



ANALYSIS OF FACTORS RELATED TO EMOTIONAL DEVELOPMENT IN ELEMENTARY SCHOOL CHILDREN

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Original Research

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ABSTRACT

Introduction: Middle childhood is a crucial period for developing emotions, including recognizing, expressing, and regulating them. Several factors influence a child's emotional development. This study aimed to analyze the factors related to emotional development in elementary school children. **Methods:** This study employed an observational analytical design with a cross-sectional approach. The sample consisted of 55 respondents selected using purposive sampling according to predetermined inclusion criteria. The independent variables were the child's sex, gadget use, parents' age, occupation, and education level. The dependent variable was emotional development. Data were collected using questionnaires assessing the child's sex, parents' age, education, and occupation, as well as the Pediatric Symptom Checklist-17 (Indonesian version) and a questionnaire on gadget use. Data were analyzed using the chi-square test and multiple logistic regression with the assistance of SPSS. **Results:** There was a significant relationship between gadget use and emotional development among children at school ($p = 0.006$), with an odds ratio of 5.365. This indicates that children who use gadgets are five times more likely to experience emotional problems than those who do not. **Conclusions:** It is necessary to establish parenting patterns for gadget use in the digital era, including setting clear rules and time limits, accompanying children during gadget use, selecting age-appropriate content, supervising online activities, and serving as role models for the wise use of gadgets to support the emotional development of school-aged children.

INTRODUCTION

The developmental period from infancy to school age serves as a foundation for the growth of social and emotional skills, overall health, and readiness for further development (Indanah & Yulisetyaningrum, 2019). When children enter school age, they encounter new challenges in managing relationships with friends, peers, teachers, and the school environment. During this stage, children must adapt to school life, and their emotions are influenced by both verbal and nonverbal communication. Children who can express themselves and understand the emotions of others tend to show greater empathy, stronger social skills, and better academic performance (Pan & Zhang, 2023). According to Piaget, children aged 7–12 years are in the concrete operational stage, during which they become more capable of performing tasks that require logical reasoning, and their egocentric attitudes begin to decline (Papalia & Martorell, 2021). Middle childhood, between the ages of 6 and 12, is a crucial period for developing social, emotional, and physical skills, as well as building self-confidence in various areas, such as peer relationships and school tasks. During this period, children experience significant physiological and psychological growth. Their lives

become more complex as they encounter diverse contexts and faster developmental changes. Emotional development includes the recognition, expression, and regulation of emotions, which are closely related to cognitive and social development. These abilities play an important role in learning, academic achievement, behavior, prosocial development, and overall well-being during the school-age years. Developing emotional skills in school-aged children is essential to help them navigate adolescence smoothly, improve academic performance, and achieve long-term well-being (Pan & Zhang, 2023). Emotional development also refers to the ability to recognize, express, and manage feelings throughout various stages of life, as well as to empathize with others (Saini & Saraswat, 2021).

The emotional development of children cannot be separated from the dynamics of social culture, including advances in modern gadget technology, which continue to develop rapidly. In the digital era, children grow up with easy access to gadgets such as mobile phones, smartphones, tablets, and laptops, which have become an integral part of everyday life. Gadgets provide access not only to information, entertainment, and communication

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but also to a wide variety of easily accessible content such as videos, games, and social media applications that offer instant gratification. However, continuous and excessive gadget use can negatively affect both individual and social development. Excessive gadget use among children can lead to addiction, as gadgets offer pleasure and instant stimulation to the brain. This stimulation triggers the release of dopamine, a hormone responsible for producing feelings of pleasure, which in turn fosters dependency and the desire for prolonged gadget use (Anwar & Buton, 2024). Even from an early age, children demonstrate enthusiasm and skill in operating touchscreen devices (Courage et al., 2021). Young children often spend more time playing with gadgets rather than engaging in play with friends and peers (Oktaviana, 2021). In addition to gadget use, parental factors and a child's sex can also influence emotional development (Indanah & Yulisetyaningrum, 2019).

