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The effect of physical fitness, economic status and learning motivation on learning outcomes (PJOK) at Smp El-Ma'arif Boarding School West Pasaman Regency

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Abstract
This study aims to determine the influence between physical fitness, economic status, and motivation on PJOK learning outcomes at SMP El-Ma'arif Boarding School West Pasaman Regency. This research method is a quantitative method using a Path Analysis approach. The population in this study was all students at SMP El-Ma'arif Boarding School West Pasaman Regency which amounted to 46 students. The sampling technique was carried out by means of total sampling, with a total sample of 46 people. Data was collected using questionnaires to measure self-confidence and learning motivation, TKPN tests to obtain physical fitness data of students and primary data were used to see learning outcomes obtained by students in the even semester of the 2023/2024 school year. The results of research and data analysis show that: (1) Physical fitness has a direct effect on learning outcomes because the sig value = 0.026 is smaller than the probability value of 0.05, affecting 9.80%. (2) Economic status directly affects learning outcomes obtained GIS value = 0.015 smaller than the significant value of 0.05, influential by 12.30%. (3) Learning motivation has a direct effect on learning outcomes because the value of sig = 0.007 is smaller than the probability value of 0.05, affecting 16.73%. This study concluded that physical fitness, economic status, and learning motivation directly have a significant effect on PJOK learning outcomes at SMP El-Ma'arif Boarding School West Pasaman Regency.
Keywords: physical Fitness, Economic Status, Learning Motivation and Learning Outcomes

INTRODUCTION

Education is a field that continues to grow and is the focus of attention of the global community (Harrison & Smith, 2016; Rüth & Kaspar, 2020). Seeing the importance of education as the foundation of community development, research in this context aims to explore factors that can affect learning outcomes (W. Nugroho, 2022; Sania et al., 2022). In this area, factors such as physical fitness, economic status, and learning motivation become central points of study to understand the dynamics underlying students' academic achievement (McConnell et al., 2018; Shang & Che, 2021). Individual success in gaining knowledge and skills depends not only on the approach to learning and teaching in the classroom, but also on a number of external variables that can make a significant contribution to the learning process.

The importance of equitable and inclusive education raises questions about how certain factors, such as physical fitness, economic status, and learning motivation, can play a role in shaping student learning outcomes (Henderson et al., 2016; Henning et al., 2022). Whether academic success is related to students' physical health, how family economic factors can affect access and quality of education, and the extent to which student learning motivation can be a driver of academic excellence (Dodd et

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al., 2023; Maltagliati et al., 2023). This research seeks to provide a deeper understanding of these questions through in-depth data analysis, hoping to contribute to our understanding of the complexity of the factors that shape learning outcomes at the educational level.

In the educational literature, the relationship between physical fitness and learning outcomes has been a significant focus of research (Harrison & Smith, 2016; Liu & Wu, 2024). This is reinforced by the results of the study Miller et al., (2015); Siong & John, (2021) It has been revealed that physical activity and good health can improve cognitive function and facilitate the learning process. Some longitudinal studies even suggest that active participation in physical activity can have a positive impact on long-term academic achievement (Wilson et al., 2023). However, not much research has focused on these relationships across a range of educational and cultural contexts, so the in-depth understanding of how and to what extent physical fitness can affect learning outcomes remains an interesting subject of exploration (Marisa et al., 2022; Sania et al., 2022).

In addition, the study of the role of economic status in the formation of learning outcomes has been a major highlight in the educational literature (Wynters et al., 2021). Many studies highlight inequalities in educational access and opportunities between different economic groups. Factors such as learning facilities, family support, and access to educational resources can play a key role in determining academic achievement (Smith et al., 2018; Vogt & Abood, 2021). Therefore, a deep understanding of how economic status can interact with the educational process becomes essential in efforts to create a more equitable and inclusive educational environment.

