



The Relationship between Physical Activity and Social Interaction of Elementary School Students

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Abstract

This research aims to investigate the relationship between physical activity and social interaction using quantitative descriptive methods and correlational research designs. Social interactions play an important role in students' social development, and physical activity may influence this aspect. Data was collected by distributing assessment questionnaires to 31 samples who were students in grades 4 and 5 of SD Negeri Cikadu. This research aims to understand whether there is a correlation between physical activity and the development of students' social interactions. The research results show that there is a correlation between physical activity and verbal interaction of 0.522 which is included in the sufficient category. Then there is a correlation between physical activity and physical interaction of 0.371 which is included in the weak category. Furthermore, the relationship between physical vitality and emotional interaction shows a figure of 0.440 which is included in the sufficient category.



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INTRODUCTION

Lack of social interaction between students or between students and teachers can be an indication of a lack of social care character formation. This character is considered an obligation that needs to be formed by parents and teachers in the school environment. Aloof behavior, inability to control actions and feelings, unwillingness to cooperate, unwillingness to share, as well as showing negative emotions such as anger, sadness and fear, can be an illustration of a lack of social character formation in students (Litania and Nambut, 2022). The importance of social care character as an aspect that creates positive interactions in the school environment emphasizes the responsibility of parents and teachers in shaping children's social behavior. Character development is not just about interacting with fellow students or teachers, but includes emotional aspects and the ability to manage feelings. Through joint efforts between parents and teachers, an environment can be built that supports student growth in terms of healthy, collaborative and caring social interactions. (Rini, Pratiwi and Ahsin, 2021).

In this modern era, where technology often replaces face-to-face interaction, it is important for students to engage in physical activities that allow them to interact directly with their peers. (Dewi et al., 2023). One factor that can influence students' social interactions is physical activity. Physical activity is not only limited to body movements, but is part of a complex process that includes development, learning and assimilation of various aspects. This involves not only physical aspects, but also the development of skills, values, norms, as well as the formation of self-perception and individual identity (Riyanto and Mudian, 2019). Physical activity can be defined as all forms of energy released through body movement. In other words, body mobility is caused by skeletal muscle contractions

which result in a large amount of energy expenditure, in contrast to the body's resting state (Bauman and Richards, 2023). Physical activity includes all body movements that involve skeletal muscle work and result in energy expenditure, such as when working, playing, doing household tasks, traveling and recreational activities (Sudrazat and Rustiawan, 2020). Therefore, physical activity can be defined as body movements triggered by skeletal muscle contractions, which in turn produce energy or power. It is important to note that physical activity is not limited to sports activities only, but also includes daily routines such as going to work, going to school, or other activities that involve body movement (Kolokoltsev and Jagiello, 2020). Physical activity has an important influence on human health. Lack of physical activity can be one of the main causes of non-communicable diseases such as diabetes, obesity, hypertension and other related diseases. Problems related to low physical activity can also have a negative impact on mental health (Ayhan et al., 2022). This research topic examines the positive impact that physical activity may have on students' social interactions at Cikadu State Elementary School. Through physical activities, students can develop communication skills, cooperation and self-confidence. The interactions that occur during activities can form strong interpersonal relationships, which can have a positive impact on the quality of students' social relationships (Doron et al., 2020).

METHODS

Research methods refer to the strategy or systematic approach used by researcher to collect, analyze, and interpret data in order to answer research questions or test hypotheses. The choice of research method depends greatly on the nature of the research, research questions, and objectives to be achieved. relationships, correlational research contributes to the understanding of the extent to which variables can help predict

This research uses quantitative research with correlational methods. Quantitative research methods focus on collecting data in the form of numbers that can be measured statistically. Surveys, experiments, and statistical analysis are examples of quantitative research methods. Correlational research helps identify and understand the relationship between two or more variables without concluding that there is cause and effect (Sugiyono, 2018). Thus, this research focuses on further understanding the relationship patterns between certain variables that may be interconnected. In addition, correlational research is also carried out with the aim of predicting possible outcomes. Correlational research uses statistical relationships found between certain variables to predict the value or behavior of one variable based on information held about the other variable (Bakri and Nasucha, 2021). By identifying these or explaining certain phenomena without establishing causation.

Participants

According to (Firmansyah and Dede, 2022) population consists of generalizations of objects/subjects that have certain qualities and characteristics created by researchers to study and draw conclusions. The population in this study were all elementary schools in the Situraja District area with a total of 14 elementary schools.

