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THE RELATIONSHIP BETWEEN ENVIRONMENT AND PHYSICAL FITNESS ON PHYSICAL EDUCATION LEARNING OUTCOMES AND AL-QURAN TAHFIDZ ABILITY OF MIDDLE SCHOOL STUDENTS

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Abstract. The problem in this research is the low ability of learning outcomes (physical education learning outcomes and the ability to recite the Koran) as well as the low fitness of students. The purpose of this research is to determine the relationship between learning environmental factors and physical fitness on physical education learning outcomes and the ability to tahfidz Al-Quran students at Junior High School ICBS Payakumbuh, Harau Putra. The type of research is simple regression correlation with a population of 155 students at Junior High School ICBS Payakumbuh, Harau Putra. The sample in this research was 30 people, the technique used in sampling was the Stratified Proportional Random Sampling technique by taking 20% samples at each class level. The research instrument used used were questionnaire statement sheets, Indonesian student fitness tests (TKSI), and physical education learning outcomes and Al-Quran tahfidz. Data analysis techniques were carried out using normality tests and homogeneity tests with the help of SPSS 22 software. Hypothesis test results used product moment correlation tests with manual calculations at a 95% confidence level $\alpha = 0.05$. The results of research data analysis show that: (1) There is a correlation between learning environmental factors and students' physical education learning outcomes of 79.8% (2) There is a correlation between learning environmental factors with students' Al-Quran tahfidz ability of 33.1% (3) There is The relationship between physical fitness and students' physical education learning outcomes is 87.8% (4) There is a relationship between physical fitness factors and the ability to recite the Al-Quran by 23% (5) There is a relationship between learning environment factors and physical fitness on physical education learning outcomes amounting to 91.7% (6) There is a relationship between learning environmental factors and physical fitness on the ability to tahfidz Al-Quran amounting to 35.5%.

Keywords: Environment; Fitness; Learning Results; Tahfidz

I. INTRODUCTION

Learning outcomes are one of the indicators to see the success of teachers in achieving learning goals (Ayadat et al. 2020; Iriani 2024). A teaching and learning process about a teaching material is declared successful if the specific teaching objectives can be achieved (Haris et al. 2024; Ockta et al. 2024; Umar, Ockta, and Mardesia 2023). Learning outcomes are the expression of ideal learning outcomes, covering all areas of psychology that change as a result of students' experiences and learning processes (Ferdian et al. 2023; Pitnawati et al. 2023; Safitri et al. 2023). The learning

outcome is the realization or expansion of the potential of a skill or capacity that a person has (Kusuma Dewi, Usman, and Khairuddin 2023). The mastery of a person's learning outcomes can be seen from his behavior, both behavior in the form of mastery of knowledge, thinking ability and motor skills (Nikolaienko et al. 2021; da Silva et al. 2023). Memory is necessary for students to be able to improve the memorization of the Quran, memorization is the process of repeating something, both reading and listening (Rozi, Mufron, and Tufa 2022). A job if done repeatedly or continuously will be memorized by the person who does it (Rabin et al. 2023; Tirumala et al. 2022). So with that,

children become experts in remembering, children need to hone their memory skills and use them as often as possible.

Physical fitness is the main foundation that must be possessed by humans to be able to carry out daily activities (Insani et al. 2024a; Rambe et al. 2024; Al Zaki et al. 2023). Low levels of physical fitness will make it difficult for humans to carry out activities (Chinta et al. 2024; Khani et al. 2024). Physical fitness is the result of the functioning of body systems that realize an improvement in the quality of life in every activity that involves the physical (Ferdian et al. 2023; Insani et al. 2024b; Safitri et al. 2023). Workers who have a good level of physical fitness still have the energy reserves to perform other activities without side effects that can be detrimental to health (Angulo et al. 2020; Woods et al. 2020). A person with a good cardiovascular system can help carry out daily activities without feeling excessive fatigue (Illahi et al. 2023). With some of the opinions above, the author concludes that a person's physical fitness is very important in helping to be able to get good learning results and memorize a strong Qur'an.

