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The Relationship Between Duration Of Gadget Playing And The Level Of Cognitive Development In School-Age Children At Sd Negeri 5 Blang Pidie, Aceh West South Distric)

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ABSTRACT

Many children already have their own gadgets and use the internet through their gadgets, but these incidents can have both positive and negative impacts. The use of gadgets that are not limited to children will cause gadget addiction. This study uses a correlation analytic method with a cross sectional approach. This research was conducted at SD Negeri 5 Blang Pidie, Aceh Barat Daya District in February 2022. The population in this study was students from grades 4 to grade 6 at SD Negeri 5 Blang Pidie, Aceh Barat Daya District, totaling 90 people. Determination of the number of samples using total sampling technique. Data was collected using a questionnaire. Methods univariate data analysis using the frequency distribution and bivariate with the Chi-Square test. The results of the chi square test show that the duration of playing gaget is related to the level of cognitive development of school-age children (p value 0.000). The conclusion of this study is that there is a relationship between the duration of playing gadgets and the level of cognitive development of school-age children. It is suggested to parents to be able to supervise children playing gadgets.

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INTRODUCTION

The rapid development of technology is evidenced by the large number of sales of gadgets on the world market. In 2016, gadget users, especially smartphones, reached 2.1 billion and are expected to continue to increase to 2.5 billion in 2020.(Sumarni et al., 2019). According to the digital marketing research institute Emarketer in Indonesia in 2018 it is estimated that the number of gadget (smartphone) users is more than 100 million people and Indonesia is the fourth active user after China, India and America.(KOMINFO, 2015). In aceh internet use has increased from 2017 by 22.86% to 35.60% in 2019(Central Bureau of Statistics, 2017)

Gadgets are sophisticated technology with various applications such as social networking, hobbies, news media and even entertainment that are often used by adults and are an important basic need in everyday life. However, the fact is that gadgets are often used by children, especially school-age children who are not yet fit to use them(Halawa & Palan, 2016). Many children already have their own gadgets and use the internet through their gadgets, but these incidents can have both positive and negative impacts(Noviya Andriyani et al., 2020). Positive impacts on children's cognitive development include helping children adjust the speed of the game, the ability to process strategies and analysis in games and improve children's right brain abilities if there is good supervision by parents(D. Wulandari & Hermiati, 2019). The negative impact is a decrease in learning concentration, lazy reading and writing, and inhibiting children's cognitive development(Rozalia, 2017).

The use of gadgets that are not limited to children will cause gadget addiction(Noviya Andriyani et al., 2020). Playing gadgets for children is only around 1-2 hours according to the child's age. Children under 2 years old are not recommended to play gadgets. Children aged 2-5 years are only recommended for 1 hour per day with supervision, then school-age children use gadgets for a maximum of only 2 hours per day or use them on weekends, for example Sundays(Magdalena et al., 2021). Research conducted by Rozalia (2017) on fifth grade elementary school children in Bimbing District showed the results of the intensity level of using gadgets in the high category of 34 students (16%), the medium category of 144 students (67%) and the low category of 37 students (17 %)(Rozalia, 2017).

The cognitive development of school-age children is better than the previous group because they are able to take action not only based on imitating their surroundings, but also based on the knowledge they gain through stimulus objects or other information. The behavior shown by school-age children is the ability to think/process information obtained directly or indirectly. Some behaviors are still carried out even though they are not good because they feel comfortable and do not get negative effects from the behavior they do. Therefore, a stimulus is needed that can change the inappropriate behavior of school-age children, including the stimulus obtained from using gadgets(Augustine, 2019)

Based on the results of the researcher's preliminary study with students at SD Negeri 5 Blang Pidie, out of 10 respondents, 8 of them said that they had or used gadgets, especially smartphones, and 2 students did not have gadgets. Almost all respondents who own smartphones say that they like playing games, watching videos, or just looking at photos on their gadgets. They often play gadgets when they come home from school, even at night before going to sleep.

RESEARCH METHOD

This study uses a correlation analytic method with a cross sectional approach. In this study, researchers wanted to know the relationship between the duration of playing gadgets and the level of cognitive development in school-age children at SD Negeri 5 Blang Pidie, Southwest Aceh District. This research was conducted at SD Negeri 5 Blang Pidie, Aceh Barat Daya District in February 2022. The population in this study was students from grades 4 to grade 6 at SD Negeri 5 Blang Pidie, Aceh Barat Daya District, totaling 90 people. Determining the number of samples using total sampling technique by taking all members of the population as a sample. Data was collected using a questionnaire. Methods univariate data analysis using the frequency distribution and bivariate with the Chi-Square test.