Sampling Procedures

The sampling technique used is closed sampling. The closed sampling technique is a data collection method used in research or surveys to select respondents or sample units from a population that has certain criteria or characteristics (Sekaran and Bougie, 2016). In this technique, the researcher determines certain criteria that members of the population must have to qualify as a sample. The sampling criteria determined are elementary schools where researchers have carried out

teaching and learning activities. From these criteria, 1 elementary school was selected, namely Cikadu State Elementary School. The research subjects were students in grades 4 and 5 of SD Negeri Cikadu with a total of 40 students. However, in this study, the subjects used as research samples were 31 students representing each class.

Materials and Apparatus

Research instruments refer to the tools or means used to collect data in a study. This instrument is designed to measure the variable or construct that is the focus of the research. Some examples of research instruments include questionnaires, interviews, observation sheets, tests, and documents. Based on the method that the researcher chose, namely correlational, the researcher used instruments in the form of questionnaires or questionnaires and observation sheets. Researchers use questions or statements of their choice as material in research so that they can help researchers to convey the results of observations according to the facts and can obtain the data needed by the writer as well as a tool to achieve research objectives (Nuryasana and Desiningrum, 2020). The measuring instrument used in this research is to measure whether there is a positive correlation between physical activity and the development of students' social interactions.

Procedures

In the research process there are several stages and efforts by researchers to get the best results. The stages or research procedures carried out include; a) selecting research subjects, namely students in grades 4 and 5 of SD Negeri Cikadu, b) processing documents permitting the implementation of research to the Principal and teachers of grades 4 and 5 of SD Negeri Cikadu, c) Developing grids and data collection instruments in the form of questionnaires, d) carrying out research by distributing

questionnaire instruments to research samples, while to strengthen the research results, using observation sheets, e) calculating the data obtained to determine the effect of physical activity on the social interactions of grade 4 and 5 students at Cikadu State Elementary School, f) interpretation results of research data calculations.

Design or Data Analysis

Research design refers to a systematic framework or plan that guides the steps in carrying out a study. Research design includes variable settings, data collection, and analysis methods to be used. The choice of research design is very important because it will affect the validity and reliability of the research results. This research design is survey research with a correlational method. Research methods are the methods used by researchers to collect research data (Barnham, 2015). Based on this opinion, in this research the method that will be used is the correlational method which is used to determine the relationship between physical activity and students' social interactions. The data used in the research are primary and secondary data. Primary research data is obtained from the results of distributing research questionnaires, while secondary data is information obtained from previous research books or journals as supporting material for the theory formulated. Analysis of data obtained by processing assessment data from research respondents to draw results and conclusions (Cendra and Gazali, 2019). The detailed stages of research data analysis were carried out by carrying out descriptive analysis and testing the correlation coefficient of research variables.

RESULT

The descriptive analysis stages will be explained regarding the description of

the data related to the research variables, namely the physical activity carried out by students and the forms of social interaction that occur. The results of the description of data regarding students' physical activity include the following:

Table 1. Description of Student Physical Activity Data

Descriptive Statistics			
Pertanyaan	N	Mean	Std. Deviation
X1	31	2.77	.810
X2	31	2.71	.568
X3	31	3.26	1.044
X4	31	2.94	.832
X5	31	3.06	.983
X6	31	2.87	.922
X7	31	4.77	.746

In assessing students' physical activity, an assessment is carried out using the International Physical Activity Journal (IPAQ). Table 1 shows that on average students do heavy physical activity such as lifting heavy objects, gymnastics, or fast cycling, namely 3 times a week. The time spent doing heavy physical activity is an average of more than 2 hours a week. Then, on average, students do moderate physical activity, such as lifting light objects, sweeping and cycling 3 times a week. The average time spent doing moderate physical activity is more than 2 hours a week. Furthermore, the average student walks for 10 minutes more than 3 times a week. The average time spent walking for 10 minutes is 3 hours a week. Apart from that, the average time students sit at school is more than 3 hours a week.

The description of data regarding social interaction will explain the forms of interaction consisting of verbal interaction, physical interaction and emotional interaction. The following are the results of the analysis related to the description of research data for the social interaction variable.

