https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19

Research Article

Relationship Between Daily Screen Time and Students Physical Activity

Alif Putra Pradana[1*], Jati Laksono[2].

[1 2] Department of Physical Education, State University of Malang, Indonesia

Email author corresponding: alif.putra.2406148@students.um.ac.id

Abstract:

Background: The increasing use of digital devices among adolescents leads to increased screen time, which can reduce physical activity and increase sedentary behavior. However, the relationship between these two variables has not been consistent across studies, necessitating further study in different schools and environmental contexts.
Aims: This research analyzes the relationship between daily screen time and students' physical activity levels.
Methods: The study used a quantitative correlational design. The sample consisted of 22 students selected through a total sampling technique. The instruments used were the Screen Time Questionnaire (QueST) to measure screen time and the Physical Activity Questionnaire for Adolescents (PAQ-A) to assess physical activity. Data were analyzed using descriptive statistics, the Shapiro–Wilk normality test, and the Spearman Rank correlation test.
Result: The results showed that most students had moderate to high screen time, with low physical activity. The Spearman correlation test yielded an r value of –0.197 with a p value of 0.380, indicating no significant relationship between screen time duration and students' physical activity.
Conclusion: This study concluded that screen time was not a determining factor in physical activity. Other factors, such as environment, exercise habits, and family support, likely had a greater influence on students' physical activity levels.

Keywords: Screen time, Adolescent physical activity, PAQ-A, Sedentary behavior.

Introduction

Background of the study: Advances in digital technology have significantly changed the daily behavior patterns of children and adolescents. The use of devices such as smartphones, laptops, tablets, and televisions is increasing for learning, entertainment, and communication. According to a report by (Hutson & Olsen, 2021; Rideout, 2022) the average teenager now spends more than 8 hours of screen time per day, excluding academic use. A similar situation also occurs in Indonesia; a survey by the (Asosiasi Penyelenggara Jasa Internet Indonesia, 2023) Reported that 89% of students use the internet for more than 3–6 hours daily, with most of that time spent on social media, gaming, and video streaming. This high screen time may displace time that students should spend on physical activity (Gibson et al., 2024; Su et al., 2024). This mechanism is explained by Displacement Theory, which posits that when individuals increase the time spent on certain activities, they "replace" or reduce the time spent on other activities, including physical activity (Bailey et al., 2025; Meachon et al., 2025; Yogo Prayadi et al., 2024).

Physiologically and pedagogically, physical activity plays a crucial role in children's development. (Gayathri Devi et al., 2025; Mansur et al., 2025) explain that physical activity contributes to cardiorespiratory health, muscle strength, weight control, motor development, and mental health. (World Health Organization (WHO), 2022) also recommends that children and adolescents engage in at least 60 minutes of moderate-to-vigorous physical activity per day.

https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19

Research Article

However, global data shows that more than 80% of adolescents do not achieve this recommendation.

Several studies have shown a strong link between screen time and reduced physical activity. (Li et al., 2025; Nasrallah et al., 2025; Wang & Boros, 2021) found that screen time exceeding 2 hours per day was associated with increased sedentary time, decreased fitness, and an increased risk of obesity in children and adolescents. Another research by (Torres et al., 2025) found that children who spent more than 2 hours per day in front of screens were less likely to meet daily physical activity recommendations and were at higher risk for a sedentary lifestyle. A study by (Cvetanov, 2020; Prakoso et al., 2024) also found a similar pattern: higher screen time, lower physical activity, and a higher risk of obesity.

In addition to replacing physical activity, excessive screen time is also associated with sedentary behavior, sleep disturbances, decreased focus on learning, and an increased risk of mental health problems such as anxiety and depression (Hale & Guan, 2015). In an educational context, students who habitually use devices for hours each day tend to participate less in sports, exhibit lower motivation for physical activity, and experience digital fatigue, which can affect their physical activity habits.