The World Health Organization (WHO) reported that 93.52% of children aged 9–15 years use gadgets, and 65.34% of the same age group use the internet. In 2017, WHO stated that globally, 10–20% of children and adolescents experience mental health conditions such as childhood epilepsy, developmental disabilities, depression, anxiety, and behavioral disorders. Furthermore, 5–25% of preschool-aged children experience developmental disturbances. Various problems have emerged among children over the years, including motor, language, emotional, behavioral, and social delays—and these issues continue to increase. Globally, it has been reported that around 9% of children experience anxiety, 11–15% experience mood disturbances, and 9–15% exhibit behavioral disorders (World Health Organization, 2018). In Indonesia, 30.1% of children have been reported to experience emotional delays (Ministry of Health of the Republic of Indonesia, 2018). Results from an initial survey of 6th-grade elementary school students in Lamongan Regency showed that many students bring their cellphones to school and use them during breaks or free time. They also frequently use their phones at home without specific time limits, often accessing the internet to browse social media or play online games. Interviews with parents revealed that children who are allowed to play with cellphones after completing their studies tend to continue using them for the rest of the day, frequently neglecting to study or eat. These children often ignore others and become overly focused on their devices; when instructed to study, they may respond with arguments or shouting instead of complying.

There are several factors that influence a child's emotional development, including internal and external factors, intellectual capabilities, family environment, school environment, age, and physical health (Saini & Saraswat, 2021). Other contributing factors include socioeconomic characteristics, the quality of mother–child interactions, risk behaviors and gadget use, parents' psychological condition, attachment and caregiving, and school learning programs (Rachman et al., 2023). Excessive gadget use can be detrimental

to children. Those who spend too much time using gadgets are more likely to become emotionally unstable, rebellious, selfish, and overly competitive. They may also become too lazy to follow their daily routines. Some even require assistance when eating because they are too preoccupied with using gadgets for entertainment (Chusna, 2018). Sex, defined as the biological distinction between males and females, involves differences in physical, biological, and functional characteristics that determine distinct roles in children's social and emotional development. Family income is another significant determinant of a child's developmental quality and quantity, as financial resources generally come from the earnings of family members.

Education is one of the factors that shape behavior. The behaviors and actions formed through education are based on knowledge and awareness developed during the learning process. Parents' educational level also contributes to a child's development (Indanah & Yulisetyaningrum, 2019). Emotional education holds an equally important role alongside cognitive development in children. Emotional development has a profound influence on children's behavior, self-control, adaptability, and adherence to rules within the school and social environment. When children are able to regulate their emotions and adjust to their surroundings, they function more effectively in social and emotional contexts (Tusyana et al., 2019). Emotional and behavioral problems in children—such as internalizing problems (e.g., anxiety and depression) and externalizing problems (e.g., aggression and violence)—often cause distress not only to the children themselves but also to those around them (Meng et al., 2020). Therefore, a comprehensive strategy is needed to effectively support emotionally challenged children. Strong support from the family, school, and community plays a crucial role in fostering children's emotional development. The aim of this study was to analyze the factors related to emotional development among elementary school children.

MATERIALS AND METHODS

Research design: This study used an observational analytic design with a cross-sectional approach. A cross-sectional study refers to measurements or observations made on independent respondents who are observed only once at a particular point in time (Nursalam, 2020). **Population in the study:** The population in this study comprised all parents and children from 5th- and 6th-grade classes of elementary schools in Lamongan Regency. In 2024, there were 64 children in total. The study sample consisted of 55 respondents selected using purposive sampling based on the inclusion criteria. The inclusion criteria were as follows: (1) children who used and owned gadgets, (2) children who were able to communicate effectively (able to express opinions both orally and in writing), and (3) parents who were willing to sign informed consent forms. The independent variables in this study were the child's sex, gadget use, parents' age, parents' occupation, and parents' educational level. The dependent variable was the child's

emotional development. Data were collected using questionnaires that included demographic information such as the child's sex, parents' age, educational level, and occupation. Emotional development was measured using the Indonesian version of the Pediatric Symptom Checklist-17 (PSC-17) (Irwanto et al., 2020), while gadget use was measured using a questionnaire developed by Anggraeni (2023). The Indonesian version of the Pediatric Symptom Checklist-17 (PSC-17) comprises 17 statements that cover subscales of internalization, externalization, and attention. Its validity test demonstrated a significant Pearson product-moment correlation coefficient ($df = 378$, $p < 0.001$). The Cronbach's alpha coefficient of 0.821 indicates high reliability (Irwanto et al., 2020). The

