JURNAL INDRIA
Jurnal Ilmiah Pendidikan PraSekolah dan Sekolah Awal
Vol. 9 No. 1 Maret 2024
http://journal.umpo.ac.id/index.php/indria/index

The Correlation of Smartphone Use Intensity with Aggressive Behavior in Early Childhood at TKIT Bina Insani (Kindergarten)

*Mala Komalasari[1], Rivo Panji Yudha[2]
[1,2]Universitas Panca Sakti

Article Information

Article History
Received: Sept 20, 2023
Revised: Jan 13, 2024
Accepted: Mar 03, 2024

Keywords:
Smartphone
Aggressive
Early Childhood

Abstrak

Penelitian ini bertujuan untuk menganalisis hubungan intelnsitas penggunaan smartphone dengan perilaku agresif anak di TK IT Bina Insani Kabupaten Serang. Penelitian ini menggunakan statistik deskriptif korelasi dengan pendekatan kuantitatif. Teknik pengambilan sampel yang digunakan dalam penelitian ini adalah teknik sampel sampling jenuh yang terdapat di Non-Probability Sampling. Teknik pengumpulan data yaitu angkelt (kuelsionelr) intensitas penggunaan smartphone dan perilaku agrelsif serta foto kegiatan pengisian kuesioner. Sedangkan teknik analisis yang digunakan yaitu melnggunakan Pelarson Product Momelnt delngan menggunakan SPSS. Hasil dalam pelnellitian ini menunjukkan nilai koelfisieln korellasi sebelsar 0,578, yang menunjukan bahwa hubungan hubungan searah dan kuat. Berdasarkan hasil nilai signifikansi antar variabell intelnsitas pelnggunaan smartphonel dan agrelsif memiliki nilai signifikansi 0,003 < 0,05 yang belrarti telrdapat korellasi yang signifikan. Maka dapat disimpulkan bahwa intelnsitas pelnggunaan smartphonel delngan pelrilaku agrelsif melmpelngaruhi pelrilaku di TK IT Bina Insani.

Abstract

This research aimed to analyze the relationship between the smartphone use intensity and children's aggressive behavior at SDIT Bina Insani, Serang Regency. This research used descriptive correlation statistics with quantitative research. The sampling technique used in this research was the deep sampling technique found in Non-Probability Sampling. The data collection technique was a questionnaire about smartphone usage intensity, aggressive behavior, and photos of questionnaire-filling activities. Meanwhile, the analysis technique used was Pearson Product Moment using SPSS. The research results showed a correlation coefficient value of 0.578, showing that the relationship was in the same direction and strong. Based on the results of the significance value between the intensity and aggressive smartphone usage variables, the significance value was 0.003 <0.05, meaning there was a significant correlation. Therefore, the smartphone use intensity and aggressive behavior influenced behavior at Bina Insani IT Kindergarten.

✉ Correlsponding author:
El-mail: [1]malabinainsani@gmail.com,
[2]rivoyudha@yahoo.co.id

ISSN 2579-7255 (Print)
ISSN 2524-004X (Onlinel)

INTRODUCTION

Information and communication technology systems have provided various facilities in the world, which currently make the world a small ball globally (SL, M., Hanakelri, P. A., & Aminabhavi, V. A. SL, Mamatha Hanakelri, Pooja A Aminabhavi, 2016). One of the technologies currently used by humans is gadget. A gadget is an object or item created specifically in this advanced era to help everything become easier and more practical than previous technology (Zubaidah, 2017). Generally, children and teenagers nowadays often use gadgets intensively. They use it excessively so that it can influence their social and emotional functions. Most children and teenagers have smartphones, laptops, game consoles, tablets, and iPads (Refnandes et al., 2022). The use of electronic gadgets has increased rapidly in the world today, especially among children, as a result of addiction (Master et al., 2016).

Early introduction of gadgets in children can have both positive and negative impacts. This is influenced by several factors, such as frequency, duration, and parental supervision. The use of gadgets as a basic learning material for children will have positive impacts, such as increasing their creativity and thinking. This can arise in parents and children, as well as being strict in setting time limits for children in playing with gadgets. On the other hand, if parental supervision is lacking and there is no explicit effort to set time limits for children playing with gadgets, it can have a negative impact. Children can develop negative characteristics such as shyness, lack of self-confidence, selfishness, and stubbornness (Zubaidah, 2017).

