Impact of Learning Motivation and Physical Condition on Physical Education Learning Outcomes in Junior High School Students Aged 13-15 Years: A Analysis studies

doi https://doi.org/10.53905/xxk8yd462

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A B S T R A C T

The purpose of the study. to determine and evaluate the relative contributions of physical fitness and learning motivation to the learning outcomes of students in the 7–9 age range.

Materials and methods. The purpose of correlation approaches is to quantitatively ascertain if and to what extent two or more variables are correlated. Data is analyzed using the statistical techniques of correlation and multiple regression utilizing the SPSS (Statistical Product and Service Solution Version 25) software. Before the advent of statistical methods for hypothesis testing. Use the Kolmogorov-Smirnov test (uji K-S) to check for data normality.

Results. The coefficient of correlation for \( r_{12y} = 0.49 \) is indicated. Koefisien korelasi signifikansi diperoleh \( F \) hitung 4,37 > \( t \) tabel 3,35, dengan distribusi \( t \) dengan \( \alpha = 0,05 \) dan \( k = 2 \) sebagai dk penyebut. In other words, there is a positive correlation between the Jasmani Motivasi Belajar and the Penjasorkes Learning Outcomes, which are 0,492 \( \times 100\% \), or 0,24 \( \times 100\% \), or 24%.

Conclusions. Students’ willingness and excitement to participate in physical education learning activities will be influenced by their motivation for learning. A learner who understands effective learning motivation would attempt to inspire themself to learn well. Since achieving satisfactory learning outcomes is one of the goals of the processes and activities that take place in the classroom, teachers are crucial in helping students develop motivation for learning and improving their physical fitness.

Keywords: Learning Outcomes; Studying Physical Education; Learning Motivation; Physical Fitness.

INTRODUCTION

Physical education learning outcomes are influenced by many factors. Factors that influence the level of student Physical Education Learning Outcomes are the characteristics and quality of teaching. Student characteristics are factors that originate...
from the students themselves, such as physical fitness, motivation, intelligence, talents and interests, and nutritional status. Meanwhile, the teaching quality factor is a factor that originates from external to students including teaching methods, facilities and infrastructure owned, teacher educational background and interpersonal relationships between teachers and students, apart from that it is suspected that the social, economic, and educational levels of parents and environmental factors also influence student learning outcomes. This is in line with what (Slameto, 1995) said: There are many types of factors that influence learning outcomes but can be classified into only 2 groups, namely internal factors and external factors. Internal factors are factors that exist within the individual who is learning, while external factors are factors that exist outside the individual. Internal factors include three factors, namely physical factors, psychological factors, and fatigue factors. The external factors that influence are family factors, school factors, and community factors.

The aspect of learning motivation, for example, is something that every student absolutely has as an encouragement him to try as hard as possible with enthusiasm, seriousness, and sincerity in studying. According to Sardiman (2003), the word motive is defined as an effort that encourages someone to do something. This means that motive can be said to be a driving force from within and within the subject to carry out activities certain activities to achieve a goal. These motifs are divided into two, physical motifs and social motifs. As explained by (Purwanto, 2007), psychologists try to classify the motives that exist in humans or an organism, into several groups according to their respective opinions: physiological drives and social motives. Physiological drives are drives that are physiological/physical, such as hunger, thirst, sexual hunger, and so on, while social motives are drives that are related to other humans in society, such as aesthetic drives, the urge to always want to do good (ethics), and so on. So it can be said that the motive here arises from someone to do something based on their goals. Maslow (1995) Put forward a theory of motivation based on the needs theory which is derived deductively. This theory starts from three basic assumptions, namely (1) Humans are living creatures who always desire, but these desires are not always completely fulfilled, (2) needs or desires that have been fulfilled will no longer be a
driving force, (3) human needs are arranged according to a hierarchy. level of importance. In learning activities, motivation can be interpreted as the overall driving force within a person that creates desire, ensures continuity, and provides direction to learning activities so that it is hoped that goals can be achieved. Motivation has the principle of strengthening, directing, encouraging, and driving behavior which is closely related to the principles of learning. In this case, Sardiman (2007:84) states that: "Learning results are optimal if there is motivation. The more appropriate the motivation given, the more successful the lesson will be." With the motivation that exists within students and supported by existing learning facilities, it is recognized that they will be able to direct students toward achieving learning goals. In this case (Rohani, 2004) states “The function of motivation as a process is 1) To encourage and activate students so that they remain interested and alert. 2) Focus students' attention on certain tasks related to achieving learning goals. 3) Helps meet the need for short-term results and long-term results. Students who have high motivation to learn physical education automatically lead to achievement in their physical education learning outcomes. So if all students have high motivation to learn physical education, it is believed that they will be able to produce high physical education learning outcomes.

