



The Relationship of Physical Fitness to Learning Outcomes in Grade 5 Students of SD Sejahtera 4 Bandar Lampung

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Abstract

This study aimed to determine the relationship between physical fitness and learning outcomes among fifth-grade students at Sejahtera 4 Elementary School, Bandar Lampung. This research employed a quantitative approach using a correlational method. The population of this study consisted of all fifth-grade students totaling 30 students. Data collection techniques included the Indonesian Physical Fitness Test (Tes Kebugaran Jasmani Indonesia/TKJI) Phase C to measure students' physical fitness, while learning outcomes data were obtained from the Mid-Semester Assessment scores in Physical Education (PJOK). Data analysis was conducted using the Product Moment correlation test with a significance level of 5%. The results showed a significant relationship between physical fitness and students' PJOK learning outcomes at the elementary school level, with a correlation coefficient of $r = 0.413$ and a significance value of $p = 0.023$ ($p < 0.05$). This indicates that the better the students' level of physical fitness, the higher their PJOK learning outcomes. Therefore, it can be concluded that physical fitness plays an important role in supporting the achievement of PJOK learning outcomes among elementary school students.

Keywords: Physical Fitness, Learning Outcomes, Elementary School Students

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INTRODUCTION

Exercise is one of the basic human needs to maintain health and support daily activities. Physical activity that is done regularly can improve the function of body organs, improve blood circulation, increase muscle strength, and help metabolism work more optimally. In this fast-paced modern life, sports have an increasingly important role as a counterbalance to the sedentary lifestyle that many children and adults experience.

In the context of education, sports are formally accommodated through the subject of Physical Education, Sports, and Health (PJOK). This subject is not only oriented to physical activity, but contains broader educational objectives, such as developing cognitive, psychomotor, and affective aspects of students. Physical education plays a role in improving basic movement skills, instilling the values of discipline, cooperation, sportsmanship, responsibility, and the ability to control emotions (Ztella Rumawatine, 2024).

Physical fitness is an important component that supports the effectiveness of learning, including in PJOK subjects. Physical fitness is defined as an individual's physical ability to perform daily activities efficiently and without experiencing significant fatigue. Students with good physical fitness have enough stamina to move, think, and participate in learning without getting tired easily, both in practical and theoretical activities. In addition, good physical fitness can help improve concentration, improve mood, and reduce stress levels, thus having a positive impact on the achievement of learning outcomes (Lengkana & Muhtar, 2021). On the other hand, students with low fitness levels tend to get tired quickly, lack focus, and have difficulty following learning optimally. Students who have good physical fitness will have an easier time developing basic motor skills, such as running, jumping, throwing, catching, and body balance. These skills are the foundation for learning PJOK in elementary school. On the other hand, if physical fitness is not good, students will have difficulty in participating in every learning activity that requires physical movement.

SD Sejahtera 4 Bandar Lampung is one of the schools that actively organizes PJOK subjects. However, until now, there has been no study that specifically examines the relationship between physical fitness and PJOK learning outcomes at the school. In fact, knowing the fitness condition of students is very important for PJOK teachers to develop the right teaching methods, understand the needs of students, and improve aspects of learning that are not optimal. In addition, data on physical fitness can be the basis for schools to design more targeted physical activity habituation programs, such as morning gymnastics activities, regular exercise, or other physical activity literacy programs.

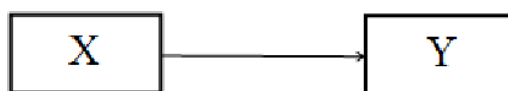
Seeing the importance of physical fitness in supporting the success of learning PJOK, as well as various phenomena that show a decrease in physical activity in elementary school students, research on the relationship between physical fitness and PJOK learning outcomes at SD Sejahtera 4 Bandar Lampung is very relevant to be carried out. The findings obtained can later be the basis for teachers to design a learning model that is more in line with students' physical abilities, as well as assist schools in developing targeted and sustainable fitness improvement programs. The results of this study are also expected to encourage parents to pay more attention to their children's physical activity at home, so that an active lifestyle is formed that supports the overall health and learning success of students.

METHOD

This study uses a correlational method with a quantitative approach. The correlational method aims to measure the degree of relationship between two or more variables under real conditions in the field without giving special treatment from the researcher. In this study, the independent variable is physical fitness, while the bound variable is the learning outcomes of Physical Education. This study uses data in the form of numbers obtained through physical fitness tests and documentation of report card scores, then analyzed with correlational statistical techniques to see the relationship between the two (Arioen *et al.*, 2023). Correlation research can be used as a basis for formulating recommendations to improve students' physical fitness to support learning achievement, especially in the subject of Physical Education (Sugiyono, 2023). This research was carried out at SD Sejahtera 4 Bandar Lampung because the school has an adequate number of students and is in accordance with the research objectives. The implementation of the research is planned to take place from August to October 2025. The preparation and licensing stage of the research will be carried out in September 2025 at SD Sejahtera 4 Bandar Lampung. Furthermore, TKSI data collection will be carried out in August 2025, and mid-semester score data collection will be carried out in September 2025. After that, data processing and analysis will be carried out in October 2025 at the University of Lampung, followed by the preparation and revision of the research report in the same month.