Health problems are one of the serious impacts caused by gadgets. Children spend more time using gadgets and ignore their appearance, screen fatigue, screen distance, and length of use will affect their vision and health. Spending too much time on gadgets can cause eye irritation and hearing problems, lying at home, and

worse, lack of physical activity. Gadgets also make children aggressive. Some children become more emotional when they cannot find gadgets around them and become paranoid when they do not have gadgets (Zati et al., 2019).

A child's frequency or intensity of using gadgets will influence their mental and emotional development. Research conducted by the University of Western Australia through a survey of 2,600 students who stared at gadget screens for a long time showed that 45% of 4-year-olds and 80% of 8-year-olds spent more than two hours playing with gadgets a day (Risnawati, 2016).

The positive impact of using smartphones includes adaptation to developments over time because it helps children develop adaptive functions. This means adapting to the surrounding environment and current developments (Amez & Baelrt, 2020). It makes it easier for children to hone their creativity and intelligence, such as coloring, reading, and writing applications that are fun because they are equipped with pictures or as learning media. Children only need a little energy and time to read and write textbooks.

Apart from the positive impacts, several negative impacts are not conducive to children's growth and development, namely influencing children's behavior, including imitating scenes in videos, reducing interaction with the surrounding environment, and causing children to become addicted. If a child regularly uses a smartphone, other things, such as radiation from the smartphone, can damage his brain's nervous tissue (Chusna, 2017). This can also lead to aggressive, selfish, and challenging behavior (Mukarromah, 2019). It can also interfere with children's growth and development because smartphones have complex functions such as cameras, videos, games, etc. Without adult supervision, this feature can disrupt the learning process at school.

Based on this background, research is needed regarding the relationship between the intensity of smartphone use and aggressive behavior at 3-6 years of age, carried out at TKIT Bina Insani, Serang Regency. This research aimed to analyze the relationship between the intensity of smartphone use and the children’s aggressive behavior at TKIT Bina Insani, Serang Regency.

LITERATURE REVIEW

Smartphones are mobile phones with an operating system for the public, with functions for SMS and telephone calls and applications according to users' needs (Oliver, 2019). A smartphone is a mobile phone with capabilities similar to a computer's (Daeng et al., 2017). Smartphones are a development of cellular telephones that contain facilities and features so that they can be said to be smartphones (Dihan, 2010). In the beginning, smartphones, or what we usually know as cell phones, only functioned for communication. As time passes, smartphones have features for internet access and various applications.

Smartphones, if used correctly, can bring many benefits to their users. Parents should monitor young children if they are exposed to smartphones, and parents need to remember that smartphone use can have both positive and negative impacts. The positive impact of using smartphones includes adaptation to current developments because it helps children develop adaptive functions. This means the ability to adapt to the surrounding environment and current developments (Amez & Baert, 2020). Make it easier for children to hone their creativity and intelligence, for example, with fun coloring, reading, and writing applications because they are equipped with pictures or as learning media. Children do not need more energy and time to learn to read and write paper books.

Apart from the positive impacts, several negative impacts are not conducive to children's growth and development, namely affecting children's behavior, such as imitating scenes in videos, reducing interaction with the surrounding environment, and making children addicted. If a child regularly uses a smartphone, other things, such as radiation from the smartphone can damage the brain's nervous tissue (Chusna, 2017). In addition, this can lead to aggressive, selfish, and defiant behavior (Mukarromah, 2019). It can also interfere with children's growth and development because smartphones have complex functions such as cameras, videos, games, etc. Without adult supervision, this feature can disrupt the learning process at school.

Aggressive behavior has several definitions explained by several experts. Experts use the term "aggression", which is defined as behavior or actions intended to cause physical or verbal injury (Pangarsa, 2018). Verbal forms in early childhood

include the pronunciation of "dirty" words, which the child may not understand and only imitate. Usually, children carry out aggressive actions to achieve certain goals (Juhrodin, 2022). It is bullying or physically attacking other people. Aggressiveness is a child's response to frustration (Khaironi, 2018). This behavior is usually associated with painful biting and hitting behavior. Deliana in Khairani stated that violent behavior usually begins at the age of 2 years, and this behavior is still often seen (Syamsu, 2004).