gadget use questionnaire consists of 14 items using a Likert scale to assess the intensity, frequency, and types of applications used. The validity test showed that all 14 items were valid, with correlation coefficients (r) ranging from 0.524 to 0.784. The reliability test yielded a Cronbach's alpha value of 0.856, indicating excellent reliability (Anggraeni, 2023). Data were analyzed using the chi-square test and multiple logistic regression with SPSS software, with a significance level set at $p < 0.05$. This study received ethical approval from the Research Ethics Eligibility Commission, Faculty of Vocational Studies, Universitas Airlangga (Ethics Approval No. 057.KKEP.06.2024).

RESULTS

Table 1. Characteristics Respondent based on Children's Sex, Gadget Use in Children, Parental Age, Parental Education Level, and Parental Occupation in 2024 (n=55)

Child Sex	Frequency (f)	Percentage (%)
Female	34	61.8
Male	21	38.2
Use Gadgets	Frequency (f)	Percentage (%)
Tall	35	63.6
Low+medium	20	36.4
Parent Age	Frequency (f)	Percentage (%)
Young Elderly	3	5.5
Mature Young+late	52	94.5
Level of Education	Frequency (f)	Percentage (%)
Junior High School	8	14.5
High School + College	47	85.5
Work	Frequency (f)	Percentage (%)
Housewife	37	67.3
Self-employed + private + civil servant/ military/police	18	32.7
Total	55	100

Table 1 shows that the majority of the children in this study were female (61.8%) and had a high level of gadget use (63.6%). Nearly all respondents were parents categorized as mature (94.5%) and had a high level of education (high school or college; 85.5%). Most parents were housewives (67.3%), while the remainder were self-employed, private-sector workers, or civil servants/military/police personnel (32.7%).

Table 2. Cross Tabulation of Influencing Factors Emotional Development in Elementary School Children in 2024 (n=55)

Characteristics	Development Emotional						P sig
	There is a Problem		There is no Problem		Total		
	F	%	F	%	F	%	
Child Sex							
Femal	21	61.8	13	38.2	34	100	0.955
Male	12	57.1	9	42.9	21	100	
Use Gadgets							
Tall	26	74.3	9	25.7	35	100	0.010
Low+medium	7	35	13	65	20	100	
Parent Age							
Young Elderly	1	33.3	2	66.7	3	100	0.557
Mature Young+late	32	61.5	20	38.5	52	100	

Characteristics	Development Emotional						P sig
	There is a Problem		There is no Problem		Total		
	F	%	F	%	F	%	
Level of Education							
Junior High School	7	87.5	1	12.5	8	100	0.126
High School + College	26	55.3	21	44.7	47	100	
Work							
Housewife	20	54.1	17	45.9	37	100	0.319
Self-employed + private + civil ser- vant/military/police	13	72.2	5	27.8	18	100	

Table 2 shows that there is no significant relationship between the sex of children and their emotional development ($p = 0.955$). Most of the children who were female experienced emotional development problems, and a large proportion of male children also experienced similar issues. A significant relationship was found between gadget use and emotional development among elementary school children ($p = 0.010$). Most children with high levels of gadget use experienced emotional development problems, while only a small proportion of those with low to moderate gadget use exhibited such problems. There was no significant relationship between parents' age and the emotional development of elementary school children ($p = 0.557$). Most parents categorized as mature (young and late adults) had children with emotional development problems, and a small number of parents categorized as young elderly also had children with emotional development problems. Similarly, there was no significant relationship between the level of parental education and the emotional development of children ($p = 0.126$). Most parents with a high school or college education had children with emotional development problems, and almost all parents with a junior high school education also had children with emotional development problems. Furthermore, there was no significant relationship between parents' occupation and the emotional development of children ($p = 0.319$). Most parents who were self-employed, worked in the private sector, or were civil servants/military/police personnel had children with emotional development problems, and the majority of housewives also had children who experienced similar emotional difficulties.