This study aims to explore the relationship between three main factors, namely physical fitness, economic status, and learning motivation, with student learning outcomes. By detailing the impact of each variable on academic achievement, the study seeks to provide a more comprehensive understanding of the factors that can influence learning outcomes at the educational level. Through in-depth data analysis, this study aims to contribute to the educational literature by highlighting the complexity and interrelationships between physical, economic, and psychological conditions in shaping students' academic success (Macniven et al., 2019). The practical implications of this research are expected to help policymakers, educators, and education practitioners to design more effective and inclusive interventions to improve the quality of education and equal access for all individuals.

METHOD

This study uses quantitative design with Path Analysis approach to explore factors that affect PJOK learning outcomes at SMP El-Ma'arif Boarding School West Pasaman Regency. The study population consisted of 46 learners, who were selected as a sample using the total sampling method. The research instrument involved the use of questionnaires to measure self-confidence and learning motivation, TKPN tests to measure physical fitness, and primary data to observe learning outcomes in the even semester of the 2023/2024 school year. The data collection process involves the distribution of questionnaires, the implementation of crime scene tests, and the collection of learning outcome data. Data analysis is carried out through hypothesis testing, path analysis, and simultaneous analysis using relevant statistical software. In addition, this study pays attention to ethical aspects of research, including data security and confidentiality of respondents' identities. The results of the study were carefully interpreted, and conclusions were drawn based on significant findings. The practical implications of the research results are also considered, along with suggestions for further research. This research is expected to provide a deep understanding of the relationship between physical fitness, economic status, learning motivation, and PJOK learning outcomes at SMP El-Ma'arif Boarding School West Pasaman Regency.

Data analysis techniques, the form of data in this study is the form of numbers including data from physical fitness, economic status, motivation and learning outcomes. In accordance with the formulation of research methodology and theoretical models that have been described upfront, the analytical technique used in testing this research hypothesis is path analysis. Data analysis includes: 1) data description, 2) analysis requirements test, namely data normality test and data variance homogeneity test, 3) regression linearity test and regression significance test. 4) path analysis which includes: mode testing, hypothesis testing.

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RESULTS AND DISCUSSION

Results

1. Description of Research Data

In this section, the author will describe the description of data obtained after conducting research some time ago at SMP El-Ma'Arif Boarding School. The data in this study consists of: data on student learning outcomes as dependent variables in the study, then physical fitness, economic status and learning motivation which are independent variables in the research that the researchers conducted. Data processing of research results is presented sequentially in the following table.

Table 1. Summary of Male Student Research Data Description

Variable	Mean	Stdev	Min	Max
Physical Fitness (X1)	3,64	0,70	2,95	4,80
Economic Status (X2)	47,10	4,86	37	55
Learning Motivation (X3)	162,24	15,35	197	134
Learning Outcomes (Y)	88,97	3,65	96	83

Table 2. Summary of Female Student Research Data Description

Variable	Mean	Stdev	Min	Max
Physical Fitness (X1)	3,36	0,43	2,95	4,00
Economic Status (X2)	48,29	4,73	42	58
Learning Motivation (X3)	171,52	8,90	156	187
Learning Outcomes (Y)	88,71	1,26	87	91

2. Testing Data Analysis Requirements

a. Data Normality Test

The normality test was carried out on research variables using the Kolmogoriv Smirnov Normality test with the help of SPSS 25 with a significant level of $\alpha = 0.05$ with the test criterion that HO is rejected if the Sig. value obtained from research data is less than 0.05 and vice versa HO is accepted if the Sig. value is greater than 0.05 which this test can simply be stated as follows:

Table 3. Summary of Research Data Normality Test

Sig	α	Conclusion
0,171	0,05	Usual

Based on the calculation of the normality test using the Kolmogorov smirnov test with the help of SPSS 25, it was found that the Sig. value obtained was greater than the significance level of $\alpha = 0.05$. Thus, it can be concluded that all data groups in this study were taken from normally distributed populations.

1. Data Homogeneity Test

The homogeneity test is used to test whether the variable data of learning outcomes come from a homogeneous population of variance, physical fitness, physical fitness and learning motivation. The Ha tested in this case is the learning outcome data (Y) of students at SMP El-Ma'Arif Boarding School on variances in physical fitness (X1), economic status (X2), learning motivation (X3), derived from a homogeneous population. The test criterion is Ha accepted if the calculated X2 value obtained from the calculation of <X2table. A summary of the homogeneity test can be seen in the following table.