The increase in screen time following the Covid-19 pandemic has further reinforced this trend. With intensive online learning, device usage habits have increased dramatically. Research by ((Moitra & Madan, 2022) showed an average increase in screen time of 2–3 hours per day post-pandemic, accompanied by a decrease in physical activity scores based on the PAQ-A.

Literature review: Previous studies have shown that high screen time is associated with lower levels of physical activity among children and adolescents. However, research such as (Burgess et al., 2024; Liang et al., 2025; Mendonca et al., 2025) most of these focus on developed countries or on certain levels of education, such as high school, so that the existing findings do not fully represent the conditions of junior high school students in Indonesia. Moreover, existing research generally treats screen time as a single variable without distinguishing types of use, such as online learning, entertainment, or social media (Alpuğan, 2024; Kamberi, 2025; Semarayasa et al., 2023). In fact, different types of screen-based activities may have varying impacts on students' physical activity levels. On the other hand, empirical research linking daily screen time to junior high school students' physical activity in the school environment, particularly in Physical Education, Sports, and Health (PJOK) classes, remains limited.

Gap analysis: Based on these conditions, a significant research gap can be identified in understanding the relationship between daily screen time duration and physical activity levels among junior high school students within school settings. Although numerous international studies have confirmed a negative association between screen time and physical activity among children and adolescents, most of this research has been conducted in developed countries, at specific educational levels, and without a focused examination of the Physical Education, Sports, and Health (PJOK) learning context. Consequently, existing findings do not fully represent the social, cultural, and educational characteristics of junior high school students in Indonesia.

Furthermore, previous studies have generally treated screen time as a single, undifferentiated variable, without considering the context of its use. This limitation prevents a comprehensive understanding of how daily screen time behaviors influence students' physical activity levels in school environments. In the post–Covid-19 period, the rapid increase in digital device use for learning and daily activities has further intensified this issue, potentially reshaping students' movement patterns, participation in physical activities, and engagement in Physical Education classes. This research is both important and timely, as it seeks to provide contextual empirical

https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19
Research Article

evidence on the relationship between daily screen time duration and physical activity levels among junior high school students. The findings are expected to contribute to the body of knowledge in physical education and health studies and to serve as a scientific foundation for schools and PJOK teachers in designing instructional strategies, educational interventions, and school policies that promote active, healthy, and sustainable lifestyles among students.

Rationale of the study: Although various studies have revealed a negative relationship between screen time and physical activity, findings across regions and educational levels vary, influenced by social environments, availability of sports facilities, and family habits. Hence, local-context research is still needed to provide more specific empirical understanding of the extent to which screen time affects students' physical activity. Given this urgency, this study analyzed the relationship between daily screen time and students' physical activity levels. The results are expected to contribute to academic discourse and serve as a foundation for formulating strategies to manage screen time and enhance physical activity programs in schools.

Material & Methods

Research Design: This research employed a quantitative correlational design. This approach was used to determine the degree of relationship between two variables: daily screen time as the independent variable (X) and students' daily physical activity level as the dependent variable (Y). A correlational design was chosen because this study does not provide a direct treatment but rather observes the natural relationships between variables as they exist (Sugiyono, 2021). The population in this study was all eleventh-grade students at.

Participant: Given the relatively small and accessible population, the sampling technique used was saturated sampling (total sampling), meaning the entire population was used as the research sample. A total of 22 students participated in the study.

Instrument: The instruments used in this study consisted of two standardized questionnaires: the Screen Time Questionnaire (QueST) and the Physical Activity Questionnaire (PAQ-A). The Screen Time Questionnaire was used to measure the average time spent using digital devices such as smartphones, computers, televisions, and tablets in one week. Respondents recorded the time spent on five activities: studying, working, watching videos, playing games, and using social media/chat. Duration is entered in hours and minutes for school days and weekends or free time. The data is then calculated to obtain the average daily duration using the formula:

$$\text{Average daily screen time} = \frac{(Average\ daily\ screen\ time\ X\ 6)+(Total\ time\ Weekend\ X1)}{7}$$

Based on recommendations (American Academy of Pediatrics, 2020) The results of the category scores for each week are as follows:

Table 1. Screen time scale

No	Scale	Category
1	<14 Hours	*Low screen time*
2	14-28 Hours	*Moderate screen time*
3	<28 Hours	*High screen time*

This category reflects students' exposure to digital screens and the risks of a sedentary

https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19
Research Article

lifestyle.

