



The Relationship Between the Use of Digital Media and the Physical Activities of Elementary School Students

Galih Pamungkas

Pendidikan Jasmani Kesehatan dan Rekreasi, Program Pascasarjana, Fakultas Ilmu Keolahragaan dan Kesehatan,
Universitas Negeri Yogyakarta, Indonesia

<http://dx.doi.org/10.18415/ijmmu.v10i7.4772>

Abstract

The purpose of this research is to find out the significant relationship between the use of digital media and physical activity in elementary school students. This research method is quantitative descriptive research with a correlational research type. The population and sample of this research are all lower class students. The research was conducted on elementary school (SD) students with a sample of 120 students from 3 classes. This study uses a questionnaire instrument with the aim of shortening the data collection time because the scope of this study is not too broad. In addition, researchers can also meet face to face with respondents so that they will be able to know respondents in filling out data and questions. Based on the results of the study, it has a fairly strong correlation with a value of 0.404 while the p-value of using digital media and physical activity is 0.000. If we use an alpha value of 5 percent, that is, $0.000 < 0.05$. This means that H_0 is rejected. It can be concluded that there is a strong correlation between the use of digital media and physical activity in lower grade elementary school (SD) students.

Keywords: *Digital Media; Physical Activity; Elementary School Students*

Introduction

Conventional teaching styles and student involvement in learning have changed with the advent of digital media (Sharma & Gupta, 2021). The use of digital media is very important in achieving learning objectives. Learning through the internet is a necessity to be able to facilitate students' understanding in understanding the process of knowledge (Agrawal et al., 2021). The lack of availability of innovative learning media that is able to contain material effectively has an impact on low student learning motivation and understanding (Cahyani & Jayanta, 2021). Digital literacy is a form of development in the 4.0 revolution era where we can quickly access various information we want. Of course, the digital literacy school environment has a significant impact on the learning process (Masyhura & Ramadan, 2021). Technological science in education demands teachers as educators with integrated innovations in technological developments. This media is used to increase understanding of educational game-based material with student characteristics (Kurniawan & Risnani, 2021). Learning media has a very important role, the position of learning media as a tool or means of delivering messages from teachers to students in learning activities. The media has a function of attention, cognitive function, affective function and

compensatory function (Permana, 2021). Previous research revealed that learning in Elementary Schools (SD) tends to focus on the teacher so that it does not empower students. This certainly makes the literacy process low in student learning (Maulid & Sakti, 2021). Developments in the revolutionary era 4.0 had a positive impact, namely students could follow learning according to the times, while for the negative impact, students experienced significant changes in physical activity. Physical activity is the basis for the next development progress. When physically well developed it allows children to be able to further develop their physical skills, and explore their environment without the help of others (Leonardo & Komaini, 2021). According to previous research, it revealed that physical activity is one of the external factors that affect the condition of a person's physical fitness (Erliana, 2019). In line with the opinion above, it reveals that physical activity and lifestyle are very important for health, because physical activity habits and a healthy lifestyle will have an impact on children's physical development (Hasan et al., 2020). The characteristics of elementary school-age children are happy to play, move, group, and practice directly. Therefore, with regard to these activities adapted to the physical growth and emotional development of children. The form of physical activity is adjusted according to the age level: age period 7-8 years (elementary school grades 1 and 2), age period 9 years (elementary school grade 3), age period 10-11 years (grades 4 and 5), and age period 12- 13 years old (grade 6). Thus, through proper physical activity and according to the period it is hoped that it will have an impact on physical growth and optimal emotional development (Burhaein, 2017). According to research, apart from having a positive impact on physical health, physical activity can also have other positive impacts such as cognitive, social, emotional and academic achievement (Komarudin et al., 2023). Physical activity is any body movement produced by the contraction of several muscles that increases energy requirements above the resting metabolic rate and is characterized by its modality, frequency, intensity, duration, and practice context (Thivel et al., 2018). Based on the description of the problems above, researchers are interested in conducting research related to the use of digital media on the physical activities of elementary school students (SD).

Method

The research conducted is a correlational study. The research was conducted on elementary school (SD) students with a sample of 120 students from 3 classes. This study uses a questionnaire instrument with the aim of shortening the data collection time because the scope of this study is not too broad. In addition, researchers can also meet face to face with respondents so that they will be able to know respondents in filling out data and questions.

Results and Discussion

The results of the calculations are presented in the form of data that has been taken from the results of questionnaires on the use of digital media and the physical activity of elementary school (SD) students.

Table 1. Statistical Analysis of Digital Media Usage

Statistics	
<i>N (Valid)</i>	120
<i>Mean</i>	10,2
<i>Median</i>	11
<i>Std. Deviation</i>	5,4

Based on the description of the research results presented in the form of a frequency distribution, the above data is used to test the tendency of elementary school students' media usage patterns.