In the process of learning activities, motivation is a factor that supports student activity, because basically, students who have high learning motivation will study seriously and diligently. Motivation to learn can arise from within oneself or from environmental factors. In other words, a student who has motivation will be able to learn better. Motivation will lead to psychological aspects that encourage students to be more active, and diligent in learning, so that can achieve better (higher) learning achievement and high learning motivation will improve high physical education learning outcomes. Likewise, maximum learning achievement in Physical Education can be achieved if students have good physical fitness because with good physical fitness, students will not feel significant fatigue and can focus on the ongoing learning process and can follow all existing lessons. Syafuddin (2011) stated “physical fitness is the ability, strength and skills of the body to do a job. Ismaryati (2006:40) defines “physical fitness is a condition that reflects a person’s ability to carry out tasks productively.
without experiencing significant fatigue". Widiastuti (2011) states that "From an educational perspective, efforts to increase physical fitness have objectives including: (1) Formation of movement, (2) Formation of achievement, (3) body growth". According to Nurhasan (2001) "states that there are two aspects of physical fitness, namely physical fitness which is related to health, including heart and lung endurance, muscle strength, muscle endurance, flexibility, body composition. Physical fitness related to skills includes speed, power, balance, agility, coordination, reaction speed. According to Lutan (2001) is "Physical fitness which is related to health is a person's ability to carry out physical tasks that require strength, endurance and flexibility. Apart from showing physical condition, physical fitness also functions to improve a person's quality of life according to their respective circumstances. This is because the background of human life is also different. The function of physical fitness according to Ismaryati (2008) is "Physical fitness is grouped into two, namely general and specific functions. The general function of physical fitness is to develop the strength, abilities, abilities, creativity, and endurance of every human being which are useful for increasing work capacity. The special function of physical fitness is following their respective specificities, which are divided into three groups, namely groups based on work, for example, athletes, students, and college students. Students who have good physical fitness can carry out physical activities quickly and vigorously without causing significant fatigue. This means that after completing the activity you still have enough energy for unexpected circumstances, both in carrying out the next task and enjoying your free time enthusiastically. Student learning processes and outcomes are closely related to students' psychological, physiological, and environmental factors. Psychological factors include motivation, intelligence, talent, and interest. These psychological factors must also be supported by physiological factors, without the support of physiological factors the learning process will not run optimally. Physiological factors relate to physical conditions, the state of the five senses, etc. If a person's physical condition is weak, a person will be susceptible to disease, which in turn will have an impact on their learning activities.
MATERIALS AND METHODS

Study participants
The population used in this research is Raudhatul Jannah Junior High School, totaling 180 people with a sample age category of 7-9 years spread across 6 classes.

Study Organization
Quantitative correlation approaches are employed to ascertain the presence and strength of a correlation between two or more variables. Correlation and multiple regression statistical analysis are used in data analysis, and the SPSS (Statistical Product and Service Solution Version 25) application is used for processing. Before, theories were tested using statistical methods. To verify data normalcy, the Kolmogorov-Smirnov test (K-S test) was used.

Test and measurement procedures
There are three variables in this research, so that the research variables can be measured quantitatively, the variables are defined operationally: 1) Physical fitness test using the TKJI test (Indonesian Physical Fitness Test). TKJI test divided into those taken in this study based on age groups, namely groups aged 13-15 6-9 years. The 5 test items are a 50-meter run, 60 seconds of hanging elbows, 60 seconds of lying down, an upright jump, and an 800-meter run for women and 1000 meters for men. This test is a series of tests so its implementation must not be interrupted but continuous in a series of tests. 2) Test 2. Motivation for Learning Physical Education. This test item uses a questionnaire test which is given to students using a scale Likert as well as with Croanbach’s Alpha item analysis. 3) Learning outcomes with indicators of changes in behavior in the form of knowledge, skills, and attitudes which are the result of learning activities determined in the form of numbers or report cards in semester 2.

