relationship between Parenting Styles and the nutritional status of children aged 4-7 years. Because in the other 2 variables, namely the use of gadgets and eating patterns that make everything run and be implemented, namely the role of Parenting Styles in parenting, limiting gadget playing time, meal times, types of food given and many more roles of Parenting Styles in this study, so that the majority of nutritional status obtained is good nutrition because the most parenting pattern is democratic parenting where this parenting pattern provides a lot of parenting style that prioritizes children's interests but is not free from control over children.

This parenting pattern is in line with Karim's research in 2023, which states that democratic parenting is a type of parenting pattern that can meet good and balanced nutrition for children for the good of children's growth and development. Democratic parenting is said to be the best and healthiest parenting pattern because parents control the type of food their children eat, control their weight, regulate their emotions when eating, and encourage children to regulate their own food intake but still under parental supervision (Karim et al., 2023). The results of this



study are also supported by the results of Munawaroh's 2015 study, which states that Parenting Styles influence nutritional status because children's growth and development are not only seen from nutritional intake but also from love, attention, comfort and good Parenting Styles (Munawaroh, 2015).

Parenting is a pattern of behavior used by parents to relate to children. Wrong parenting can cause malnutrition. A child experiencing malnutrition can be caused by lack of food. Wrong parenting or genetic factors. Malnutrition due to lack of food usually occurs in poor families, while wrong parenting occurs in wealthy families who pay less attention to the nutritional balance of their children's food. Many factors influence child rearing, including education, knowledge, income and nutritional status. Someone who is highly educated is believed to have good knowledge so that they understand better how to raise children, and vice versa. From the income aspect, it is explained that families with high incomes tend to pamper their children with various facilities, this is very different from the parenting applied by families with low incomes (Sari & Rahmi, 2017).

According to the research results from Munawaroh, that the provision of balanced nutritional food with Parenting Styles is influenced by many other factors such as parental education, parental age, family economic factors and the surrounding environment. Therefore, Parenting Styles are a small part of the many factors that influence the provision of balanced nutritional food to children. Where parental education influences the Parenting Styles of parents towards their children. The higher the mother's education, the better the Parenting Styles given by parents will be (Munawaroh, 2015).

To improve the nutritional status of young children, it is essential for parents to take a proactive approach in their parenting strategies. This involves not only limiting screen time but also ensuring that children have regular and diverse meals, while remaining attentive to the nutritional quality of the food they offer. Collaborative efforts among parents, educators, and healthcare professionals can establish a supportive environment that emphasizes children's health, thereby promoting their physical and developmental growth. Ultimately, adopting a holistic parenting approach that combines healthy lifestyle habits with mindful dietary choices will provide a solid foundation for the long-term health and well-being of children.

In the analysis of the relationship between Eating Patterns and nutritional status of children aged 4-7 years, the  $\rho$  value was obtained, namely 0.00, which indicates a significant influence between Eating Patterns and nutritional status of children aged 4-7 years. Because the Eating Patterns given by parents is regular, varied and according to portion, the results of the nutritional status obtained are also normal. And in the types of food eaten, most of them are local foods, such as lots of vegetables, tofu, tempeh, eggs which are good for children's growth and development and rarely give children random snacks or junk food.

This study is in line with Sambo in 2020, which stated that the eating pattern category is lacking with a good nutritional status category there are 2 (2.6%) respondents. Based on interviews with parents, the child's eating pattern is caused by the way of feeding not being in accordance with what it should be (less than 3 times a day), this is because children play more often with their friends so they forget to eat. However, based on the confession of parents, every time they eat, children always consume rice, side dishes, vegetables and fruits (Sambo et al., 2020). This is in line with other research which states that children with normal nutritional status, but have poor eating patterns, are caused by the way they are fed not being in accordance with what they should be (Puspita Sari & Sartono, 2015).

Moreover, the significant influence of eating patterns on nutritional status emphasizes the need for parents to be educated about proper nutrition and balanced meals. The observed trend of children consuming local and nutritious foods, coupled with the challenges of inadequate feeding practices, suggests that a more structured approach to meal planning and awareness of nutritional content is crucial. Therefore, researchers assume that children whose eating patterns



are lacking because parents do not know the nutritional content of each food given to their children. This can be seen at lunch time at school, the provisions brought by children are rice with fried noodles.

## Conclusion

In summary, the relationships among gadget usage habits, parenting styles, and eating patterns play a crucial role in determining the nutritional status of children aged 4-7 years. High levels of screen time are associated with sedentary lifestyles and increased consumption of unhealthy snacks, negatively impacting children's nutritional health and contributing to issues like obesity. Parenting styles significantly influence children's eating behaviors, with authoritative parenting typically leading to healthier Eating Patterns choices and better nutritional outcomes. Research indicates that children exposed to structured meal environments, where parents model nutritious eating habits, are more likely to achieve optimal growth and development. Therefore, by limiting gadget usage and fostering positive eating habits, parents can significantly enhance their children's nutritional status and overall health.

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