Table 2. Categorization of Digital Media Use Relations

No	Score intervals	Frequency	%	Category
1.	$X > 18,4$	6	5	Very high
2.	12,9 – 18,3	36	31,6	High
3.	7,5 – 12,8	37	30,9	Medium
4.	2,1 – 7,4	23	19,2	Low
5	$X < 2$	16	13,3	Very low
	Amount	120	100	

Table 3. Statistical Analysis of Physical Activity

Statistics	
<i>N (Valid)</i>	120
<i>Mean</i>	2,4
<i>Median</i>	2
<i>Std. Deviation</i>	1,67733

Based on the description of the research results presented in the form of a frequency distribution, the above data is used to test the tendency of physical activity of elementary school (SD) students.

Table 4. Categorization of Physical Activity

No	Score intervals	Frequency	%	Category
1.	$X > 4,93$	21	17,5	Very High
2.	3,25 – 4,92	10	8,34	High
3.	1,57 – 3,24	45	37,5	Medium
4.	(-0,13) – 1,56	44	36,6	Low
5.	$X < (-0,12)$	0	0	Very Low
	Amount	120	100	

Table 5. Uji Bivariat

Variable	<i>p</i>	Significance
<i>Use of Digital Media</i>	0,000	0,05
<i>Physical Activity</i>	0,000	0,05

The Bivariate Analysis method is used to test whether or not there is a relationship between the two variables. This study found that there was a fairly strong correlation, with a p-value of digital media use and physical activity of 0.000. If we use an alpha value of 5 percent, which means $0.000 < 0.05$. This means that H_0 is rejected. It can be concluded that there is a strong correlation between the use of digital media and physical activity. The relationship between the use of digital media and physical activity is found in early childhood under the age of 8, namely in the early childhood, kindergarten, and lower grades of elementary school. Early childhood is a potential period for learning. This is inseparable from today's era where there is sophisticated digital media technology accompanied by creative and modern children. Previous research stated that the millennial generation has unique characteristics compared to previous generations. This can be seen from human behavior which cannot be separated from technology which can interfere with children's physical activities (Darmo, 2015). Activities carried out vary, such as: waking up, taking a shower, having breakfast, going to school, walking, cycling, eating, worshipping, playing, working and many others. The use of digital media may have a relationship to children's motor development, the motor development of lower grade elementary school students generally focuses on

mastering fundamental movement skills (Goodway & Robinson, 2015). The condition of students who are addicted to playing digital media in the form of gadgets and others, children will operate and play, then children will reduce their activities that use more energy, such as walking, running, moving places or in the form of playing with peers and communicating with others. The impacts provided by digital media include: 1) Communication with parents is reduced, 2) Psychomotor abilities are reduced, 3) Difficulty adapting to subject matter, and 4) Difficulty in socializing. Previous research revealed that physical activity and lifestyle are very important for health, because physical activity habits and a healthy lifestyle will have an impact on children's physical development. Children's physical activity and lifestyle must be considered from an early age (Hasan et al., 2020). Physical activity has actually had a positive influence on the development and growth of children (Pujianto, 2019). Research conducted by (Ellis et al., 2017) states that physical activity in free time has a real positive effect on children's development. Based on the results of the study stated that physical activity has provided a medium for children to develop the ability to help themselves, control emotions and socialize with the surrounding community (Vazou et al., 2017). The two research results above prove the role of physical activity in children. Besides playing a role in maximizing children's growth, physical activity also plays an important role in children's development. The development of children socially, emotionally, and their way of thinking in solving problems faced by children. Lack of knowledge about the role of physical activity in children often makes parents overprotective of what their children do. So that what happens is the child becomes unable to express himself with physical activity which results in disruption of the pattern of growth and development of the child. When children are lacking in expressing themselves through physical activity, the child's mental health will be disrupted.

Conclusion

Based on the results of data processing and discussion, it can be concluded that the relationship between the use of digital media and the physical activity of lower grade elementary school students has a fairly strong relationship, namely the Pearson correlation 0.404. Suggestions in this study for PJOK teachers can motivate and create high attractiveness for the sports learning process so that student activities can be found at school. Then for Elementary School (SD) students can increase physical activity at school or at home, because with lots of activity there will be many benefits in the long term. Meanwhile, parents can regulate and control the duration of digital media use so that it has a positive impact on children.

