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AN OVERVIEW OF GADGET USAGE BEHAVIOR AMONG ELEMENTARY STUDENTS: A CASE STUDY

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ABSTRACT
Currently, adolescents easily access and use gadgets. However, the adolescent phase is a transitional period of cognitive and biological development that affects behavior, including the use of devices and environmental influences including schools. If the use of devices is excessive and unsupervised, it will affect students' physical, mental and social health. Objective to determine the description of device use behavior, the level of device addiction at SDN Sukamentri Village. The approach of this research is a case study of 274 students of State Elementary School 3, 4, 5 Sukamentri from grades 4, 5, and 6. The data collection using the total sample technique with a sample size of 274 students. The questionnaire used to collect data related to device use behavior is the Indonesian version of the Smartphone Addiction Scale-Short Version (SAS-SV) with a reliability test value of Cronbach's Alpha, R = 0.740. The assessment time was carried out from September 30, 2024 to October 01, 2024. This study was analyzed univariately using frequency distribution tables and percentages. The results show that the majority of students are 10 - 11 years old with even gender. Students who use gadgets are 92.70% with a duration of 2 - 3 hours per day (67.15%). The main access is through personal devices (61.68%). The most common function of device use is playing games (42.34%). The prevalence of high-risk device addiction behavior reached 57.66%. The majority of students use devices to play games with a duration of 2 - 3 hours per day, while personal device ownership has the highest results.

Keywords: behavior; elementary student; gadget

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INTRODUCTION

Adolescence is a transitional stage between childhood and adulthood, which consists of three main phases, namely the early phase (9-13 years), the middle phase (14-17 years), and the late phase (18-21 years) (Sawyer et al., 2018; Beltre & Mendez, 2024). In the early phase of adolescence, significant changes occur in the form of cognitive maturation and biological development, such as puberty. In addition, adolescents' lifestyles begin to shift towards adult roles, accompanied by changes in social environments that are increasingly urbanized, dynamic and globally connected. While social interactions with peers provide benefits, these influences are often amplified by social media and leveraged by the entertainment industry in ways that are potentially detrimental to adolescent health and well-being (Beltre & Mendez, 2024).

The use of the internet and mobile devices, such as smartphones and tablets, has become an integral part of everyday life, including for children. In the United States, surveys show that 73% of parents of 9-11 year olds report that their child uses a desktop or laptop computer, and another 68% use a mobile device. In fact, 17% of children under the age of 12 already have a personal smartphone (Brooke et al., 2020). In Indonesia, data in 2021 noted that 62.10% of the

population aged 5 years and above had accessed the internet in the past three months, a figure that increased to 66.48% in 2022 (Sutardih & Maharani, 2023) . Based on a report from the Indonesian Child Protection Commission (KPAI) in 2020, 71.3% of children have their own devices, 17.1% use their parents' devices, and the rest use shared devices (Gafar, 2020). The types of applications that are often used include online games (44%), YouTube (32%), TikTok (20%), and others (4%) (Pristianto et al., 2023). This high access to technology underscores the importance of supervision so that the use of devices provides optimal benefits.

However, excessive or unwise use of devices can affect students' physical, mental and social health. One risk that is often found is Repetitive Strain Injury, which occurs due to repetitive movements using fingers, such as in de Quervain's tenosynovitis (Williams & Kennedy, 2011). In addition, prolonged use of devices increases the risk of Computer Vision Syndrome, which is characterized by symptoms such as eye fatigue, dryness, irritation, redness, and blurred and double vision (Saljoughian, 2022). A study reported that 54.8% of respondents experienced mild myopia due to device use with a duration of ≥2 hours (Nisaussholihah et al., 2020)

Poor posture during prolonged device use can also cause neck muscle tension, shoulder and arm pain. Research (Pristianto et al., 2023) showed that 62.5% of children out of 40 respondents tended to slouch when using devices, while 32.5% maintained good posture. Another study at Purwobinangun State Elementary School noted that out of 68 respondents, 45.6% experienced neck pain with a severity level of 7-10 (severe category) (Nur Ichsanti et al., 2023). Psychosomatic symptoms that appear since students can be an indicator of the risk of morbidity in adulthood, so education is needed to increase students' understanding of healthy living behavior, wise use of gadgets, and the dangers of uncontrolled use of gadgets.