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Table 4. Summary of Research Data Homogeneity Test

Variable	X^2_{count}	X^2_{table} α = 0,05	Conclusion
Y over variance X1	8,36	51,00	Homogeneous
Y over variance X2	5,08	36,42	Homogeneous
Y over variance X3	12,10	30,14	Homogeneous

b. Data Linearity Test

The linearity test is a test conducted to see whether each variable data of physical fitness, confidence, and learning motivation tends to form a linear line against the learning outcomes variables of students at SMP El-Ma'Arif Boarding School. The data on physical fitness (X1), economic status (X2), learning motivation (X3) have a linear influence on the learning outcomes of students at SMP El-Ma'Arif Boarding School. The test criterion is that Ha is accepted if the sign value > probability value of 0.05. A summary of the linearity test can be seen in the table below:

Table 5. Summary of Research Data Linearity Test

Linearity Test	**Value α**	**Sig.**
	0,05	0,067

Based on the table above, which is searched using SPSS version 25, a significance value = 0.067 is greater than the probability value, which is α = 0.05. This explains that there is a significant linear relationship between the variables of physical fitness (X1), Economic Status (X2), Learning Motivation (X3) and learning outcomes (Y) of El-Ma'Arif Boarding School Junior High School.

c. Independent Test

An independent test was conducted to see the comparison of physical fitness, confidence, learning motivation and learning outcomes of male and female students. The comparison was made of 29 male students and 17 female students. The results of the independent test are presented in the following table.

Table 6. Summary of Independent Test Results

Independent Test	Value α	Sig. (2-tailed)
Physical Fitness	0,05	0,519
Economic status		0,002
Learning Motivation		0,127
Learning Outcomes		0,319

Based on the results of the table above, it can answer the hypothesis in this study on physical fitness, economic status, motivation, and learning outcomes, with the formulation of the researcher's hypothesis:

From the table above, it can be seen that the results of the independent physical fitness test with a significant value of 0.519 > a value of α = 0.05 means that Ho is accepted, so there is no difference in physical fitness of male and female students. The results of the independent test are confident with the sig value. 0.002 < a value of α= 0.05 means that Ha is accepted, so there is a difference between the confidence of male students and female students. The results of the independent test of learning motivation with sig values. 0.127 > a value of α= 0.05 means that Ho is accepted so there is no difference between male and female students. The results of independent tests on the learning outcomes of male and female students obtained sig scores. 0.313 > a value of α= 0.05, meaning that Ho was accepted, so there was no difference in the learning outcomes of male and female students.

d. Hypothesis Testing

1.) The direct influence of physical fitness on the learning outcomes of students at SMP El-Ma'Arif Boarding School

H_a There is a direct influence of physical fitness (X1) on learning outcomes (Y)

H_o There is no direct effect of physical fitness (X1) on learning outcomes (Y)

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Individual tests conducted by X1 on Y found that the result of the coefficient path ρYX1 = -0.313. Based on the results of calculations carried out using the SPSS 20 program, a sig = 0.026 value is obtained smaller than the value of α = 0.05, the value of 0.026 < 0.05, then in this case Ha is accepted and Ho is rejected which means the coefficient of path analysis is significant. So, physical fitness directly affects the learning outcomes obtained by students learning outcomes of students at SMP El-Ma'Arif Boarding School. The magnitude of the influence of physical fitness on the learning outcomes of students at SMP El-Ma'Arif Boarding School is as follows:

$= \rho_{yx1}^2 \times 100\%$
$= -0{,}313^2 \times 100\%$
$= 9{,}80\%$

So based on the above, it can be concluded that physical fitness directly affects the learning outcomes of students at SMP El-Ma'Arif Boarding School is 9.80%. While the remaining 90.20% is influenced by other factors.