The World Health Organization (WHO) in 2019 released regulations regarding "Screen Time" for children under five. Screen time is a term that describes the duration of interaction with television, computers, smartphones, digital tablets, and video games. Babies under 1 year old should not have cell phones or iPads. Meanwhile, children between 2 and 5 years should not spend more than 60 minutes using a smartphone or tablet every day (Priyoambodo & Suminar, 2021; Yustanta & Fitrian, 2022).

The American and Canadian Association of Pediatricians stated that children aged 0-2 years should limit the amount of time they play on smartphones to around 1 hour per day, while children aged 3-5 years should only limit their exposure to smartphones. The American and Canadian Association of Pediatricians also stated that the duration of smartphone use is important for parents because it impacts on children's behavior. Based on the description, there are special limitations and requirements related to the use of smartphones. The guidelines in question are forms of using smartphones such as games, YouTube, and other applications (Damaiyanti et al., 2020).

This is a challenge in the digital era with high technology and various forms of online games, television shows, and YouTube. Children born in the digital era are familiar with smartphones and tablets. As time passes, children are inevitably connected to increasingly popular smartphones. Nowadays, it is not uncommon to see young children proficiently using smartphones (Zaini & Soenarto, 2019). As time goes by, children cannot be separated from smartphones, which are increasingly widely circulated. Thus, nowadays, it is not strange to see that young children are already adept at using smartphones.

METHODOLOGY

This research used descriptive correlation statistics with quantitative research. Descriptive correlation is a research style intended to discover the relationship between two variables in a group of research results (Suryana, 2015). The research methodology is cross-selective and uses questionnaires as an investigative tool. This research aimed to analyze the relationship between the intelligence of smartphone use and aggressive behavior in early childhood at TK Bina Insani, Serang Regency.

The population in this research consisted of all students at TKIT Bina Insani, Serang Regency, with a total of 45 parents. In this research, the author used a complete sampling technique found in Non-Probability Sampling (Sugiyono, 2015). Sugiyono (2015) defined deep sampling as a sampling technique in which all members of the population are used as samples. This is often done when the population size is relatively small, or the researchers want to make generalizations with minimal errors. Another term for a complete sample is a census, where all population members are sampled. Thus, from the explanation of the sample technique above, the researchers did not determine the samples because all members of the population were studied. The samples taken by the research team were all children from TKIT Bina Insani, Serang Regency, with a total of 45 parents.

In research, appropriate data collection techniques are the steps that scientists must pay attention to. By carrying out strategic improvements, researchers will have accurate and valid data. Each research study certainly consists of various methods. The data collection instrument in this research used a questionnaire.

The questionnaire used in this research was intended to collect data about the intensity of smartphone use and aggressive behavior of early childhood children at TKIT Bina Insani, Serang Regency.

Table 1. Instrument Grid

No	Variable	Indicator	Total
1	The Smartphone	Duration or length of smartphone use per day	4
	Use Intensity	Frequency level of smartphone use throughout the day	4
2	Early Childhood Aggressive Behavior	Physical aggression	9
		Verbal aggression	5
		Upset aggression	7
		Hostile Attitude	8

RESULTS AND DISCUSSION

Research results

1. Data Instrument Feasibility Test

Before carrying out the research, the researcher must first carry out testing of the validity of the statement items contained in the questionnaire. This validity test is carried out to determine whether the statement items used to measure parenting patterns and student resilience are valid. This validity test consists of validity testing by 3 experts. The assessment aspects include clarity, content accuracy, relevance, content validity, no bias, and language accuracy.

Table 2. Intraclass Correlation Coefficient Reliability Test of Expert Validation

Intraclass Correlation Coefficient

		95% Confidence Interval		F Test with True Value 0			
	Intraclass Correlation[a]	Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.242[b]	-.221	.516	1.520	1	2	.122
Average Measures	.827[c]	-.743	.516	1.520	1	2	.122

Table 2 shows the results of ICC calculations using SPSS v.22. The results of the analysis showed that the average agreement between individual raters was

0.242, while the consistency rate was 0.827, which means it has high stability (Streiner & Norman, 2008; Yudha, 2020).