RESULTS
Regression and correlation analyses were performed on this study's data utilizing parametric statistical formulae. A normally distributed population for the sample data, a linear regression line connecting the independent and dependent variables, and independence of the data between the independent variables are the only prerequisites for conducting analysis using this statistical technique.
Normality test

The Liliefors test was used in this investigation to determine whether the three variables were normal. When using the normality test hypothesis, \( \alpha = 0.05 \) serves as the threshold of significance that determines whether or not a data distribution is considered normal.

<table>
<thead>
<tr>
<th>No</th>
<th>Variabel</th>
<th>Lo</th>
<th>Lt</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Physical Fitness</td>
<td>0,1255</td>
<td>0,1610</td>
<td>Normal</td>
</tr>
<tr>
<td>2.</td>
<td>Learning Motivation</td>
<td>0,1590</td>
<td>0,1610</td>
<td>Normal</td>
</tr>
<tr>
<td>3.</td>
<td>Learning Results</td>
<td>0,0888</td>
<td>0,1160</td>
<td>Normal</td>
</tr>
</tbody>
</table>

Table 1 indicates that the \( Lt \) values are greater than the \( Lo \) values derived from the three research variables. In light of the preceding framework for decision-making, Ho is approved. It follows that the three variables originate from a population that is regularly distributed.

Linearity Test

This linearity test was carried out to see whether each independent variable data, namely Physical Fitness \( (X_1) \) and Learning Motivation \( (X_2) \) had a linear relationship or not with the dependent variable Learning Outcomes \( (Y) \). Linearity testing was carried out through the F anava test. The level of significance used as a basis for rejecting or accepting the decision of whether or not the correlation data is linear is \( \alpha = 0.05 \). The criteria for the linearity test are if \( F_{count} < F_{table} \) means the correlation data is linear, and if \( F_{count} < F_{table} \) it means the correlation data is not linear. This can be seen in the following table:

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>( F_{count} )</th>
<th>( F_{table} )</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>( X_1 )</td>
<td>( Y )</td>
<td>3,42</td>
<td>3,65</td>
<td>Linear</td>
</tr>
<tr>
<td>( X_2 )</td>
<td>( Y )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The \( F \) table values are greater than the two computed \( F \) values derived from the analysis results, as this table demonstrates. The computed \( F \) is \( 3.42 < F_{table} 3.65 \) for the Physical Fitness variable \( (X_1) \) with Learning Outcomes \( (Y) \). Calculating \( F \) for the variable Learning Motivation \( (X_1) \) is impossible given Learning Outcomes \( (Y) \). Therefore, it can be said that Ho is accepted and Ha is rejected based on the fundamental conclusion stated.
above. It is evident from accepting this hypothesis that there is a linear relationship between the independent variables ($X_1$) and ($X_2$) and the dependent variable ($Y$).

**Statistical analysis to determine the significance of relationships between variables.**

An independence test is conducted to ascertain the presence or absence of a correlation between the independent variables, specifically Physical Fitness ($X_1$) and Learning Motivation ($X_2$). This entails determining whether the two independent variables are indeed unrelated to each other. The independence test is conducted by employing product moment correlation analysis and assessing significance through the t-distribution test.

**Table 3. Summary of Correlation Analysis of the Physical Fitness variable ($X_1$) on Physical Education Learning Outcomes ($Y$)**

<table>
<thead>
<tr>
<th>Correlation</th>
<th>N</th>
<th>Coefficient correlation ($r$)</th>
<th>Coefficient determination ($r^2$)</th>
<th>$t_{count}$</th>
<th>$t_{table}$</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>$R_{xy}$</td>
<td>30</td>
<td>0.40</td>
<td>0.16</td>
<td>2.32</td>
<td>2.04</td>
<td>Significant</td>
</tr>
</tbody>
</table>

The data in table 3 indicates that the correlation coefficient is $r=0.16$. Conducting a hypothesis test to determine the significance of the correlation coefficient using the t distribution with a significance level ($\alpha$) of 0.05 and degrees of freedom (df) equal to $n-2$. The estimated $t$-value of 2.32 exceeds the critical $t$-value of 2.04 from the $t$-table. This indicates that the null hypothesis ($H_0$) is rejected and the alternative hypothesis ($H_a$) is accepted, specifically suggesting a positive correlation between Physical Fitness and Physical Education Learning Outcomes.

To assess the extent to which Physical Fitness impacts Physical Education Learning Outcomes, we calculate the coefficient of determination ($r^2$), which is equal to $(0.40)^2 = 0.16$. The contribution is determined by multiplying the coefficient of determination by 100%, resulting in a value of 16.10% when the coefficient is 0.40. Subsequently, in order to determine the functional correlation between variables, a regression analysis is conducted, where the score on one variable is utilised to forecast the score on another variable, following the equation $Y=a+bX$. The equation $Y=63.95+1.03X$ is derived from the analysis results, with the entire calculations provided in attachment 15.