2) The direct influence of economic status on the learning outcomes of students at SMP El-Ma'Arif Boarding School

H_a There is a direct influence of self-confidence (X2) on learning outcomes (Y)
H_o There is no direct effect of self-confidence (X2) on learning outcomes (Y)

Individual tests conducted by X2 on Y found that the result of the coefficient path ρYX2 = 0.366. Based on the results of calculations carried out using the SPSS 20 program, a sig = 0.015 value is greater than the value of α = 0.05, the value of 0.015 < 0.05, then in this case Ha is accepted and Ho is rejected which means the coefficient of path analysis is significant. So, self-confidence has a direct influence on the learning outcomes obtained by students at SMP El-Ma'Arif Boarding School. The amount of confidence in the learning outcomes of students at SMP El-Ma'Arif Boarding School is as follows:

$= \rho_{yx2}^2 \times 100\%$
$= 0{,}366^2 \times 100\%$
$= 12{,}30\%$

So based on the above, it can be concluded that confidence has an insignificant influence on the learning outcomes of students at SMP El-Ma'Arif Boarding School only by 12.30%. While the remaining 87.70% is influenced by other factors.

3) The direct influence of learning motivation on the learning outcomes of students at SMP El-Ma'Arif Boarding School

H_a There is a direct influence of learning motivation (X3) on learning outcomes (Y)
H_o There is no direct effect of learning motivation (X3) on learning outcomes (Y)

Individual tests conducted by X3 on Y found that the results of the coefficient path ρYX3 = -0.409 Based on the results of calculations carried out using the SPSS 20 program, a sig = 0.007 value was obtained greater than the value of α = 0.05, the value of 0.007 < 0.05, then in this case Ha was accepted and Ho was rejected which means the coefficient of path analysis is significant. So, learning motivation directly affects the learning outcomes obtained by students at SMP El-Ma'Arif Boarding School. The magnitude of the influence of learning motivation on the learning outcomes of students at SMP El-Ma'Arif Boarding School is as follows:

$= \rho_{yx3}^2 \times 100\%$
$= 0{,}409^2 \times 100\%$
$= 16{,}73\%$

So based on the above, it can be concluded that learning motivation has an insignificant influence on the learning outcomes of students at SMP El-Ma'Arif Boarding School only by 16.73%. While the remaining 83.27% is influenced by other factors. Discussion of Research Results.

4) The direct influence of physical fitness on the learning outcomes of students at SMP El-Ma'Arif Boarding School

Based on research that researchers have carried out in the field, it was found that the direct influence of physical fitness (X1) on the learning outcomes (Y) of students at SMP El-Ma'Arif Boarding School. This influence can be seen in the table that shows the influence of the path coefficient of ρyx1 = -0.313 and the significance value (sig) = 0.026 which is smaller than the

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probability value (α) = 0.05. In addition, it is also shown that the relationship between physical fitness and learning outcomes of students at SMP El-Ma'Arif Boarding School has an influence of 9.80%. So it can be concluded that there is a direct influence of physical fitness on learning outcomes in students at SMP El-Ma'Arif Boarding School.

5) The direct influence of economic status on the learning outcomes of students at SMP El-Ma'Arif Boarding School.

This influence can be seen in the table which shows an influence of ρyx2 = 0.366 and a significance value (sig) = 0.015 which is smaller than the probability value (α) = 0.05. The magnitude of the direct influence of economic status on student learning outcomes is 12.3%. So it can be concluded that there is a direct influence of economic status on learning outcomes in students at SMP El-Ma'Arif Boarding School.

6) The direct influence of learning motivation on the learning outcomes of students at SMP El-Ma'Arif Boarding School.

Based on research that researchers have carried out in the field, there is no direct influence of learning motivation (X3) on the learning outcomes (Y) of students at SMP El-Ma'Arif Boarding School. This influence can be seen in the aria which shows an influence of ρyx3 = -0.409 and a significance value (sig) = 0.007 which is smaller than the probability value (α) = 0.05. The magnitude of the direct influence of learning motivation on learning outcomes is 16.73%. So it can be concluded that there is a direct influence of learning motivation on learning outcomes in students at SMP El-Ma'Arif Boarding School.