Table 3. Analysis Results Multivariate Analysis of Influencing Factors Development Emotional Status in Elementary School Children in 2024 (n=55)

Model	Variables	Coefficient	P sig	Odds Ratio (OR) / Exp (B)	95% CI	
					Lower	Upper
Modeling beginning	Level of education	2.050	0.084	7.765	0.762	79.149
	Use of gadgets	1.835	0.005	6,268	1.756	22.376
	Constant	-2.937	0.015	0.053		
Modeling end	Use of gadgets	1.680	0.006	5.365	1.630	17.656
	Constant	-1.061	0.006	0.346		

Table 3 presents the results of the multivariate logistic regression analysis. The final model (modelling end) shows a statistically significant relationship between gadget use and the emotional development of elementary school children ($p = 0.006$). The analysis results indicate that the Odds Ratio (OR) for gadget use is 5.365, meaning that children who frequently use gadgets are 5 times more likely to experience emotional problems compared to those who do not frequently use gadgets. This finding suggests that high gadget use is a significant risk factor influencing children's emotional development.

DISCUSSION

The Relationship between Children's Sex and Emotional Development in Elementary School Children

The results of this study showed no significant relationship between the sex of a child and their emotional development in elementary school. Most of the female children experienced emotional development problems, and many male children also exhibited similar issues. This finding is consistent with previous research, which found no significant relationship between sex

and children's social-emotional development, although differences were observed in the intensity of emotions during late adolescence (Yunalia & Etika, 2020). Other studies have similarly reported no significant association between sex and social-emotional development in children (Windiastris & Nurhaeni, 2020). According to Fidalgo et al. (2018), differences in the formation of emotional components between males and females are not apparent until around the age of six. At that stage, boys begin to understand situational emotions, while girls tend to understand reflective emotions such

as guilt and shame. Furthermore, females often display higher emotional intelligence than males because they tend to use their emotions more effectively and have greater sensitivity in recognizing feelings (Hidayah et al., 2020). Children's emotional development progresses gradually with age, regardless of sex. According to Erikson's developmental theory, each stage of human development from birth to adulthood is influenced by social and cultural factors that shape personality (Rahmat, 2018). The present findings suggest that although biological differences exist between males and females, sex does not determine emotional development. Both boys and girls have equal potential for emotional growth when supported by appropriate parenting styles and a conducive social environment.

The Relationship Between Gadget Use and Emotional Development in Elementary School Children

The results of this study revealed a significant correlation between gadget use and emotional development in elementary school children. Most children with high levels of gadget use experienced emotional problems, while a smaller proportion of children with low to moderate gadget use also exhibited emotional difficulties. This finding aligns with previous research, which found a strong positive relationship between gadget use and children's emotional development. The greater the inappropriate or excessive use of gadgets, the more likely children are to experience disturbances in emotional and behavioral development (Anggraini et al., 2025). Parents and educators therefore need to collaborate in setting clear limits on gadget use and supervising the content accessed by children. Gadgets have the potential to influence multiple aspects of child development, including cognitive, social, emotional, religious, moral, language, and motor skills (Lake & Chusnatayaini, 2023). The use of technology can have both positive and negative effects on users (Marpaung, 2018). On the positive side, gadgets can facilitate communication with people over long distances through chat applications and can serve as tools for learning by providing access to educational resources on the internet. However, excessive gadget use can negatively affect children's ability to concentrate and learn, and may lead to addiction (Alawiyah & Ernawati, 2021). For this reason, the duration of gadget use must be limited to prevent dependency and ensure balanced development. In general, gadget use can serve as a medium of stimulation that supports optimal child development according to their developmental stage. However, uncontrolled and excessive use of gadgets can have detrimental effects on children's emotional and overall growth in the long term (Lake & Chusnatayaini, 2023).