The population in this study includes all grade V students of SD Sejahtera 4 Bandar Lampung which totals 30 people. The number of samples selected was 30 students, which were determined based on time, effort, and cost efficiency factors (Sugiyono, 2023).

Figure 1. Research design



Description:

1. X : Physical fitness
2. And : Physical education learning outcomes
3. → : The relationship line between variables

Research This research involves two main variables, namely the independent variable (X) and the bound variable (Y). The free variable in this study is the physical fitness of students which is measured using the Indonesian Student Fitness Test (TKSI). TKSI is used in Phase C, which is for elementary school students in grades V and VI, which includes five test items: Child Ball

Test, Tok Tok Ball Test, Move The Ball Test, Shuttle Run 8×10 m Test, and 600 m Run Test. Through TKSI, it is hoped that objective and comprehensive data will be obtained on the physical fitness condition of students, including aspects of strength, endurance, speed, agility, and coordination. Meanwhile, the bound variable (Y) in this study is the learning outcomes of Physical Education, Sports, and Health (PJOK).

The Data Collection Technique in this study uses five items, which are as follows:

1. Coordination: Child Ball Test
2. Accuracy (accuracy): Tok Tok Ball
3. Agility: Shuttle Run 4x10m get ball
4. Muscle Strength (abdominal muscles): Move The Ball
5. Daya Tahan Cardiovascular: Lari 600m

In this study, data analysis techniques were used, namely prerequisite tests (normality test, linearity test), and hypothesis test.

RESULTS AND DISCUSSION

Result

1. Description of Research Data

The data collected in this study consisted of one independent variable, namely physical fitness, and one bound variable, namely learning outcomes. The data obtained from each of these variables is then grouped and analyzed with statistics, as seen in the appendix. The summary of the overall data description is presented in the form of a table as follows:

Table 1. Data on the results of physical fitness research,
and learning outcomes

No	Results	Variabel	
		Physical Fitness (X)	Learning Outcomes (Y)
1	Red	16,60	77,53
2	Median	17	76,5
3	Mode	18	70
4	Standard Deviation	2,97	5,92
5	Min	11	69
6	Max	23	88

a. Physical Fitness Data

The results of the study and measurements on the physical fitness variables showed that the average physical fitness was 16.60, the median was 17, the mode was 18, the standard deviation was 2.97, the minimum value was 11 and the maximum value of physical fitness was 23. The description of the physical fitness of the sample of 30 students based on the

results of the study after being grouped and classified based on the norms of the physical fitness test is as follows:

Table 2. Frequency Distribution of Physical Fitness

No	Value Range	Category	Frequency (f)		Presentase (%)	
			P	L	P	L
1	22 - 25	Very good	0	1	0%	7%
2	18 - 21	Good	6	6	40%	40%
3	14 - 17	Medium	7	6	47%	40%
4	10 - 13	Less	2	2	13%	13%
5	≤ 9	Less Once	0	0	0%	0%
Total			15	15	100%	100%

b. Learning Outcome Data

The results of the research and measurement on the learning outcome variables showed that the average speed was 77.53, the median was 76.5, the mode was 70, the standard deviation was 5.92, the minimum value was 69 and the maximum value of the learning outcome variable was 88. An overview of the learning outcomes of 30 students based on the results of the research after being grouped and classified as follows:

Table 3. Frequency Distribution Learning Outcomes

No	Value Range	Kat.	Frequency (f)		Presentase (%)	
			P	L	P	L
1	$X \geq 86,11$	Very good	0	3	0%	20%
2	$86,11 \leq X < 80,50$	Good	5	2	33%	13%
3	$80,50 \leq X < 74,90$	Medium	5	5	33%	33%
4	$74,90 \leq X < 69,29$	Less	5	5	33%	33%
5	$X < 69,29$	Less Than Once	0	0	0%	0%
Total			15	15	100%	100%

Analysis Prerequisites Test

1. Normality Test

Table 4. Normality Test

Variabel	Count	Tables	Say.	Remarks
Physical Fitness	0,154	0,161	0,069	Normal
Learning Outcomes	0,125	0,161	0,200	Normal

Based on the results of the normality test in the table above, it is known that the physical fitness variable data shows the value of $L_{cal} = 0.154 < L_{table} = 0.161$, and the data of the learning outcome variables shows the value of $L_{cal} = 0.125 < L_{table} = 0.161$, and all variables have a Sig. value of > 0.05 . So it can be concluded that all data variables are normally distributed.