The second questionnaire, the Physical Activity Questionnaire for Adolescents (PAQ-A), was used to assess students' physical activity levels over the past seven days.

This instrument includes ten items assessing the frequency of physical activity such as sports, physical play, and recreational activities. Each item is rated on a 1–5 Likert scale, with 1 indicating very low activity and 5 indicating very high activity. The total score is calculated by summing all item scores and then dividing by the number of items to obtain the average physical activity score. Based on the PAQ-A guidelines, the scores are categorized as follows:

Table 2. Physical Activity Scale

No	Scale	Category
1	1,00–2,33	Low physical activity
2	2,34–3,66	Moderate physical activity
3	3,67–5,00	High physical activity

Analysis plan : Data collection was conducted directly at the school. The researcher explained the purpose of the study, how to complete the questionnaire, and guaranteed the confidentiality of respondents' identities. Students completed both questionnaires independently under the researcher's supervision to ensure the data obtained was accurate and consistent with real-world conditions. After all data was collected, responses were checked for completeness before further processing.

The research data were analyzed using SPSS software. Descriptive analysis was used to describe the mean, standard deviation, and distribution of screen time and physical activity categories. Before testing for correlations, data normality was tested using the Shapiro–Wilk test, as the sample size was less than 50. If the data were normally distributed, the relationship between variables was analyzed using the Pearson Product-Momen correlation test. However, if the data were not normally distributed, the Spearman Rank correlation test was used. Interpretation of the correlation coefficient (r) value uses criteria to classify the level of correlation as very low, low, moderate, strong, or very strong.

Results

The results of this study present an overview of students' daily screen time duration and their level of physical activity, followed by the results of normality and correlation tests to see whether there is a relationship between the two variables.

1. Students' Daily Screen Time Duration

Descriptive analysis shows that 22 students provided complete data regarding daily screen time. The average screen time was 64.9 hours per week, with a median of 65 hours, reflecting that most students spend approximately 9–10 hours per day on digital devices. The mode value was 60 hours, while the standard deviation of 9.12 indicates that device usage varies within a reasonable range among respondents. The lowest screen time was recorded at 43 hours per week and the highest at 88 hours per week, indicating a significant difference in habits between students.

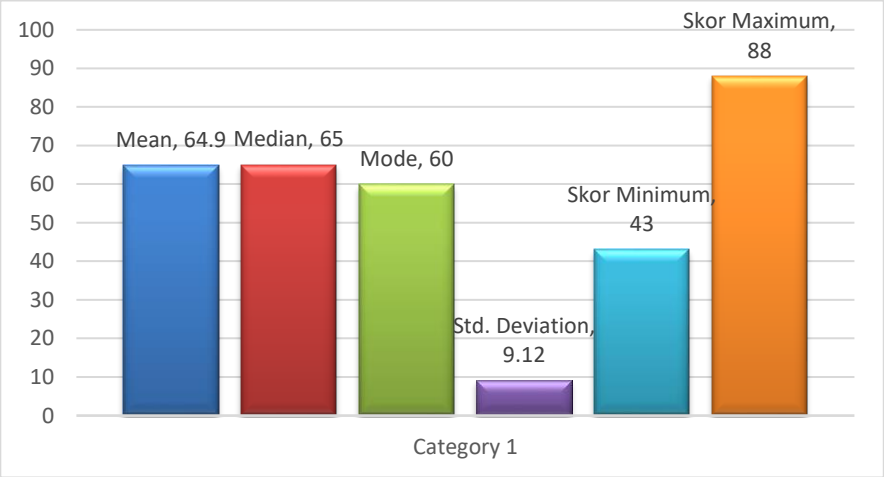
https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19
Research Article

Table 3. Distribution of students' daily screen time frequency

No	Score Range	Frequency	Percentage	Criteria
1	<14 Hours	3	13.6%	Low
2	14-28 Hours	14	63.6%	Moderate
3	>28 Hours	5	22.7%	High

The distribution of categories also reinforces this picture. Of the 22 students, 63.6% had moderate screen time, while 22.7% had high screen time. Meanwhile, only 13.6% had low screen time. This finding indicates that the majority of students are accustomed to using digital devices for a significant amount of time each week.