Likewise with the learning environment, the environment is everything that exists inside or outside the individual, whether it is physiological, psychological, or socio-cultural that has a certain influence on the individual (Astuti, Ahda, and Putri 2021; Hakiki et al. 2024; Hamilton et al. 2021). The environment encompasses all conditions in this world that in some way affect a person's behavior, growth, and development except genes (Fauzi et al. 2023; Maryani, Entang, and Tukiran 2021). The environment is one of the factors that affect the learning process and outcomes, because the environment is part of students' lives (Ramadhan et al. 2020). The learning environment is everything that surrounds the learning process. In other words, the learning environment can be interpreted as a "laboratory" or a place for students to explore, experiment and express themselves to get new concepts and information as a form of learning process and will ultimately get learning outcomes according to the goals of each student (Hsu, Wenting, and Hughes 2019; Lin et al. 2022; Mahdi 2022).

The main problems faced by students at ICBS Payakumbuh are the influence of the environment and physical fitness on the learning outcomes of physical education and the ability to tahfidz Al-Qur'an. Although physical fitness has been recognized as an important factor in improving cognitive and memory abilities, as well as a supportive learning environment, it is still unclear how the two interact with each other and influence learning outcomes and tahfidz abilities in the school environment. Then, physical fitness contributes to learning and memory effectiveness, while the learning environment plays a significant role in developing students' potential. This research is important to identify the relationship between these two factors and provide deeper insights into how to

improve physical education learning outcomes and tahfidz abilities through a more holistic and integrated approach.

II. METHOD

This study uses a quantitative approach, using correlational techniques. Correlational research to see whether or not there is, and how far, a correlation between two or more variables is found quantitatively. In accordance with the above opinion, the researcher wants to conduct a study with the title The Relationship of Learning Environment Factors and Physical Fitness to Physical Education Learning Outcomes and Al-Quran Tahfidz Ability of Junior High School ICBS Payakumbuh Harau Putra Complex. The analysis techniques used are statistical analysis techniques of simple regression correlation and multiple correlation. Furthermore, to calculate the amount of contribution, the determination index formula is used, which is $r^2 \times 100\%$.

This research was conducted at ICBS Payakumbuh Integrated Islamic Junior High School, Harau Putra Complex, while the research time began after this research proposal was seminared and approved. The population in this study is all students of ICBS Payakumbuh Integrated Islamic Junior High School, Harau Putra Complex, consisting of 155 people. The sampling technique used in this study is Proportionate Stratified Random Sampling. Proportionate Stratified Random Sampling is carried out by dividing the population into sub-populations / strata proportionally and carried out randomly. The sampling technique with Proportionate Stratified Random Sampling is carried out by collecting data on the number of students in each class which is then determined by the number of samples needed for each class. So in this study, the sample taken was 20% male students in each class from grades VII, VIII and IX with a total number of 155 people, for the sample taken as many as 30 students according to the sample draw in each class. For more details, please see the table below:

Table 1. Research Sample

| Class | Number of male students | Sample 20% |
|--------------|-------------------------|------------|
| VII | 93 | 18 |
| VIII | 31 | 6 |
| IX | 31 | 6 |
| Total | 155 | 30 |

The data collection technique on the learning environment variables was tested using a Likert scale questionnaire (1-5 choices), strongly agree, agree, hesitate, disagree and strongly disagree. The data collection technique for physical fitness variables is to conduct tests, The test used in this study is the TKJI test (Indonesian Physical Fitness Test) where each component of this physical fitness test aims to find out how big the student's fitness level is. TKJI is the only fitness test used in Indonesia. However, due

to the change/validation process after approximately 20 years, the Ministry of Education and Culture developed a more valid and reliable Indonesian student fitness test instrument model (TKSI). Meanwhile, the data collection technique for learning outcome variables and tahfidz abilities was taken from the learning outcomes of students in semester 1 of the 2023 school year.

The study's data analysis involves several steps. Initially, data are described using mean, median, mode, standard deviation, frequency distributions, and histograms. Next, a normality test using the Liliefors test checks if the data for four variables are normally distributed. Hypotheses 1 and 2 are tested using simple correlation and regression analysis, while hypotheses 3 and 4 employ multiple correlation analysis. The regression analysis is performed at a significance level of $\alpha = 0.05$. The correlation coefficient (r) is calculated, and the contribution of the independent variable (x) to the dependent variable (y) is determined using the formula $r \times 100\%$ (for simple correlation) or $R^2 \times 100\%$ (for multiple correlation). The regression equation is expressed as $Y^{\wedge} = a + Bx$