Health education is an important tool in health promotion to increase awareness and build healthy living behaviors in the community. The implementation of health education can be done through a setting-based approach, such as in schools, workplaces, clinics, and communities, to strengthen the overall health capital of the community (Hou, 2014). Schools play an important role in influencing students' health and education. Healthy children tend to have better learning abilities, so adults with higher levels of education are generally also in better health. Health promotion in schools includes efforts such as supporting health screening, disease prevention through hygiene, injury prevention, and provision of health education (Bergren, 2017). Health promotion in schools aims to equip students with the knowledge, skills and awareness necessary to maintain their own physical, psychological and social health and support the health of others, both now and in the future. The program is designed not only to increase students' understanding of the importance of a healthy lifestyle, but also to build sustainable positive habits.

Nurses have an important role as educators in health promotion, especially in providing information, guidance, and support aimed at increasing public awareness about the importance of healthy living. As health workers who directly interact with individuals, families, and communities, nurses play an active role in delivering information related to disease prevention, implementing healthy lifestyles, and managing health independently (Iriarte-Roteta et al., 2021). Therefore, this study was conducted to determine the description of device use behavior and the level of device addiction provided at SDN Sukamentri Village.

METHOD

This research applied a case study approach, which is defined as an intensive study of a person, group of people or a unit, which aims to generalize some units (Gustafsson, 2017). The population in this study were 274 students from Sukamentri State Elementary School 3, 4, 5 from grades 4, 5, and 6. The age of the population used is students aged 9 to 13 years (Sawyer et al., 2018; Beltre & Mendez, 2024). The sampling method in this study uses total sampling technique or also known as the overall sample (Sugiyono, 2015). Data collection to determine the behavior of device use in students is done by filling out the Indonesian version of the Smartphone Addiction Scale - Short Version (SAS-SV) questionnaire which has been adapted.

The reliability test on the Indonesian version of the SAS-SV has been carried out using Cronbach's Alpha with a value of 0.740, which shows the level of questionnaire reliability is acceptable for the Indonesian version of the SAS-SV scale (Arthy et al., 2019). The normality test in this study used Kolmogorov - Smirnov on the grounds that the sample size was 274 respondents, the data results were not normally distributed, so the median value was used as a cut-off point to categorize perceptions, namely high risk and low risk in the device addiction behavior of SDN Sukamentri Village. Data collection time was conducted from September 30, 2024 to October 01, 2024. Data analysis was carried out univariately using Ms. Excel and SPSS applications, and the results were presented in the form of frequency distribution tables and percentages to be analyzed as primary data.

RESULT

Table 1.
Characteristics of respondents at Sukammentri Elementary School Garut (n=274)

Category	Frequency (*f*)	Percentage (%)
Gender		
Male	142	51.82
Female	132	48.12
Age		
9 Years	41	14.96
10 Years	88	32.12
11 Years	94	34.31
12 Years	48	17.52
13 Years	3	1.09
Class		
Fourth	50	18.2
Fifth	157	57.3
Sixth	67	24.5

The results of demographic data based on gender at SDN 3 Sukamentri were 45 male students (16.42%) and 43 female students (15.69%), at SDN 4 Sukamentri there were 48 male students (17.25%) and 40 female students (14.60%), then at SDN 5 Sukamentri there were 49 male students (17.88%) and 49 female students (17.88%). Meanwhile, the results of demographic data based on age, the majority of students are aged 10-11 years.

Table 2.
Characteristics of respondents among gadged using (n=274)

Category	f	%
Gadget user		
Yes	254	92.7
No	20	7.3
Duration Gadget using		
No restricted	51	18.61
2 – 3 hours	184	67.15
4 – 6 hours	39	14.23
Gadget ownership		
Personal	169	61.68
siblings	10	3.65
Parent	95	34.67
Gadget usage		
Messaging	24	8.76
Playing games	116	42.34
Social media	69	25.18
Education/information	65	23.72

From table 2, it can be seen that the gadget use of all students is 92.7%, with an average duration of 2-3 hours (67.15%), with their own gadget ownership (61.68%), the overall gadget is used more for playing games (42.34%). Table 3. Characteristics of respondents Based on Category of Device Addiction Behavior (n=274)

Table 3.
Characteristics of respondents Based on Category of Device Addiction Behavior (n=274)

Device Addiction Behavior	f	%
High Risk	158	57.66
Low Risk	116	42.34

Of the total students who have a high risk in gadget use, 57.66%.