Figure 1. Students' Daily Screen Time Duration



2. Student Physical Activity Level

The data in Taindicates that students' overall physical activity levels are low. The average physical activity score based on the PAQ-A was 2.02, which falls into the low physical activity category. The median of 1.96 and mode of 1.72 indicate that most students engaged in low-intensity physical activity. The standard deviation of 0.32 also indicates that students' physical activity patterns were fairly uniform, with little variation across respondents. The lowest score was 1.66 and the highest score was only 2.89, confirming that no students reached the high physical activity category.

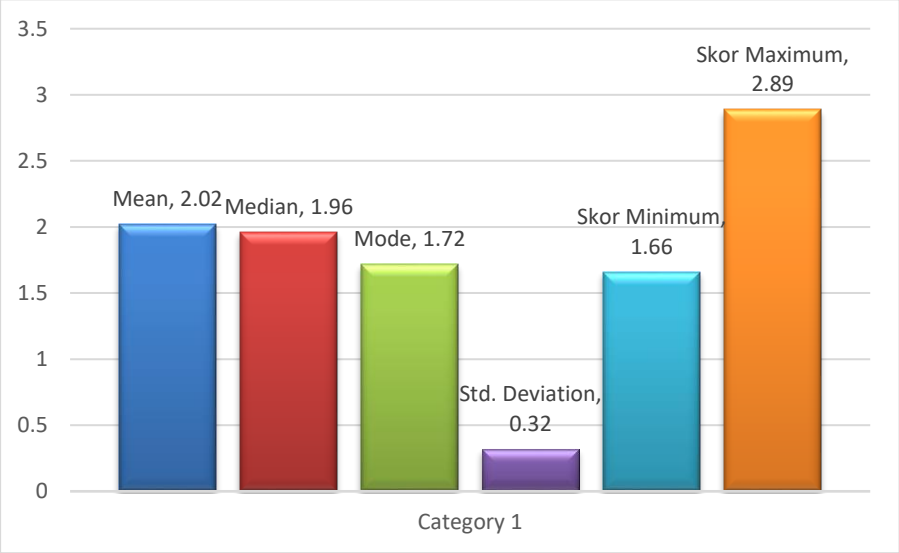
Table 4. Distribution of students' daily screen time frequency

No	Score Range	Frequency	Percentage	Criteria
1	1,00–2,33	18	82%	Low
2	2,34–3,66	4	18%	Moderate
3	3,67–5,00	0	0%	High

https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19
Research Article

In terms of category distribution, 18 students (82%) were in the low physical activity category, while 4 students (18%) were in the moderate activity category. None of the students were in the high physical activity category. This indicates that most students have not met the WHO recommendation of at least 60 minutes of moderate-to-vigorous physical activity per day.

Figure 2. Student Physical Activity Level



3. Normality Test

Figure 3. Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Screen Time	,152	22	,200*	,950	22	,323
Aktivitas Fisik	,155	22	,185	,892	22	,020

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Figure 3 presents the results of the Shapiro–Wilk normality test conducted to examine the distributional characteristics of the research data. This test was applied to two variables, namely screen time duration and physical activity score. The analysis revealed that the significance values for both variables were below the threshold of 0.05, indicating a violation of the assumption of normality. Consequently, the data were classified as non-normally distributed. In light of these findings, further analysis of the relationship between screen time duration and physical activity was carried out using the nonparametric Spearman Rank correlation test, which is appropriate for data that do not meet the normality assumption.