2. Data Description of Smartphone Use Intensity

The data obtained for the intensity variable of smartphone use were obtained from the results of a questionnaire distributed to 45 respondents. The data were processed into statistical data using SPSS v22. With a total of 4 questions, each of which has 4 alternative answers.

Table 3. Statistical Data for Smartphone Use Intensity Variables

Statistics

Smartphone Use Intensity

N	Valid	45
	Missing	0
Mean		27.22
Median		29.00
Mode		32
Std. Deviation		5.580
Minimum		15
Maximum		32
Sum		1225

The Table above shows that the average value was 27.22, the mean was 29, the mode was 32, the standard deviation was 5.58, the minimum score was 15, and the maximum score was 32.

After the mean value and the deviation standard were obtained, the researacher categorized data based on empirical statistics. This categorization has 3 categories: high, medium, and low. Following are the score calculations on the smartphone use intensity variables:

1) High = X > (Mean + 1 SD)
   = 27.22 + 5.58
   = 32.8
2) Medium = (Mean – 1 SD) < X < (Mean + 1 SD)
   = 27.22 - 5.58 < X < 27.22 + 5.58
   = 21.64 < X < 32.8
3) Low = X < (Mean – 1SD)
   = 21.64

Based on the results of the calculations above, it was known that the categorization frequency distribution table for smartphone use intensity variables as the following:

Table 4. Categorization Distribution of Smartphone Use Intensity Variables

No	Criteria	Frequency	Percentage %
1	X > 32.8	21	46.67
2	21.64 < X < 32.8	17	37.78
3	X < 21.64	7	15.56

The table shows the value in the high category was 46.67% with a total of 27 respondents, in the medium category was 37.78% with a total of 17 respondents, and in the low category was 15.56% with a total of 7 respondents. This can be seen in the variable intensity of smartphone use and the three categories at TKIT Bina Insani the high category is dominant.

3. Aggressive Data Description

The data for the aggressive variables were obtained from a questionnaire distributed to 45 research groups. The data were processed into statistical data using SPSS v22. There are 4 questions, each of which has 4 alternative answers. Table 5 shows that the mean was 82.73, the median was 82, the mode was 80, the standard deviation was 11.929, the minimum score was 51, and the maximum score was 114.

Table 5. Statistical Data of the Aggressive Variable

Statistics

Aggressive

N	Valid	45
	Missing	0
Mean		82.73
Median		82.00
Mode		80[a]
Std. Deviation		11.929
Minimum		51
Maximum		114
Sum		3723

a. Multiple modes exist. The smallest value is shown

After the mean score and deviation standard were obtained, the researchers carried out data categorization based on experimental statistics. This category has 3 categories: high, medium, and low. Following are the calculations score on the aggressive variable:

1) High = X > (Mean + 1 SD)
   = 82.73 + 11.929
   = 94.659
2) Medium = (Mean – 1 SD) < X < (Mean + 1 SD)
   = 82.73 - 11.929< X < 82.73 + 11.929
   = 70.801 < X < 94.659
3) Low = X < (Mean – 1SD)
   = 70.801

Based on the results of the calculations above, it is known that the distribution table for the frequency of increasing levels in the aggressive variable is:

Table 6. Categorization Distribution for Smartphone Use Intensity Variables

No	Criteria	Frequency	Percentage %
1	X > 94.659	5	11.11
2	70.801 < X < 94.659	32	71.11
3	X < 70.801	8	17.78

The table shows the value in the high category was 11.11% with a total of 5 respondents, in the middle category was 71.11% with a total of 32 respondents, and in the low category was 17.78% with a total of 8 respondents. Thus, the aggressive variables and in the three categories in TK IT Bina Insani, the medium category was dominant.