References

- Agrawal, R., Wankhede, V. A., & Nair, R. S. (2021). Analysis of Drivers of Digital Learning in COVID-19 and Post-COVID-19 Scenario Using an ISM Approach. *Journal of The Institution of Engineers (India): Series B*, 102(6), 1143–1155. <https://doi.org/10.1007/s40031-020-00528-8>.
- Burhaein, E. (2017). Aktivitas fisik olahraga untuk pertumbuhan dan perkembangan siswa SD. *Indonesian Journal of Primary Education*, 1(1), 51–58.
- Cahyani, N. L. P., & Jayanta, I. N. L. (2021). Digital Literacy-Based Learning Video on the Topic of Natural Resources and Technology for Grade IV Elementary School. *Jurnal Ilmiah Sekolah Dasar*, 5(3), 538. <https://doi.org/10.23887/jisd.v5i3.37918>.
- Darmo, I. S. (2015). Millennials green culture: The opportunity and challenge (A case study of higher education student). *The 3rd International Multidisciplinary Conference on Social Sciences (IMCoSS 2015)*, IMCoSS, 21–28.
- Ellis, Y. G., Cliff, D. P., Janssen, X., Jones, R. A., Reilly, J. J., & Okely, A. D. (2017). Sedentary time, physical activity and compliance with IOM recommendations in young children at childcare.

- Preventive Medicine Reports*, 7, 221–226. <https://doi.org/10.1016/j.pmedr.2016.12.009>.
- Erliana, E. (2019). Hubungan aktivitas fisik terhadap tingkat kebugaran jasmani siswa. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 7(2).
- Goodway, J. D., & Robinson, L. E. (2015). Developmental Trajectories in Early Sport Specialization: A Case for Early Sampling from a Physical Growth and Motor Development Perspective. *Kinesiology Review*, 4(3), 267–278. <https://doi.org/10.1123/kr.2015-0028>.
- Hasan, F., Juniarsyah, A. D., Ihsani, S. I., Hidayat, I. I., Winata, B., & Safei, I. (2020). Pemetaan Tingkat Aktivitas Fisik Siswa Sekolah Dasar Kota Bandung. *JUARA: Jurnal Olahraga*, 5(2), 128–134.
- Komarudin, García-Jiménez, J. V., Saryono, Meikahani, R., Iswanto, A., Perdana, S., & Pamungkas, G. (2023). The relationship between physical activity and academic performance of elementary students. *Cakrawala Pendidikan*, 42(1), 90–99. <https://doi.org/10.21831/cp.v42i1.58068>.
- Kurniawan, M. R., & Risnani, L. Y. (2021). Pengembangan Game Edukasi Digital Dan Implementasi Pada Pembelajaran Biologi Materi Plantae Siswa Sma Kelas X. *BIOEDUKASI (Jurnal Pendidikan Biologi)*, 12(1), 1. <https://doi.org/10.24127/bioedukasi.v12i1.3759>.
- Leonardo, A., & Komaini, A. (2021). Hubungan Aktivitas Fisik Terhadap Keterampilan Motorik. *Jurnal Stamina*, 4(3), 135–144. <http://stamina.pjj.unp.ac.id/index.php/JST/article/view/764>.
- Masyhura, N., & Ramadan, Z. H. (2021). *International Journal of Elementary Education Implementation of Digital Literacy in Elementary Schools*. 5(4), 639–647. <https://ejournal.undiksha.ac.id/index.php/IJEE>.
- Maulid, M. N., & Sakti, A. W. (2021). The Effectiveness of Learning Videos as a Source of Digital Literacy on Poster Learning in Elementary Schools. *Indonesian Journal of Multidisciplinary Research*, 2(1), 51–56. <https://doi.org/10.17509/ijomr.v2i1.38623>.
- Permana, N. S. (2021). Implementasi Aplikasi Kahoot Sebagai Media Pembelajaran Berbasis Game Dalam Pelajaran Pendidikan Agama Katolik. *JPAK: Jurnal Pendidikan Agama Katolik*, 21(2), 128–135. <https://doi.org/10.34150/jpak.v21i2.334>.
- Pujianto, D. (2019). Aktivitas Jasmani Dan Persepsi Gerak Anak Usia Dini. *Halaman Olahraga Nusantara (Jurnal Ilmu Keolahragaan)*, 2(1), 79. <https://doi.org/10.31851/hon.v2i1.2467>.
- Sharma, D., & Gupta, S. (2021). Impact of Digital Media on Students' Engagement Via E-Learning: A Critical Literature Review using Bibliographic Analysis. *Journal of Content, Community and Communication*, 13(7), 27–34. <https://doi.org/10.31620/JCCC.06.21/04>.
- Thivel, D., Tremblay, A., Genin, P. M., Panahi, S., Rivière, D., & Duclos, M. (2018). Physical Activity, Inactivity, and Sedentary Behaviors: Definitions and Implications in Occupational Health. In *Frontiers in Public Health* (Vol. 6). Frontiers Media S.A. <https://doi.org/10.3389/fpubh.2018.00288>.
- Vazou, S., Mantis, C., Luze, G., & Krogh, J. S. (2017). Self-perceptions and social-emotional classroom engagement following structured physical activity among preschoolers: A feasibility study. *Journal of Sport and Health Science*, 6(2), 241–247. <https://doi.org/10.1016/j.jshs.2016.01.006>.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).