https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19
Research Article

4. Correlation Test

Figure 4. Correlation

Correlations

			Screen Time	Aktivitas Fisik
Spearman's rho	Screen Time	Correlation Coefficient	1,000	-,197
		Sig. (2-tailed)	.	,380
		N	22	22
	Aktivitas Fisik	Correlation Coefficient	-,197	1,000
		Sig. (2-tailed)	,380	.
		N	22	22

Based on the Spearman correlation test, used because the data were not normally distributed, a correlation coefficient of r = –0.197 was obtained between screen time and students' physical activity levels. The negative direction of the relationship indicates that the higher the students' screen time, the lower their physical activity levels.

However, the significance value (Sig. 2-tailed) obtained was p = 0.380, greater than the 0.05 threshold. Therefore, the relationship was not statistically significant. This means that in this study sample, screen time did not show a significant relationship with students' physical activity levels. Although the direction of the correlation aligns with the theory that high screen time can shift the time spent exercising, the strength of the relationship in this study was very weak and therefore not strong enough to conclude a significant relationship. Other factors beyond screen time, such as exercise habits, family environment, personal interests, and access to physical facilities, likely have a greater influence on students' physical activity.

Discusion

The results showed that students' screen time levels were in the moderate-to-high category, while their physical activity levels were predominantly in the low category. This condition essentially aligns with the general pattern observed among adolescents in the digital age where device use increases while physical activity tends to decrease. However, a Spearman correlation test showed that the relationship between screen time and physical activity in this study was not significant (r = –0.197; p = 0.380). This finding indicates that although the negative direction of the relationship is consistent with theory, the results are not statistically strong enough to conclude a causal link between the two variables.

Theoretically, (Rideout, 2022) and supported by (Asosiasi Penyelenggara Jasa Internet Indonesia, 2023) stated that high device use can shift physical habits, especially among adolescents. The results of this study did indicate a negative correlation, meaning that increased screen time leads to decreased physical activity. However, this relationship was very weak and insignificant, suggesting that other factors likely play a larger role in influencing students' physical activity.

Several previous studies have found a significant relationship between high screen time and decreased physical activity. A study by (Dong et al., 2025) confirmed that children and adolescents who spend more than two hours per day in front of screens are less likely to meet daily physical activity recommendations. Research by (Prakoso et al., 2024) also showed a similar pattern, with excessive screen time significantly associated with decreased physical fitness and

https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19
Research Article

increased sedentary behavior. Research by (Wieprecht et al., 2025) also found that screen time >2 hours/day was associated with a lower likelihood of meeting physical activity recommendations (≥60 minutes/day of moderate-vigorous physical activity). Research by (Hansen et al., 2022) also stated that children and adolescents with high screen time were less likely to be members of sports clubs, more likely to be overweight, and more likely to be sedentary.

The differences in the results of this study compared to previous studies may be due to several factors. First, the relatively small sample size (N = 22) may affect the statistical test, preventing a significant relationship from emerging. Second, students' physical activity may be influenced by other factors such as the availability of sports facilities, individual interests, family support, environmental conditions, and physical activity habits at school (Kurniawan, 2021). (World Health Organization (WHO), 2022) confirmed that these factors significantly contribute to adolescents' physical activity levels. Third, students' reported screen time is not entirely passive. Some time can be used for productive activities such as studying, so it does not necessarily have a direct impact on sedentary behavior.

Various empirical studies have shown a strong link between screen time and decreased physical activity levels. (Nasrallah et al., 2025) found that screen time exceeding 2 hours per day correlated with an increased sedentary lifestyle, decreased fitness, and an increased risk of obesity in children and adolescents. Research by (Torres et al., 2025) also showed that children who spent more than 2 hours per day in front of screens were less likely to meet daily physical activity recommendations. A study by (Prakoso et al., 2024) in the Indonesian context reinforced these findings by showing that high screen time was associated with lower levels of physical activity and an increased risk of obesity in school-age students.