Table 2. Description of Student Social Interaction Data

Descriptive Statistics			
Pertanyaan	N	Mean	Std. Deviation
Y1.1	31	3.74	.729
Y1.2	31	3.77	.845
Y1.3	31	4.03	1.016
Y1.4	31	4.19	.910
Interaksi Verbal		3.93	
Y2.1	31	3.65	1.018
Y2.2	31	4.06	1.031
Y2.3	31	3.61	.882
Y2.4	31	3.58	1.057
Interaksi Fisik		3.72	
Y3.1	31	3.97	.948
Y3.2	31	3.87	1.258
Y3.3	31	3.74	.965
Y3.4	31	3.97	1.048
Interaksi Emosional		3.88	

In table 2 above it can be seen that the average rating related to verbal interactions carried out by students is 3.93 and is included in the good category. This shows that students are able to interact verbally, such as having the courage to introduce themselves during learning activities, adapting themselves, and being able to communicate with several other students when participating in learning activities. Furthermore, it can be seen that the average assessment related to physical interactions carried out by students is 3.72 and is included in the good category. This shows that students are able to interact physically, such as hanging out with friends, giving positive advice and direction to friends who have problems when participating in learning activities, and are able to mediate between students who are fighting.

The average rating related to emotional interactions carried out by students is 3.88 and is included in the good category. This shows that students are able to interact emotionally through activities such as persuading friends who are lazy to take part in learning activities,

providing motivation between friends, and receiving input from friends when participating in learning activities.

The normality test is used to determine whether the data population is normally distributed or not. To detect normal data, it can be seen from the significance value shown. If the resulting significance value is > 0.05 then the data distribution can be said to be normal. Conversely, if the resulting significance value is < 0.05 then the data is not normally distributed. The normality test can be seen in the table below:

Table 3 Normality Test
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		31
Normal Parameters a,b	Mean	.0000000
	Std. Deviation	2.56734375
Most Extreme Differences	Absolute	.099
	Positive	.076
	Negative	-.099
Test Statistic		.099
Asymp. Sig. (2-tailed)		.200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

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

From the results of the normality test in the table above using the Kolmogorov Smirnov method, we obtained a significance test result of 0.200, where this result is greater than the significance level > 0.05 . So it can be concluded that the normality tests in this study have a normal distribution. In the correlation coefficient test, a test was carried out to determine the magnitude of the relationship between physical

activity carried out by students and students' social interactions at school. The testing was carried out with the help of SPSS software.

Table 4. Research Variable Correlation Coefficient

		Correlations		
		Intera ksi Verba l	Inter a ksi Fisik	Interak si Emosio nal
Aktivitas Fisik	Pear son Corr elati on	.522*	.371*	.440*
	Sig. (2- taile d)	.003	.040	.013
	N	31	31	31

Table 5 shows the correlation coefficient values between research variables. It can be seen that the correlation between physical activity and students' verbal interactions shows the number 0.522 and is included in a sufficient relationship. Then the correlation between physical activity and student physical interaction shows 0.371 or a weak correlation. Furthermore, the relationship between physical activity and students' emotional interactions shows a figure of 0.440 or is included in the sufficient category

DISCUSSION

This research explains the relationship between students' physical activity and students' social interactions at school. Questions related to physical activity variables use assessments referring to the International Physical Activity Journal (IPAQ). The research questionnaire related to students' social interaction variables refers to several previous studies. Research shows that there is a correlation between physical activity variables and social interactions consisting of verbal interactions, physical interactions and students'

emotional interactions. The results of the research carried out are in line with previous research conducted by (Khisma, Rondli and Syaffrudin, 2023) which explains that there is a significant influence between the traditional Boi-boinan game as a physical activity and increased social interaction. However, there are differences with the results of research conducted by (Sudrazat and Rustiawan, 2020) which explains that there is no relationship between physical activity and students' social skills.

CONCLUSION

The results of the research show that the results of the descriptive analysis of students' physical activity show that on average students do heavy physical activity such as lifting heavy objects, gymnastics, or fast cycling, namely 2 times a week with an average time of more than 2.4 hours. in a week. Then, on average, students do moderate physical activity such as lifting light objects, sweeping and cycling leisurely 3 times a week with an average time spent of more than 3 hours a week. Furthermore, the average student walks for 10 minutes more than 3 times a week with an average time of more than 3 hours a week. Furthermore, related to the description of social interaction variables which consist of verbal interaction, physical interaction and emotional interaction, each still shows that the interactions between students are well formed. The relationship between physical activity and verbal interaction and physical interaction shows sufficient correlation. However, this is different from the relationship between physical activity and students' emotional interactions which shows a weak correlation value.