The second hypothesis stated in this research is that "Learning Motivation has a positive correlation with students' Physical Education Learning Outcomes". In the table below, we will examine the correlation between the Learning Motivation variable ($X_2$)
and students’ Physical Education Learning Outcomes (Y) to determine if there is a positive association:

*Table 4. Summary of Correlation Analysis of Learning Motivation Variables (X2) on Physical Education Learning Outcomes (Y)*

<table>
<thead>
<tr>
<th>Correlation</th>
<th>N</th>
<th>Correlation coefficient (r)</th>
<th>Determination coefficient (r²)</th>
<th>t-count</th>
<th>t-table</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>rX₂,y</td>
<td>30</td>
<td>0.38</td>
<td>0.15</td>
<td>6.98</td>
<td>2.04</td>
<td>Significant</td>
</tr>
</tbody>
</table>

The calculation results in table 3 indicate that the correlation coefficient, denoted as r, is equal to 0.38. Conducting a hypothesis test to determine the significance of the correlation coefficient using the t distribution with a significance level (α) of 0.05 and degrees of freedom (dk) equal to n-2. The calculated t value is 6.98, which is more than the critical t value of 2.04 obtained from the t table. This indicates that the null hypothesis (H₀) is rejected and the alternative hypothesis (Hₐ) is accepted, specifically suggesting a positive correlation between Learning Motivation and Physical Education Learning Outcomes. To determine the extent to which learning motivation contributes to Physical Education Learning Outcomes, calculate the coefficient of determination, which is 0.15 multiplied by 100%, resulting in 15%.

Subsequently, in order to determine the functional correlation between variables where the score on one variable can be utilised to forecast scores on other variables, a straightforward linear regression analysis is conducted employing the regression equation. The equation is represented as Y equals the sum of a and the product of b and X₁. The analytical results yield the equation Y = 62.40 + 0.07X. The third hypothesis in this research states that the combination of physical freshness and learning motivation has a good impact on students’ outcomes in physical education. The objective is to determine the beneficial impact of two independent factors, Physical Fitness (X₁) and Learning Motivation (X₂), on the dependent variable, Physical Education Learning Outcomes (Y), for junior high school students.

*Table 5. Summary of Correlation Analysis of Physical Fitness Variables (X1) and Learning Motivation (X2) on Physical Education Results (Y)*

<table>
<thead>
<tr>
<th>Correlation</th>
<th>N</th>
<th>Correlation coefficient (r)</th>
<th>Determination coefficient (r²)</th>
<th>t-count</th>
<th>t-table</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>rX₁X₂,y</td>
<td>30</td>
<td>0.49</td>
<td>0.24</td>
<td>4.37</td>
<td>3.35</td>
<td>Significant</td>
</tr>
</tbody>
</table>

The calculation results in table 19 indicate that the correlation coefficient rₓ₁ₓ₂ᵧ is equal to 0.49. The significance of the correlation coefficient was tested using the t
distribution. The significance level (α) was set to 0.05, and the degrees of freedom (k) were set to 2 for the numerator and (n – k – 1) for the denominator (dk). The generated $F_{\text{count}}$ was 4.37, which was compared to the critical value from the t table, which was 3.35. This indicates that the null hypothesis ($H_0$) is rejected and the alternative hypothesis ($H_a$) is accepted, specifically suggesting a positive correlation between Physical Fitness, Learning Motivation, and Physical Education Learning Outcomes. To ascertain the extent to which learning motivation influences Physical Education Learning Outcomes, examine the coefficient of determination, which is 0.24 when expressed as a percentage is 24%. Next, we will determine the functional relationship between variables by examining how the scores on two independent variables can be used to predict the scores on another variable.