2. Linearity Test

Table 5. Linearity Test

Variabel	Calculati on	Ftable	Sig.	Remarks
Physical Fitness - Learning Outcomes	1,644	2,423	0,173	Linear

Based on the results of the linearity test in the table above, it is known that the data on physical fitness variables and learning outcomes show that the value of $F_{cal} = 1.644 < F_{table} = 2.423$, and the value of Sig. > 0.05 . So it can be concluded that there is a linear relationship between the two variables.

Uji Hypothesis

The third hypothesis test is "There is a significant relationship between physical fitness and learning outcomes in 5th grade students of SD Sejahtera 4 Bandar Lampung". The results of the hypothesis test using product moment correlation analysis can be seen in the following table:

Table 6. Correlation of Physical Fitness and Balance (X2)
Towards Learning Outcomes (Y)

Correlation	Calcula tion	Table	Sig.	Correla tion Rate	Ket.
Physical Fitness - Learning Outcomes	0,413	0,361	0,023	Medium	Signifikan

Because the R_{cal} value $= 0.413 > R_{table} = 0.361$ and the Sig. $<$ value 0.05 , H_0 is rejected, meaning simultaneously/together "There is a significant relationship between physical fitness and the learning outcomes of 5th grade students of SD Sejahtera 4 Bandar Lampung.". The magnitude of the correlation value (r) between physical fitness and learning outcomes is 0.413 (medium) and explained the magnitude of the percentage of the influence of

the independent variable on the bound variable called the determination coefficient which is the result of the reinforcement r , the determination coefficient (r^2) is obtained of 0.171, which contains the understanding that the influence/contribution of the independent variable (physical fitness) on the bound variable (learning outcome) is 17.1%, while the rest are influenced by other variables.

Discussion

The results of the study showed that there was a positive and significant relationship between physical fitness and the learning outcomes of PJOK students in grade V of SD Sejahtera 4 Bandar Lampung. This is proven by the value of the correlation coefficient of $r = 0.413$ with a significance level below 0.05. The correlation value is in the category of moderate relationships, which indicates that physical fitness has a role in supporting the achievement of PJOK learning outcomes, even though its role is not dominant or absolute. These findings are in accordance with the research hypothesis that states that there is a relationship between physical fitness and PJOK learning outcomes in elementary school students.

The learning outcomes of PJOK in students are influenced by various factors, both internal and external. Internal factors include learning motivation, students' interest in sports activities, confidence levels, and students' psychological conditions when participating in learning. In addition to internal factors, external factors also have an important role in influencing PJOK learning outcomes. These factors include the learning methods applied by teachers, the availability of sports facilities and infrastructure, the school environment, and support from parents.

It should be emphasized that this study uses a correlational method, so that the results obtained only show the existence of a relationship between variables, not a cause-and-effect relationship. Therefore, this study cannot conclude that physical fitness directly causes an increase in PJOK learning outcomes. The association found showed a link between physical fitness and learning outcomes, meaning the two variables were interrelated, but an increase in one variable did not automatically lead to an increase in the other.

Based on the results of the discussion, this study provides practical implications for PJOK teachers and the school. PJOK teachers are expected to not only focus on achieving students' final grades, but also pay attention to physical fitness conditions as an integral part of the learning process. PJOK learning should be designed gradually, variedly, and continuously in order to improve physical fitness while supporting the achievement of student learning outcomes. Schools can also support the improvement of students' physical fitness through

regular physical activity programs, such as morning gymnastics, active games at breaks, and the development of sports extracurricular activities.

CONCLUSION

Based on the results of the research and discussion on the relationship between physical fitness and PJOK learning outcomes in grade V students of SD Sejahtera 4 Bandar Lampung, it can be concluded as follows: The level of physical fitness of grade V students of SD Sejahtera 4 Bandar Lampung is in the medium category, which shows that in general students have a physical condition that is quite supportive in participating in Physical Education, Sports, and Health learning. The learning outcomes of PJOK students in grade V of SD Sejahtera 4 Bandar Lampung are in the good category, which reflects that most students are able to achieve PJOK learning achievements in accordance with the criteria set by the school. There was a relationship between physical fitness and PJOK learning outcomes of grade V students of SD Sejahtera 4 Bandar Lampung, with a correlation coefficient value of $r = 0.413$ which was included in the category of moderate relationship. This shows that physical fitness has a role in supporting the achievement of PJOK learning outcomes, but it is not the only factor that affects student learning outcomes.

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