Discussion

This study highlights the significance of physical fitness in the context of learning outcomes (Guo, 2020; Klaperski-van der Wal, 2023). The findings showed that physical fitness had a significant direct influence on learning outcomes, with a significance value (sig) of 0.026 which was smaller than the threshold of 0.05. That way, it can be concluded that students or individuals who maintain their physical fitness levels tend to achieve better learning outcomes. An influence of 9.80% indicates that the existence of physical fitness can be considered as an important factor contributing to academic achievement.

Furthermore, aspects of economic status were also found to play a significant role in learning outcomes (Ati et al., 2023; Jurić et al., 2023; Roemers et al., 2019). The results of the analysis showed that a significance value (sig) of 0.015, which is smaller than the threshold of 0.05, indicates a strong relationship between economic status and learning outcomes. With an influence of 12.30%, this finding illustrates that family economic conditions can be a determining factor that influences the quality of education received by individuals.

Learning motivation is also the focus of research and results show that learning motivation has a direct influence on learning outcomes (Lindgren & Barker, 2019; Ward & Ayvazo, 2016). With a significance value (sig) of 0.007 that is smaller than the threshold of 0.05, these findings confirm that the level of learning motivation contributes positively to academic achievement. The effect of 16.73% indicates that the higher the motivation to learn, the higher the likelihood of individuals achieving better learning outcomes.

In line with those findings, it is important to consider the practical implications of the results of this study (Buschert et al., 2019; Drenowatz et al., 2021). Efforts to improve learning outcomes can be focused on improving physical fitness, understanding of economic factors that affect learning, and strengthening student motivation (Gába et al., 2022; Kelso et al., 2020). Educational interventions and programs can be designed with these variables in mind to achieve holistic improvement in the quality of education.

Although the findings suggest a correlation between physical fitness, economic status, learning motivation, and learning outcomes, it is important to continue to involve further research (Bafirman et al., 2023). It should be noted that other factors, such as social environment and teaching methods, can also contribute significantly to learning outcomes (Garst et al., 2020; Rooth, 2011). Therefore, future research may involve additional variables to provide a more comprehensive and in-depth picture of the factors that influence learning outcomes (Solmon, 2014).

The results of this study provide deep insight into a number of factors that can affect learning outcomes. First, the finding that physical fitness directly affects learning outcomes with a significance

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of 0.026 suggests that aspects of physical health may have a greater impact on cognitive ability and academic achievement than previously admitted. This confirms the importance of a holistic approach to education that not only considers cognitive aspects but also involves the physical dimension of students (Tessier et al., 2010).

The significant role of economic status in influencing learning outcomes provides a deeper perspective on inequalities in educational access and outcomes. The finding that economic status has an influence of 12.30% shows that this factor is not just background, but can also be a significant obstacle in achieving academic success. This interpretation encourages the need for further intervention and support for students with economically disadvantaged backgrounds to ensure that equal educational opportunities can be provided to all individuals, regardless of their economic background (A. I. Nugroho et al., 2020).

The fact that learning motivation has a significant direct impact on learning outcomes with a significance of 0.007 and an influence of 16.73% highlights the importance of psychological aspects in academic achievement. This reflects that it is not only important to provide adequate physical and financial resources, but also to establish a learning environment that stimulates students' intrinsic motivation. This interpretation can lead to the development of learning strategies that not only focus on knowledge transfer, but also motivate students to develop the desire and determination to learn to the maximum (Harwood et al., 2015; O'Brien & Forster, 2020).

CONCLUSION

The conclusion of this study illustrates a strong paradigm, that the success of PJOK learning outcomes at SMP El-Ma'arif Boarding School West Pasaman Regency is not only influenced by internal factors, such as physical fitness and learning motivation, but also closely related to external factors, namely the economic status of students. Research results consistently confirm that academic success is not the result of isolation from one particular variable, but rather is the product of complex interactions between aspects of physical health, motivation, and economic conditions. Therefore, to improve PJOK learning outcomes, there is a need for a holistic approach that pays attention to these aspects, supports students as a whole both physically and psychologically, and creates an inclusive and equitable educational environment for all students.

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