The duration of gadget use must be restricted to prevent children from becoming addicted to playing with them. Research findings indicate that a significant proportion of children use gadgets for extended periods, often exceeding two hours per day. Previous studies have shown that many children have the habit of using

gadgets for more than one hour daily, which negatively affects their health—particularly their mental well-being. When children are deeply engaged in playing with gadgets, they tend to dislike being disturbed, and their emotions may escalate. They may become irritable or rebellious when their play is suddenly interrupted. Many children also experience reduced concentration and become too lazy to perform daily routines because they are overly preoccupied with gadget use (Agustin et al., 2022). Children who were early adopters of gadgets often react angrily or cry when their parents ask them to stop using them. Excessive gadget use can be detrimental to children's development. Children who spend too much time with gadgets are more likely to become emotionally unstable, rebellious, or even addicted to gadgets—a situation that becomes more concerning when they begin to show a lack of concern for people around them. Overuse of gadgets can lead children to become socially withdrawn, experience health problems, sleep disturbances, behavioral issues, reduced physical activity, and exposure to radiation (Hidayat, 2022). The author argues that gadgets can have both positive and negative impacts depending on their intensity of use, the nature of the content, and the level of parental supervision. Excessive gadget use can trigger loneliness, anxiety, and difficulty regulating emotions, while appropriate parental supervision can turn gadget use into an opportunity for cognitive stimulation and emotional learning through age-appropriate content. Therefore, parental supervision is essential when children use gadgets to ensure balanced and healthy emotional development.

The Relationship Between Parental Age and Emotional Development in Elementary School Children

This study found no correlation between parents' age and the emotional development of elementary school children. Most parents in the young and late adult age categories had children with emotional development problems, while a few parents classified as young elderly also had children experiencing similar issues. Previous research has shown that a mother's age does not have a significant relationship with the social-emotional development of preschool-aged children. Almost all mothers aged 26–35 years had preschool-aged children with questionable social-emotional development (Windiastris & Nurhaeni, 2020). This may be due to the incomplete fulfillment of developmental tasks at the early adulthood stage. During early adulthood, individuals are expected to achieve developmental tasks such as independence, responsibility, and parenting. These responsibilities can be compared to climbing a staircase—a gradual process that requires patience and adjustment (Hurlock, 2015). However, many mothers in this age group have not yet fully carried out their developmental tasks (Windiastris & Nurhaeni, 2020). Furthermore, even among parents aged 31–40 years, who are generally considered mature enough to raise children, the current fast-paced and instant lifestyle

can make parenting and supervision more challenging. Each developmental stage requires consistent understanding and regular monitoring from parents to ensure that children's emotional needs are adequately met (Daud et al., 2023). The author argues that age is not the primary determinant of a child's emotional development. Instead, emotional development is more strongly influenced by parenting style, affection, and communication patterns within the family—regardless of the parents' age. Both younger and older parents can provide effective emotional support if they foster an environment characterized by warmth, attention, and consistent guidance. Conversely, being older does not guarantee better emotional management for children if it is not accompanied by effective parenting skills and emotional engagement.

The Relationship between Parental Education Level and Emotional Development in Elementary School Children

The results of this study indicate that there is no significant relationship between the level of parental education and the emotional development of elementary school children. Most parents with high school or college education levels had children with emotional development problems, and almost all parents with only a junior high school education also had children with emotional difficulties. This suggests that parental education level is not the main factor influencing emotional development in children. Children aged 6–12 years are in the middle childhood phase, a stage in which they are highly susceptible to environmental influences. During this period, children need strong family support, particularly from their parents, to grow and develop well (Savitri et al., 2022). Previous studies also found no significant relationship between maternal education level and the social–emotional development of preschool-aged children. Education primarily affects a person's ability to think critically and understand information. Thus, if a mother's level of education is low, her knowledge and understanding may be limited (Windiastris & Nurhaeni, 2020). However, a higher level of parental education does not necessarily guarantee better emotional development in children. What matters more is the application of consistent and positive parenting practices, as well as the role of parents as role models. Parenting style plays a critical role in shaping behavior and emotions, particularly among children aged 6–12 years. A democratic (non-exposure) parenting style fosters well-adjusted children who are independent, socially adaptable, self-controlled, and possess a positive self-concept. In contrast, authoritarian, permissive, or inconsistent parenting styles (exposure patterns) can contribute to the emergence of emotional and behavioral disorders in children, such as stress, depression, trauma, and disruptive behavior (Savitri et al., 2022). Each parent applies a unique parenting style, which leads to differences in the social and emotional development of their children (Puji Rahayu & Dewi Kartika Sari, 2024). Parents play multiple roles—