In addition to replacing physical activity, excessive screen time is also associated with increased sedentary behavior, disturbed sleep patterns, decreased concentration in learning, and an increased risk of mental health problems such as anxiety and depression(Wiyana et al., 2023) . In the educational context, students who habitually use digital devices for long periods tend to be less active in school sports, show lower motivation for physical activity, and experience digital fatigue, which can affect daily physical activity habits.

The increase in screen time following the Covid-19 pandemic has further reinforced this trend. Prolonged online learning has created a pattern of intensive digital device use. (Moitra & Madan, 2022) reported an average increase in screen time of 2–3 hours per day after the pandemic, accompanied by a decrease in physical activity scores based on the PAQ-A instrument. Research conducted by (Manuja et al., 2024) & (Liu et al., 2024) Consistently shows that the Covid-19 pandemic, particularly through prolonged distance learning, has led to a significant increase in screen time among children and adolescents in various countries. However, most of these studies were conducted in a global context or at specific educational levels, so the results do not fully reflect the conditions of junior high school students in Indonesian schools.

Although various studies have revealed a negative relationship between screen time and physical activity, a research gap, particularly regarding studies that focus on junior high school students, taking into account the local school context, the culture of device use, and the role of physical education (PJOK) instruction, furthermore, most previous studies have not specifically examined the relationship between daily screen time duration and students' physical activity levels using a measurement approach appropriate to the characteristics of early adolescence.

Therefore, the novelty of this research lies in its focus on the relationship between daily screen time duration and physical activity levels of junior high school students in the local school context, as well as its efforts to integrate behavioral theory and physical education perspectives.

https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19

Research Article

This research is expected to provide a more specific empirical contribution while also serving as a basis for schools and physical education teachers to design screen time management strategies and physical activity improvement programs that are relevant to students' needs.

Conclusions

Based on the research results, students' daily screen time falls within the moderate-to-high category, while their physical activity levels tend to be low. Although the direction of the relationship shows a negative trend that higher screen time leads to lower physical activity the results of the Spearman correlation analysis show that the relationship is not statistically significant ($r = –0.197$; $p = 0.380$). These findings indicate that screen time is not the only factor influencing students' low physical activity. Other factors such as interest in exercise, family environment, access to physical activity facilities, and movement habits at school appear to play a more dominant role. Overall, this study confirms that efforts to increase students' physical activity need to be carried out comprehensively, not only by limiting screen time, but also by creating a learning environment and school culture that is more supportive of regular and enjoyable physical activity.

Acknowledgment

The authors would like to express their sincere gratitude to the school principals, Physical Education, Sports, and Health (PJOK) teachers, and students of the junior high schools involved in this study for their cooperation and active participation. Special appreciation is extended to the PJOK teachers who provided valuable support through data collection, questionnaires, and constructive input that greatly contributed to the completion of this research. The authors also acknowledge the support of the school administrations for granting permission to conduct the study and facilitating access to the learning environment and necessary research data. Furthermore, heartfelt thanks are extended to all individuals and institutions whose assistance, guidance, and cooperation made this research possible.

References

American Academy of Pediatrics (AAP). (2020). *Media and Young Minds: Digital Device Use in Adolescents.* AAP Publications. https://publications.aap.org/pediatrics/article/138/5/e20162592/60321/Media-Use-in-School-Aged-Children-and-Adolescents?autologincheck=redirected

Asosiasi Penyelenggara Jasa Internet Indonesia. (2023). *Laporan Survei Internet Indonesia 2023*. APJII. https://survei.apjii.or.id/

Bailey, C. P., Qian, J., DiPietro, L., Elmi, A., & Napolitano, M. A. (2025). Timing of Physical Activity and Associations with BMI and Weekly Physical Activity in Young Adults: A Cross-Sectional Analysis. *Research Quarterly for Exercise and Sport*, *96*(3), 573–579. https://doi.org/10.1080/02701367.2025.2463467