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REFERENCES

- Ayhan, N. Y., Sariyer, E. T., Çolak, H., & Çevik, E. (2022). The Effect of Bigorexia Nervosa on Eating Attitudes and Physical Activity : A Study on University Students. *International Journal of Clinical Practice*, 1(2), 1–11.
- Bakri, A. R., & Nasucha, J. A. (2021). Pengaruh bermain peran terhadap interaksi sosial anak usia dini. *Tafkir: Interdisciplinary Journal of Islamic Education*, 2(1), 58–79.
- Barnham, C. (2015). Quantitative and qualitative research: Perceptual foundations. *International Journal of Market Research*, 57(6), 837–854.
- Bauman, A. E., & Richards, J. A. (2023). Understanding of the Single-Item Physical Activity Question for Population Surveillance. *Journal of Physical Activity and Health*, 19(1), 681–686.
- Budiwati, R., Wulandari, M. D., & Darsinah. (2022). Pengaruh Gadget Terhadap Kemampuan Interaksi Sosial Siswa Sekolah Dasar. *Jurnal Ilmiah Wahana Pendidikan*, 8(13), 394–402.
- Cendra, R., & Gazali, N. (2019). Intensitas Olahraga Terhadap Perilaku Sosial. *Media Ilmu Keolahragaan Indonesia*, 9(1), 14–17.
- Dewi, R., Verawati, I., Sukamton, A., Hakim, H., Burhaein, E., & Lourenço, C. C. V. (2023). The Impact of Basic Motion Activities on Social Interaction in Elementary School Students. *International Journal of Human Movement and Sports Sciences*, 11(1), 143–151.
- Doron, J., Rouault, Q., Jubeau, M., & Bernier, M. (2020). Integrated mindfulness-based intervention: Effects on mindfulness skills, cognitive interference and performance satisfaction of young elite badminton players. *Psychology of Sport and Exercise*, 47, 101638.
- Firmansyah, D., & Dede. (2022). Teknik Pengambilan Sampel Umum dalam Metodologi Penelitian: Literature Review. *Jurnal Ilmiah Pendidikan Holistik (JIPH)*, 1(2), 85–114.
- Hermansah, B. (2018). Pengaruh Pembelajaran Bola Tangan Terhadap Kemampuan Interaksi Sosial Mahasiswa. *Wahana Didaktika : Jurnal Ilmu Kependidikan*, 16(3), 330.
- Khisma, F. A., Rondli, W. S., & Syafrudin, M. (2023). Pengaruh Permainan Tradisional Boi-Boinan Terhadap Peningkatan Interaksi Sosial Pada Siswa SD N 2 Hadipolo. *Jurnal Pendidikan Dan Konseling*, 5(2), 5013–5020
- Kolokoltsev, M. M., & Jagiello, W. (2020). Physical activity of the university's senior students. *Physical Education of Student Journal*, 1(2), 31–38.
- Litania, E., & Nambut, E. (2022). Pengaruh Intensitas Bermain Game Online Terhadap Interaksi Sosial Siswa SMAN 4 Kupang. *Deliberatio: Jurnal Mahasiswa Komunikasi*, 2(1), 58–69.
- Nuryasana, E., & Desiningrum, N. (2020). Pengembangan Bahan Ajar Strategi Belajar Mengajar Untuk Meningkatkan Motivasi Belajar Mahasiswa. *Jurnal Inovasi Penelitian*, 1(5), 967–974.
- Rini, N. M., Pratiwi, I. A., & Ahsin, M. N. (2021). Dampak Penggunaan Gadget Terhadap Perilaku Sosial Anak Usia Sekolah Dasar. *Jurnal Education*, 7(3), 1236–1241.
- Riyanto, P., & Mudian, D. (2019). Pengaruh Aktivitas Fisik Terhadap Peningkatan Kecerdasan Emosi

- Siswa. *Journal Sport Area*, 1(2), 339–347.
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business*. (J. Wiley, Ed.) (Seventh). West Sussex, United Kingdom: Wiley.
- Souza, K. C. De, Mendes, T. B., Hellen, T., Gomes, S., Aline, A., Henrique, L., ... Neves, L. M. (2021). Medical Students Show Lower Physical Activity Levels and Higher Anxiety Than Physical Education Students : A Cross-Sectional Study During the COVID-19 Pandemic. *Frontiers in Psychiatry*, 12(December), 1–9.
- Sudrazat, A., & Rustiawan, H. (2020). Hubungan Aktivitas Fisik dengan Keterampilan Sosial. *Jurnal Terapan Ilmu Keolahragaan*, 5(1), 8–15.
- Sugiyono. (2018). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D.*
- Trisnawati, W. W., & Sari, A. K. (2019). Integrasi Keterampilan Abad 21 Dalam Modul Sociolinguistics:Keterampilan 4C (Collaboration,Communication, Critical Thinking, Dan Creativity). *Jurnal Muara Pendidikan*, 4(2), 455–466.
- Yusup, U. M. (2022). Studi Pendekatan Interaksi Sosial dalam Pembelajaran Seni Tari di SMP Tunas Unggul Bandung. *Jurnal Pendidikan Dan Konseling*, 4(6),