4. Hyphothesis Testing

The correlation test in this research used Pearson Product Moment using SPSS v22. The basis for determining the strength of the relationship between variables on the score result of the correlation coefficient is as follows:

a) Correlation coefficient score of 0.00 – 0.25 = very weak relationship

b) Correlation coefficient score of 0.26 – 0.50 = sufficient relationship
c) Correlation coefficient score of 0.51 – 0.75 = strong relationship
d) Correlation coefficient score of 0.76 – 0.99 = very strong relationship
e) Correlation coefficient score of 1.00 = perfect relationship

Table 7. Correlation Test Results

Correlations

		Smartphone Use Intensity	Aggressive
Smartphone Use Intensity	Pearson Correlation	1	.578
	Sig. (2-tailed)		.003
	N	45	45
Aggressive	Pearson Correlation	.578	1
	Sig. (2-tailed)	.003	
	N	45	45

Based on the correlation results above, the correlation coefficient value was 0.578, which shows that the relationship is in the same direction and strong. Based on the results of the significance value between the smartphone use intensity and aggressive variables, the significance value was 0.003 <0.05, which means there was a significant correlation. Therefore, it can be concluded that smartphone use intensity and aggressive behavior influenced behavior at TKIT Bina Insani.

Discussion

This research aimed to explore the relationship between smartphone use intensity and aggressive behavior in early childhood. This research discussion describes the research results and refers to relevant previous research.

Previous studies by Anderson and Dill (2000) highlighted that exposure to media with social elements can increase levels of aggression in children. Even though this research focuses more on visual media, including television and video games, the basic concepts can be applied to smartphone use, which often includes multimedia content access.

Twenge and Campbell's research (2018) is also relevant in this context, although they focus more on teenagers. Their findings showed that increased smartphone use was associated with health problems occurring in teenagers, including depression and anxiety. Even though the participants in our research were young children, these findings indicated that the impact of smartphone use on children's behavior and well-being was an important topic that required attention.

It is important to remember that this research did not establish a causal relationship between smartphone use intensity and aggressive behavior in young children. The correlation found only reflected the existence of a statistical relationship between these two variables, and other factors that might influence aggressive behavior need to be considered.

The research results showed a positive correlation between smartphone use intensity and aggressive behavior in early childhood. These results are in line with previous research findings discussion the impact of digital media on children's behavior.

Apart from that, the results of this research have important implications for the care of young children. Parents and caregivers should consider the extent to which they allow their children to use smartphones and monitor the type of content they are allowed to consume. In addition, educational and child health institutions can use these findings to design programs and interventions aimed at reducing the negative impact of smartphone use on children's behavior.

Overall, this research increases understanding of the complexity of the relationship between smartphone use intensity and aggressive behavior in early childhood by referring to previous research discussing the impact of digital media on children's behavior. Further studies could further investigate factors that may mediate this relationship and help develop further guidelines for managing smartphone use in young children.

CONCLUSION

This research analyzed the relationship between smartphone use intensity and aggressive behavior in early childhood. The research results showed a positive

correlation between these two variables, indicating that the higher the smartphone use intensity, the higher the aggressive behavior.

While the results of this research provide a further understanding of the impact of smartphone use on children's behavior, it is important to remember that the correlation found only reflected the statistical relationship between these two variables. Other factors that may influence aggressive behavior in children, such as parenting and family environment, need to be considered in this context.

REFERENCES

Amez, S., & Baert, S. (2020). Smartphone use and academic performance: A literature review. *International Journal of Educational Research*. https://doi.org/10.1016/j.ijer.2020.101618

Chusna, P. A. (2017). Pengaruh Media Gadget Pada Perkembangan Karakter Anak. *Dinamika Penelitian: Media Komunikasi Sosial Keagamaan*.

Daeng, I. T. M., Mewengkang, N. ., & Kalesaran, E. R. (2017). Penggunaan smartphone dalam menunjang aktivitas perkuliahan oleh mahasiswa Fispol Unsrat Manado. *Acta Diurna*.

Damaiyanti, S., Pratama, E. R., & Destri, N. (2020). Hubungan Durasi Pemakaian Gadget Dengan Perkembangan Emosional Anak Pra Sekolah. *Prosiding Seminar Kesehatan Perintis*.

Dihan, F. N. (2010). Smartphone : Antara Kebutuhan Dan E-Lifestyle. *Smartphone : Antara Kebutuhan Dan E-Lifestyle*.

Juhrodin, U. (2022). Perilaku Anak Prasekolah. In *Yayasan Pembina Pendidikan TINGGI Al-Jawami (YAPATA)*.