DISCUSSION

The results of this study show that the majority of students in SDN Sukamentri Village use devices with varying durations, different usage functions, and varying access. Based on demographic data, most students are 10-11 years old and there is an almost even distribution where there are more males, 51.82%. In this study, 254 students (92.70%) were found to use devices. The use of devices was found to be more dominant for playing games (42.34%) compared to other functions such as sending messages, playing social media, or searching for information. This indicates that students tend to use devices for entertainment, which can have an impact on their learning activities and health (Tsang et al., 2023).

The results of research conducted by Subagyo & Fithroni (2022), show an average of 7.72 (2.41) hours of female students doing screen-based activites on weekends with high intensity, while activities carried out with low intensity occur in male students on study-based activities with an average of 1.31 (0.54) hours. Sedentary behavior that occurs in elementary school age students has exceeded the established limit. Primary school age students spend more of their sedentary time playing smartphones and other sedentary activities.

The duration of device use in one day shows that most students use devices for 2-3 hours per day (67.15%), this is directly proportional to the research of Qi et al., (2023), with the average screen time of school children aged 6 to 14 years is 2.77 hours per day, but there are still students who use devices without time limits (18.61%). This is similar to the results of research conducted by (Tsang et al., 2023), there are 18% of 5th - 6th grade students who use devices more than ≥ 4 hours per day. Unlimited use of devices can increase the risk of addiction, as seen in SDN Sukamentri Village which has students with a high-risk addiction category of 57.66%.

This finding is in line with the study of Chamanadjian & Richards (2024), which states that excessive duration of device use can affect children's concentration and behavior patterns. In addition, access to devices is mostly privately owned (61.68%), this is supported by research by Spina et al., (2021) with the results that 80% of 8700 respondents aged 9-14 years have personal devices so that parental supervision of student device use is limited or "modern pacifier" (Chamanadjian & Richards, 2024). This shows the importance of health education to increase students' and parents' understanding of the dangers of uncontrolled device use.

Other research mentions the use of gadgets and parenting styles both have an influence on the formation of children's social character (Andayani et al., 2023). Use of gadgets has an effect on the psychological development of elementary school children. In this study, five children in kindergarten and five children in elementary school experienced behavioral changes when they used gadgets for more than two hours a day. Effective for children; they easily find information about learning and easily communicate with friends. Nonetheless, gadget have a negative effect on psychological development, particularly in the areas of emotional growth and moral development. Children who use gadgets become irritable, rebellious, and imitate the behavior that gadgets show, and talk to themselves about them (Widya et al., 2021).

The results of this study indicate the total students who have a high risk in gadget use, 57.66%. Gadgets not only affect the mindset or behavior of adults, but also affect the behavior of children, especially elementary school students. Gadgets make children dependent on them, and playing gadgets for a long time every day can lead to the development of an antisocial person (Witarsa et al., 2018). Gadget dependancy isn't always simplest to substances, however additionally to positive sports which can be done again and again and feature a bad effect in addition to dependancy to gadgets. This will preclude the system of socializing kids and could cause dependence on those gadgets (Sinaga et al., 2023). Based on the researcher's analysis, the duration of gadget use varies greatly as well as the purpose of gadget use itself. Gadgets can have negative risks and can have a positive impact as well. The use of gadgets for elementary school children should always be supervised by parents and teachers at school.

CONCLUSION

The results of this study show that the use of devices among students of SDN Kelurahan Sukamentri is dominated by entertainment activities, such as playing games, with the majority of students using devices for 2-3 hours per day. Most students have personal devices, which potentially reduces parental supervision of their use. The findings also reveal that SDN 3 Sukamentri has the highest number of students with high-risk device addiction category compared to other schools, indicating the need for special attention in the school.

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