Cvetanov, T. (2020). the Role of Nutritional Habits and Behavior for the Etiology of Overweight and Obesity. *Trakia Journal of Sciences*, *18*(Suppl.1), 168–173. https://doi.org/10.15547/tjs.2020.s.01.031

Dong, Q., Liu, H., & Fu, Q. (2025). Associations between physical fitness and different aspects of

P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19
Research Article

screen time in children and adolescents. *Scientific Reports*, *15*(1), 25607. https://doi.org/10.1038/s41598-025-11625-3

Gayathri Devi, S., Siva Harish, R. V., Nalini, N., Prasad, K. D. V., & Nagabhooshanam, N. (2025). Advancing human activity recognition with quaternion-based recurrent neural networks. *Automatika*, *66*(3), 411–430. https://doi.org/10.1080/00051144.2025.2480419

Gibson, V., van der Merwe, E., & Coetzee, B. A. (2024). Motor milestones and physical activity: A scoping review of ECD practitioners' contributions. *South African Journal of Childhood Education*, *14*(1). https://doi.org/10.4102/sajce.v14i1.1580

Hale, L., & Guan, S. (2015). Screen time and sleep among school-aged children and adolescents: A systematic literature review. *Sleep Medicine Reviews*, *21*. https://doi.org/10.1016/j.smrv.2014.07.007

Hansen, J., Hanewinkel, R., & Galimov, A. (2022). Physical activity, screen time, and sleep: do German children and adolescents meet the movement guidelines? *European Journal of Pediatrics*, *181*(5), 1985–1995. https://doi.org/10.1007/s00431-022-04401-2

Hutson, J., & Olsen, T. (2021). Digital Humanities and Virtual Reality: A Review of Theories and Best Practices for Art History. *International Journal of Technology in Education*, *4*(3), 491–500. https://doi.org/10.46328/ijte.150

Kurniawan, D. (2021). *Aktivitas fisik dan gaya hidup sehat*. PT Remaja Rosdakarya.

Lankhaar, J. A. C., Kemler, E., Hofstetter, H., Dorine, C. M., Zelissen, P. M. J., Stubbe, J. H., Backx, F. J. G., Lankhaar, J. A. C., Kemler, E., Hofstetter, H., Dorine, C. M., Zelissen, P. M. J., Stubbe, J. H., & Backx, F. J. G. (2021). Physical activity , sports participation and exercise-related constraints in adult women with primary hypothyroidism treated with thyroid hormone replacement therapy. *Journal of Sports Sciences*, *39*(21), 2493–2502. https://doi.org/10.1080/02640414.2021.1940696

Li, F., Li, S., & Xie, H. (2025). The Effects of Physical Activity on Skin Health: A Narrative Review. *Clinical, Cosmetic and Investigational Dermatology*, *Volume 18*, 2189–2200. https://doi.org/10.2147/CCID.S554263

Liu, Y., Zhang, E., Li, H., Ge, X., Hu, F., Cai, Y., & Xiang, M. (2024). Physical activity, recreational screen time, and depressive symptoms among Chinese children and adolescents: a three-wave cross-lagged study during the COVID-19 pandemic. *Child and Adolescent Psychiatry and Mental Health*, *18*(1), 11. https://doi.org/10.1186/s13034-024-00705-3

Mansur, N. A. R., Kep, M., Sari, N. I. M., Kep, M., An, S. K., & Paraswati, S. I. (2025). *Sehat Dengan Aktivitas Fisik: Mengapa Kita Harus Bergerak*. Penerbit KBM Indonesia.