as motivators, facilitators, guides, and educators—to help develop emotional regulation in children aged 5–6 years. However, several factors can hinder this process, such as inconsistent parental guidance and the expression of negative emotions by parents, which children unconsciously observe and imitate. The most important role of parents is to encourage children to express themselves, appreciate positive actions, and provide understanding when children display negative emotions (Saputri & Puspitasari, 2022). If the parenting style implemented by parents is positive, the impact on the child's emotional development will also be positive. Conversely, a negative parenting style will have an adverse effect on children's emotional well-being (Nada et al., 2023). The author argues that a parent's level of education does not solely determine the emotional development of elementary school children. Parents with low education levels can still nurture their children's emotional growth effectively through affection, attention, communication, and good parenting practices. Likewise, even highly educated parents cannot guarantee healthy emotional development in their children if their parenting lacks warmth, empathy, and affection.

The Relationship Between Parents' Occupation and Emotional Development in Elementary School Children

The results of this study indicate that there is no significant relationship between parents' occupations and the emotional development of elementary school children. Most parents who worked as self-employed, private-sector employees, or civil servants/military/police personnel had children with emotional development problems, and many housewives also had children experiencing similar issues. These findings are consistent with previous studies showing no significant relationship between a mother's occupation and the social–emotional development of preschool-aged children. The majority of mothers were housewives, which may limit their access to information related to parenting, child growth, and development. In addition, many mothers tend to focus more on their children's physical development than on their social–emotional growth, causing delays in the child's developmental progress (Windiastris & Nurhaeni, 2020). Similarly, there is no significant correlation between a mother's employment status and toddler development. The primary role of a mother is to nurture and meet the emotional needs of her children, as emotional closeness between mother and child is essential for healthy development. However, this role can be complemented or temporarily replaced by other adults when the mother is working (Farhana et al., 2021). A child's growth and development during the school-age period includes physical, intellectual, social, language, and emotional dimensions (Rahmat, 2018). At the elementary school level, children begin to develop competence through interaction with peers, forming friendships, becoming more capable and independent, and learning to share. They also begin to

express and regulate their emotions through imitation and habituation (Tazkia & Damayanti, 2024; Wati, 2020). Environmental factors such as school, friends, peers, and experiences in the learning environment often play a more dominant role in emotional development than the background of parents' occupations (Saini & Saraswat, 2021). The author argues that parental occupation is not a direct determinant of a child's emotional development. Children can still develop emotional stability even when their parents are busy working, provided that they receive consistent parenting, quality time, attention, and affection. Similarly, family wealth or economic status does not guarantee good emotional development if it is not balanced with emotional support, open communication, and effective parenting practices.

The Most Dominant Factor Related to Emotional Development in Elementary School Children

The results of the final multiple logistic regression analysis revealed a significant relationship between gadget use and the emotional development of elementary school children. The advancement of gadget technology has brought substantial positive impacts, allowing users to easily access information and integrate various sophisticated applications such as the internet, messaging services, social networking, and games. However, alongside these benefits, the rapid growth of technology, information, and communication has also introduced negative consequences, particularly when gadgets are used excessively or inappropriately by children (Marpaung, 2018). These negative effects include dependency and addiction, physical health issues, mental and emotional disturbances, and impaired social functioning (Anwar & Buton, 2024). Emotional development is a complex process that involves both conscious and expressed feelings—manifested through facial expressions or actions—and functions as an internal adjustment mechanism that helps individuals adapt to their environment to achieve well-being and safety (Fuadia, 2022). Emotional development includes the recognition of emotions, their expression, and the regulation of emotional responses (Pan & Zhang, 2023). Elementary school children already possess emerging social-emotional skills and continue to refine them in social contexts. Through interactions with peers, friendship, sharing, and cooperative activities, students learn self-regulation, empathy, and independent problem-solving. Positive social relationships help children develop self-control, manage anger, and express emotions appropriately through repeated social experiences and habituation (Tazkia & Damayanti, 2024). The use of gadgets can be evaluated in terms of intensity, type of content accessed, patterns of social interaction, and the purposes and impacts of usage (Syahyudin, 2019). The intensity of gadget use is particularly associated with emotional regulation in both children and adolescents. Excessive screen time (more than two hours per day) is linked to negative emotional outcomes, including irritability, difficulty calming down, frequent arguments, challenges in socializing, poor task