RESULTS AND DISCUSSIONS

Univariate analysis

The results of the univariate test in table 1 show that of the 90 respondents the majority of parents are early adults (26-35 years) (38.9%), the parents' education is mostly higher education (77.8%), the parents' occupation is civil servants (50%), and most of the gadget applications that are opened are games (80%%), the majority of the duration of playing gadgets is long (64.4%) and most of the cognitive development of children is very low (27.8%)

Table 1. Frequency Distribution of Parent's Age, Parent's Education, Parent's Occupation, Application Opened, Game Play Duration and Children's Cognitive Development

Variable	n	Percentage
Parents Age		
Late Teenagers (17-25 years)	10	11,11
Early Adult (26-35 years)	35	38,9
Late Adult (36-45 years)	30	33,3
Early Elderly (46-55 years)	15	16,6
Parent Education		
Middle education	20	22,2
higher education	70	77,8
Parents' job		
civil servant	45	50
Private	16	17,8
Farmer	15	16,7
Fisherman	10	11,1
Housewife	4	4,4
Opened Gaget application		
Games	80	88.9
Video	7	7,8
Education	3	3,3
The duration of playing gaget		
Long	58	64,4
Not long	32	35,6
Children's Cognitive Development		
Very low	25	27,8
Low	19	21,1
Medium Down	18	20
Currently	12	13,3
Medium Upper	16	17,8

Bivariate Analysis

Based on the bivariate test, it is known that out of 58 children who played gadgets for a long time, 24 children (26.7%) had a very low level of cognitive development, 15 children (16.7%) had a moderate level of cognitive development, children with low levels of cognitive development low as many as 14 children (15.6%), then cognitive development while the above as many as 3 children (3.3%) and moderate cognitive level as many as 2 children (2.2%). The results of the chi square test show that the duration of playing gaget is related to the level of cognitive development of school-age children (p value 0.000).

Table 2. The Correlation between the Duration of Gaget Playing and the Level of Cognitive Development in School-Age Children at SD Negeri 5 Blang Pidie, Southwest Aceh District

Variable	Level of Cognitive Development of School Age Children												P
	Very Low		Low		Medium Low		Currently		Medium Upper		Total		
	n	%	n	%	n	%	n	%	n	%	n	%	%
The duration of playing gaget													
Long	24	26,7	14	15,6	15	16,7	2	2,2	3	3,3	58	64,5	0,00
Not long	1	1,1	5	5,6	3	3,3	10	11,1	13	14,4	32	35,5	0

Discussion

Based on the statistical results it is known that out of 58 children who played gadgets for a long time, 24 children (26.7%) had a very low level of cognitive development, 15 children (16.7%) had a moderate level of cognitive development, children with low levels of cognitive development 14 children (15.6%) had low cognitive development, then 3 children (3.3%) had moderate cognitive development and 2 children (2.2%) had moderate cognitive level. The results of the chi square test show that the duration of playing gaget is related to the level of cognitive development of school-age children (p value 0.000).

The development of elementary school children is a stage of development where at this time children are preparing themselves for their future survival. "Children are individuals who grow and develop towards maturity"(Ridwan, 2018). The role of parents is very important in children's education to make the younger generation achieve success. Parents also have a great responsibility in providing guidance to their children.(Yulianingsih et al., 2020)

School-age children tend to be happy with the new things they get through playing activities. Most children play and satisfy their curiosity through gadgets, because gadgets are interesting things, especially coupled with game applications, so they spend all day playing gadgets.(Sianturi, 2021), in line with the results of this study that children access games more than other features by using long duration gadgets.

Excessive duration of using gadgets without pause can affect brain performance due to the effects of radiation and can also interfere with health such as impaired visual acuity due to stress experienced by the sense of sight. The positive and negative impacts of using gadgets depend on how a student does good management in using gadgets(Youtricha, 2019).

The results of research conducted by Sapardi (2018) on children whose development is deviant seen from the use of gadgets, the results show that most children are not normal in using gadgets (more than 30 minutes per week). The use of gadgets for too long makes children lazy to move and be creative, lacks interaction with the environment, and hinders the child's socialization process, so that it can affect children's development(Sapardi, 2018). According to the results of research conducted by Wulandari and Santoso (2020) it is stated that the length of time it is safe to use gadgets for their children is less than 30 minutes, after that there is a risk of negative impacts.(H. Wulandari & Santoso, 2020).

The negative impacts of using gadgets are: (1) a decrease in learning concentration (during learning the child becomes unfocused and only remembers gadgets); (2) lazy to write and read; and (3) early childhood cognitive development is hampered (cognitive or thought processes related to how individuals learn, pay attention, observe, imagine, estimate, assess and think about their environment will be hampered)(Rozalia, 2017). According to Pebrina's research (2017) most children use gadgets to play. Children who initially like to play with their friends can change by getting used to being given gadgets as a substitute for playmates(Pebriana, 2017).