Manuja, R., Pattankar, T. P., Yadavannavar, M. C., Udgiri, R. S., Yadavannavar, M., & Udgiri Sr, R. (2024). Impact of Elevated Screen Time on School-Age Adolescents During the COVID-19 Pandemic: An Analytical Study. *Cureus*, *16*(7). https://doi.org/10.7759/cureus.64689

Meachon, E. J., Schaffter, J. J., Klupp, S., & Möhring, W. (2025). Physical activity and subjective well-being: the roles of self-esteem, physical activity enjoyment and motor difficulties. *International Journal of Sport and Exercise Psychology*, 1–28. https://doi.org/10.1080/1612197X.2025.2578858

Moitra, P., & Madan, J. (2022). Impact of screen time during COVID-19 on eating habits, physical activity, sleep, and depression symptoms: A cross-sectional study in Indian adolescents. *PloS One*, *17*(3), e0264951. https://doi.org/10.1371/journal.pone.0264951

Nasrallah, M., Helwa, A. A., Jawhar, N. Y., Alshammari, A., Eddin, A. R. J., BaniHani, H., Al Ojaimi, M. N., Nasrallah, M. M., Eddin Sr, A. R. J., & BaniHani, H. A. (2025). Assessing the Effect of Screen Time on Physical Activity in Children Based on Parent-Reported Data:

https://journal.mutiarahatimoeslem.id/index.php/cores/index
P-ISSN: XXX-XXX E-ISSN: XXX-XXX (Vol. 1 No. 1)
DOI: 10.64131/cores.v1i1.19

Research Article

A Cross-Sectional Study. *Cureus*, *17*(4). https://doi.org/10.7759/cureus.82971

Prakoso, A. B., Arief, N. A., Muin, A., & Wardani, N. K. (2024). Correlation between screen time and physical activity to student's physical fitness. *Jurnal Keolahragaan*, *12*(2), 164–174. https://doi.org/10.21831/jk.v12i2.76265

Rideout, V. (2022). *Common Sense Census: Media Use by Tweens and Teens*. Common Sense Media. https://apo.org.au/node/58360

Su, L., Wu, S., Fu, J., & Sun, S. (2024). Effects of Physical Activity, VO2max, and Visfatin on Relationship Between BMI and Chronic Inflammation. *Diabetes, Metabolic Syndrome and Obesity*, *Volume 17*, 4489–4500. https://doi.org/10.2147/DMSO.S473266

Sugiyono. (2021). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Torres, P., Pablos, A., Elvira, L., Ceca, D., Chia, M., & Huertas, F. (2025). Associations Between Screen Time, Physical Activity, and Sleep Patterns in Children Aged 3–7 Years—A Multicentric Cohort Study in Urban Environment. *Sports*, *13*(4), 91. https://doi.org/10.3390/sports13040091

Wang, F., & Boros, S. (2021). The effect of physical activity on sleep quality: a systematic review. *European Journal of Physiotherapy*, *23*(1), 11–18. https://doi.org/10.1080/21679169.2019.1623314

Wieprecht, J., Gomes, D., Morassutti Vitale, F., Manai, S. K., Shamas, S., Müller, M., Baethmann, M., Tengler, A., Riley, R., & Mandilaras, G. (2025). Influence of Screen Time on Physical Activity and Lifestyle Factors in German School Children: Interim Results from the Hand-on-Heart-Study ("Hand aufs Herz"). *Children*, *12*(5), 576. https://doi.org/10.3390/children12050576

Wiyana, I. G., Dahlia, Y., Rinayu, N. P., & Utary, D. (2023). Hubungan Indeks Massa Tubuh , Aktivitas Fisik dan Durasi Penggunaan Media Sosial dengan Kualitas Tidur Siswa. *Jurnal Global Ilmiah*, *1*(2), 130–142. https://doi.org/10.55324/jgi.v1i2.19

World Health Organization (WHO). (2022). *Global status report on physical activity 2022*. World Health Organization. https://www.who.int/teams/health-promotion/physical-activity/global-status-report-on-physical-activity-2022

Yogo Prayadi, H., Rismayanti, C., Fajar Pambudi, A., Prasetyawati Tri Purnama Sari, I., & Dwihandaka, R. (2024). Korelasi Pengetahuan Literasi Fisik (Physical Literacy) Dengan Aktivitas Fisik (Physical Activity) Pada Mahasiswa UNY Di Masa New Normal. *Majalah Ilmiah Olahraga (MAJORA)*, *30*(1), 17–22. https://doi.org/10.21831/majora.v30i1.72182