**DISCUSSION**

The findings of this study demonstrate a strong alignment between the acquired information and the theoretical framework proposed by the researcher. Specifically, there exists a significant correlation between physical fitness and learning motivation, which directly impacts the academic performance of students in physical education at Raudhatul Jannah Middle School, located in Payakumbuh City. Furthermore, for additional information, the findings of the study. The results of testing the first hypothesis indicate that there is a positive correlation between Physical Fitness ($X_1$) and students’ Physical Education Learning Outcomes, with Physical Fitness accounting for 16.10% of the contribution. Physical Fitness exhibits a predictive correlation with Physical Education Learning Outcomes. Optimal physical fitness can enhance academic performance. Students with good physical fitness tend to study with enthusiasm, enabling them to attain remarkable accomplishments. Conversely, a lack of physical fitness might impede the efficiency of learning activities and the assimilation of learning materials. According to Widiastuti (2011), the educational goals of promoting physical fitness include: (1) Developing motor skills, (2) Fostering accomplishment, and (3) Facilitating physical growth. Nurhasan (2001) believes that physical fitness can be divided into two aspects: health-related fitness, which includes endurance of the heart and lungs, muscle strength, muscle endurance, flexibility, and body composition.
Physical fitness, in relation to talents, include attributes such as speed, power, balance, agility, coordination, and reaction speed. The mastery of different cognitive domains, which serve as an indicator of a student’s learning achievement resulting from the learning activities undertaken, is influenced by physical factors. Barley, as cited in Slameto (1995), asserts that inadequate nutrition and delayed physical development lead to diminished cognitive abilities. According to Slameto (1995), students who have reduced responsiveness, lack of attention, or lack of willingness to learn are likely to be affected by their poor health condition. Teachers should be vigilant of these indications that necessitate medical intervention. Regular health check-ups for every student are advantageous.

Learning motivation is another influential component in determining learning results. The findings of testing the second hypothesis indicate that there is a positive correlation between Learning Motivation ($X_2$) and students’ Physical Education Learning Outcomes, with a contribution of 14.57%. The function of motivation in achieving student learning success is well acknowledged, since it has the ability to stimulate and impact behavior, leading to behavioral changes. The third hypothesis examines the relationship between the variables of Physical Fitness and Learning Motivation on Student Physical Education Learning Outcomes, and finds them to be valid. There is a belief that there is a positive correlation between Physical Fitness ($X_1$) and Learning Motivation ($X_2$) with Physical Education Learning Outcomes ($Y$). This correlation can exist between either one independent variable and one dependent variable, or between two independent variables and one dependent variable. When examining the impact of each predictor on the Physical Education learning outcome variable, we find that Physical Fitness ($X_1$) contributes 16.10% to Physical Education Learning Outcomes ($Y$), while Learning Motivation ($X_2$) contributes 14.57%. The combined impact of the independent variables (Physical Fitness and Learning Motivation) on Physical Education Learning Outcomes ($Y$) was determined to be 24.45%. This data demonstrates that the combined impact of Physical Fitness and Learning Motivation on students' Physical Education Learning Outcomes is 24.45%, while the remaining 75.55% is attributed to other factors such as learning methods,
facilities and infrastructure, and nutritional intake. Consistent with Slameto's (1995) assertion, these are the factors Learning outcomes can be influenced by several factors, which can be categorized into two groups: internal factors and external influences. Internal variables refer to the factors that are present within the individual who is engaged in the learning process, whilst external factors are the aspects that are outside of the individual. Internal elements encompass three distinct factors: bodily considerations, psychological factors, and tiredness factors. The external elements that exert influence include familial, educational, and communal forces. The utilization of a suitable pedagogical approach based on the developmental circumstances of students can significantly impact the attainment of learning objectives, since the appropriate instructional method is thought to facilitate students' comprehension of the presented content. Similarly, the available facilities and infrastructure are comprehensive, allowing students to engage in practical sports activities, while ensuring sufficient nutritional intake is equally essential. The significance of energy as a source for students to do internal movement exercises. Physical education classes, particularly in regards to practical application.

CONCLUSION

Based on the findings of the data analysis and the offered discussion, it can be inferred that physical freshness and learning motivation have a substantial impact on students' outcomes in Physical Education. The three variables collectively have a beneficial impact. The significance of physical fitness and motivation in the attainment of student learning goals is widely acknowledged. These two factors can be interpreted as follows: if a student has strong physical fitness, they will be able to perform all tasks without experiencing substantial fatigue, which will enable them to participate enthusiastically in movement activities. Similarly, a student's learning motivation will influence their inclination and eagerness to engage in physical education learning activities. Through comprehending the importance of having a strong passion to learn, a student will endeavor to cultivate self-motivated in order to achieve excellent academic outcomes. Teachers have a crucial role in shaping students' motivation to learn and improving their physical fitness, which ultimately leads to satisfactory
learning outcomes. This is because learning outcomes are a key objective of the educational processes and activities that occur in school.

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APPENDIX

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