completion, and lower academic engagement (Twenge & Campbell, 2018). The frequency and duration of gadget use, the applications accessed, and the nature of the content consumed are all important determinants of emotional well-being. Children who spend excessive time playing with gadgets may exhibit increased aggressive behaviors—both verbal and nonverbal. Such behaviors include shouting, throwing objects, and displaying explosive anger or hostility, which reflect underlying emotional dysregulation (Mil & Shanzivani, 2023).

The results of this study indicate a significant relationship between the duration of gadget use and emotional development in children. The Odds Ratio (OR) for gadget use was 5.365, meaning that children who use gadgets are five times more likely to experience emotional development problems compared to children who do not use gadgets. This finding aligns with previous research showing that using gadgets for more than one hour per day can increase the risk of emotional and mental distress by up to 10.8 times. The majority of junior high school students reportedly use gadgets for six hours or more per day. Some students tend to isolate themselves in their rooms after returning from school, avoid communication with their families, forget to eat and drink, and need frequent reminders to study (Syahyudin, 2019). When parents are inconsistent in setting limits on gadget use, children's unfulfilled expectations may trigger tantrums or anger (Mulyantari et al., 2019). Many children with emotional or behavioral problems exhibit negative reactions—such as anger and crying—when they are not allowed to play with gadgets. They may become upset when interrupted or when parents ask them to stop using gadgets. Furthermore, these children often have difficulty concentrating, their attention is easily diverted, and they struggle to complete tasks or sustain focus during activities (Agustin et al., 2022). School-aged children who use gadgets for more than two hours per day also demonstrate behavioral changes. On the positive side, gadgets can facilitate access to learning resources (Afidah et al., 2022; Syifa et al., 2019) and improve communication with peers. However, the negative effects are considerable, particularly in the areas of emotional, moral, and physical development. Emotionally, children who overuse gadgets tend to become irritable, rebellious, and prone to imitating aggressive or inappropriate behaviors from the content they consume. They may even talk to their devices as though they were interacting with real people. In terms of moral development, excessive gadget use can reduce discipline and increase laziness. Many children neglect their study time, avoid worship activities, and disregard their responsibilities (Syifa et al., 2019). Physically, it may also lead to health problems, including disrupted sleep, eye strain, and poor posture (Afidah et al., 2022). The author argues that the more frequently children use gadgets without parental supervision, the higher the risk of emotional developmental disorders. Overuse of gadgets limits opportunities for face-to-face interaction with parents and peers, thereby impeding emotional

expression, communication, and empathy. Therefore, gadget use among elementary school children must be managed through effective parenting practices—such as establishing time limits, selecting age-appropriate content, and providing active supervision and guidance—to ensure healthy emotional development.

CONCLUSIONS

The modelling results of the multiple logistic regression analysis revealed a significant relationship between gadget use and emotional development in elementary school children ($p = 0.006$), with an Odds Ratio (OR) of 5.365. This indicates that children who use gadgets are five times more likely to experience emotional problems compared to those who do not. Parenting practices should adopt approaches that integrate technology appropriately in the digital era. These include establishing clear guidelines and time limits for gadget use, providing assistance and supervision when children use technology, selecting age-appropriate content, monitoring online activities, and serving as role models for responsible gadget use. Such efforts are essential to foster healthy emotional development among elementary school children. Furthermore, schools also need to play an active role in guiding and managing the use of gadgets within the learning environment.

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AUTHORS' CONTRIBUTIONS

APMT served as the main author and manuscript writer. PPS was responsible for addressing data and literature collection. AM handled data processing. ES contributed to literature review and analysis. IL and LF assisted as translators.

CONFLICT OF INTEREST

The authors declare no conflict of interest related to the research, writing, or publication of this article.

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