Khaironi, M. (2018). Perkembangan Anak Usia Dini. *Jurnal Golden Age*. https://doi.org/10.29408/goldenage.v2i01.739

Master, M. K., Kaur, C. P., Narasimhan, A., Nadeem, M., Ali, M., & Shaik, R. B. (2016). Impact Of Electronic Gadgets On Psychological Behavior Of Middle School Children In UAE. In *Gulf Medical Journal*.

Mukarromah, T. (2019). Dampak Penggunaan Gadget Pada Perkembangan Sosial Anak Usia Dini Di Dusun Setia Bumi Kecamatan Seputih Banyak (dalam Skripsi). *Fakultas Tarbiyah Dan Ilmu Keguruan. Institut Agama Islam Negeri (IAIN) Metro*.

Oliver, J. (2019). Intermediate Accounting 16E. *Hilos Tensados*.

Pangarsa, N. J. (2018). IDENTIFIKASI FAKTOR PENYEBAB PERILAKU AGRESIF PADA SISWA KELAS 8 SMP NEGERI 4 NGAGLIK. *Jurnal Riset Mahasiswa Bimbingan Dan Konseling*.

Priyoambodo, G. A. E., & Suminar, D. R. (2021). Hubungan Screen Time dan Perkembangan Bahasa Anak Usia Dini : A Literature Review. *JURNAL SYNTAX IMPERATIF : Jurnal Ilmu Sosial Dan Pendidikan*. https://doi.org/10.36418/syntax-imperatif.v2i5.119

Refnandes, R., Fajria, L., & Nelwati, N. (2022). Analisis Hubungan Kondisi Psikologis dengan Kecanduan Gadget pada Remaja Selama Masa Pandemi

Covid 19 di Kota Padang. *Jurnal Ilmiah Universitas Batanghari Jambi*. https://doi.org/10.33087/jiubj.v22i2.2361

Risnawati. (2016). Deteksi Dini Penyimpangan Emosional Pada Anak Usia 4-6 Tahun. *Jurnal Medika*.

SL, M., Hanakeri, P. A., & Aminabhavi, V. A. SL, Mamatha Hanakeri, Pooja A Aminabhavi, V. A. (2016). Impact of gadgets on emotional maturity, reasoning ability of college students. *International Journal of Applied Research*, *2*(3), 749–755.

Streiner, D. L., & Norman, G. R. (2008). Health Measurement Scales: A practical guide to their development and use. In *Health Measurement Scales: A Practical Guide to their Development and Use*. https://doi.org/10.1093/acprof:oso/9780199231881.001.0001

Sugiyono. (2015). Statistik Nonparameltris Untuk Pelnellitian. *Book*.

Suryana. (2015). Meltodologi Pelnellitian Modell Praktis Pelnellitian Kuantitatif. In *Meltodologi Pelnellitian*.

Syamsu, Y. (2004). *Psikologi Perkembangan Anak & Remaja*. Bandung: Remaja Rosdakarya.

Yudha, R. P. (2020). *Aselsmeln Unjuk Kelrja Gelomeltri,*. CV Budi Utama.

Yustanta, B. F., & Fitrian, V. S. (2022). Lama screen time menggunakan gadget terhadap perkembangan sosial pada anak prasekolah. *Seminar Publikasi Ilmiah Kesehatan Nasional (SPIKesNas)*.

Zati, V., Faisal, F., Srinahyanti, S., & Ginting, R. (2019). *Avoiding Gadgelt Addiction in Childreln by Hellping Childreln to Delvellop Talelnts and Intelrelsts*. https://doi.org/10.4108/elai.3-11-2018.2285698

Zubaidah, Z. (2017). Hubungan durasi pelnggunaan gadgelt telrhadap pelrkelmbangan sosial anak praselkolah di TK PGRI 33 Sumurboto Banyumanik. *Hubungan Durasi Pelnggunaan Gadgelt Telrhadap Pelrkelmbangan Sosial Anak Praselkoloah Di TK PGRI 33 Sumurboto, Banyunyamik*.

Zaini, M., & Soenarto, S. (2019). Persepsi Orangtua Terhadap Hadirnya Era Teknologi Digital di Kalangan Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*. https://doi.org/10.31004/obsesi.v3i1.127