According to researchers, the continuous use of gadgets will cause addiction to users. This certainly needs to be a concern because the negative impact is so worrying for children who use gadgets. Therefore the role of parents is very important in providing and supervising and controlling the use of gadgets in children. Researchers argue that gadget ownership should be

given to children according to the child's needs, such as if the child wants to access learning media using one of the applications on the gadget (You Tube), and needs to be accompanied and supervised by parents so that children do not only play online games.

CONCLUSION

The use of gadgets can have positive and negative impacts on the development of elementary school students, especially in children's cognitive development. As parents, it is expected that they can apply habits and warnings when using gadgets. In addition, parents can provide duration, frequency, be selective in choosing the type of application for children that contains education, the type of game can be according to the child's age so that it can help maximize cognitive development and creative thinking in school-age children.

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References

agustin, R. A. (2019). *Perilaku Kesehatan Anak Sekolah*. Jember: Cv. Pustaka Abadi.

Badan Pusat Statistik. (2017). *Proporsi Individu Yang Menggunakan Internet Menurut Provinsi*. Https://Doi.Org/10.1055/S-2008-1040325

Halawa, A., & Palan, M. Y. K. I. (2016). Hubungan Penggunaan Media Elektronik (Gadget) Dengan Perkembangan Sosial Anak Usia Sekolah. *Jurnal Keperawatan*, *5*(2), 48–56. Https://Doi.Org/10.47560/Kep.V5i2.164

Kominfo. (2015). *Indonesia Raksasan Teknologi Digital Asia*.

Magdalena, I., Insyirah, A., Putri, N., & Rahma, S. (2021). Pengaruh Penggunaan Gadget Pada Rendahnya Pola Pikir Pada Anak Usia Sekolah (6-12 Tahun) Di Sdn Gempol Sari Kabupaten Tangerang. *Jurnal Pendidikan Dan Ilmu Sosial*, *3*(2), 166–177.

Noviya Andriyani, I., Theria Wasim, A., Zainuddin, M., & M. Suud, F. (2020). Gadgets Playing Behavior Of Students In Indonesia. *Humanities & Social Sciences Reviews*, *8*(1), 264–271. Https://Doi.Org/10.18510/Hssr.2020.8137

Pebriana, P. H. (2017). Analisis Penggunaan Gadget Terhadap Kemampuan Interaksi Sosial Pada Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*. Https://Doi.Org/10.31004/Obsesi.V1i1.26

Ridwan, A. (2018). Peran Guru Agama Dalam Bimbingan Konseling Siswa Sekolah Dasar. *Risâlah, Jurnal Pendidikan Dan Studi Islam*.

Rozalia, M. F. (2017). Hubungan Intensitas Pemanfaatan Gadget Dengan Prestasi Belajar Siswa Kelas V Sekolah Dasar. *Jurnal Pemikiran Dan Pengembangan Sekolah Dasar (Jp2sd)*, *5*(2), 722. Https://Doi.Org/10.22219/Jp2sd.Vol5.No2.722-731

Sapardi, V. S. (2018). Hubungan Penggunaan Gadget Dengan Perkembangan Anak Usia Prasekolah Di Paud/Tk Islam Budi Mulia. *Menara Ilmu*.

Sianturi, Y. R. U. (2021). Pengaruh Penggunaan Gadget Terhadap Kemampuan Interaksi Sosial Siswa Sekolah Dasar. *Jurnal Kewarganegaraan*. https://doi.org/10.31316/jk.v5i1.1430

Sumarni, S., Pertiwi, S. T. Y., Rukiyah, Andika, W. D., Astika, R. T., Abdurrahman, & Umam, R. (2019). Behavior in early childhood (2-3) years: A case study on the use of gadgets in social environments. *International Journal of Innovation, Creativity and Change*, *8*(8), 384–404.

Wulandari, D., & Hermiati, D. (2019). Deteksi Dini Gangguan Mental dan Emosional pada Anak yang Mengalami Kecanduan Gadget. *Jurnal Keperawatan Silampari*, *3*(1), 382–392. https://doi.org/10.31539/jks.v3i1.843

Wulandari, H., & Santoso, M. B. (2020). Proses Parental Mediation Terhadap Anak Usia Prasekolah Dalam Menggunakan Gadget. *Focus : Jurnal Pekerjaan Sosial*. https://doi.org/10.24198/focus.v2i2.26252

Youtricha, S. (2019). Manajemen Waktu Penggunaan Gadget Pada Siswa Berprestasi Dalam Perspektif Teori Metakognitif Pada Siswa Kelas XI IPS di SMA Islam Kepanjen. In *Duke Law Journal*.

Yulianingsih, W., Suhanadji, S., Nugroho, R., & Mustakim, M. (2020). Keterlibatan Orangtua dalam Pendampingan Belajar Anak selama Masa Pandemi Covid-19. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*. https://doi.org/10.31004/obsesi.v5i2.740