III. RESULT

Data collection regarding learning environment factors by distributing questionnaires to 30 respondents who are students of Junior High School of ICBS Payakumbuh Harau Putra Complex with a total of 30 bullet points. Based on the data collection carried out by the researcher, the results obtained were that the minimum score obtained was 135 while the maximum score was 176. The results of data processing obtained an average score (Mean) of 152.53, mode (mode) of 156, median of 151.50 and standard deviation of 11,947. Based on the frequency distribution table of 30 samples, 7 people (23.33%) in the interval class 135 – 141, 6 people (20.00%) in the interval class 142 – 148, 5 people (16.67%) in the interval class 149 – 155, 5 people (16.67%) in the interval class 156 – 162, 3 people (10.00%) in the interval class 163 – 169, 4 people (13.33%) in the interval class 170 – 176. For more details, you can see the following histogram:

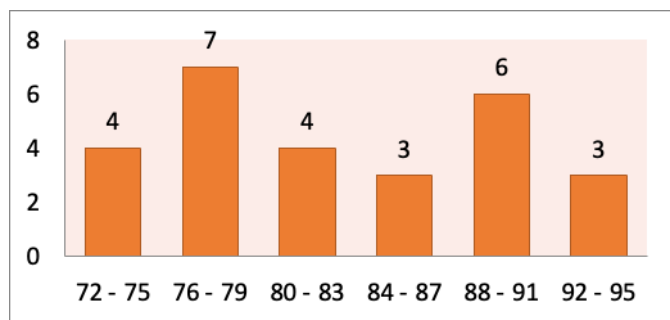


Figure 1. Learning Environment Factor Score

The measurement of physical ability was carried out by conducting a physical fitness test on 30 samples, the highest score obtained was 25, which was included in the Good category which was in the range of 23-25, the lowest

score was 1 which was a poor classification which was between the range of 15-18, the standard deviation (Standard Deviation) was 2,687 and the average of 18.77 was a poor classification in the norm of 15-18. Based on the frequency distribution table of 30 samples, 10 people (33.3%) in the interval class of 15.0 – 17.0 according to the TKSI test norm are included in the poor category, 14 people (46.7%) in the interval class of 18 – 20 according to the TKSI test norm are included in the Medium category, 4 people (13.3%) in the interval class of 21 – 23 according to the TKSI test norm is included in the Good category, and 2 people (6.7%) in the interval class of 24 – 26 according to the TKSI test norm are included in the Good category.

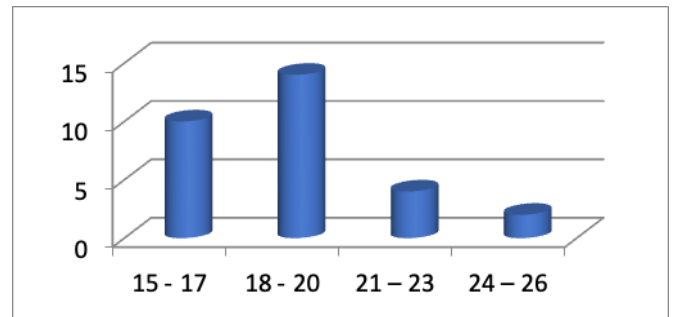


Figure 2. Physical Fitness Score

The measurement of PJOK learning outcomes was carried out by taking end-of-semester learning results from 30 samples. The results of the data obtained obtained that the highest score was 97.0 in the Very Good category in the classification norm of report card scores which was in the range of 92.0-100.0 while the lowest score was 72.0 in the category of Need Guidance in the classification norm of report cards which was in the range of <75.0. The average data obtained, which is 84.30, is included in the Good category in the report card classification norm which is in the range of 83.0 – 91.0, with a standard deviation (Standard Deviation) of 7.910 Based on the frequency distribution table of 30 samples, 4 people (13.34%) in the interval class 72 – 75 according to the norm of the KKM 75 predicate range are included in the category of Need Guidance, 7 people (23.32%) in the interval class of 76 – 79 according to the norm of the KKM 75 predicate range are included in the Sufficient category, 4 people (13.34%) in the interval class of 80 – 83 according to the norm of the predicate range of KKM 75 are included in the Good category, 3 people (26.67%) in the interval class of 84 – 87 according to the norm of the predicate range of KKM 75 are included in the Good category. 6 people (20.00%) in the interval class 88 – 91 according to the norm of the predicate range of KKM 75 are included in the Good category. 3 people (10.00%) in the interval class 92 – 95 according to the norm of the predicate range of KKM 75 are included in the Very Good category and 3 people (10.00%) in the interval class of 96 – 99 according to the norm of the KKM predicate range of 75 included in the Very Good category. For more details, you can see the following histogram:

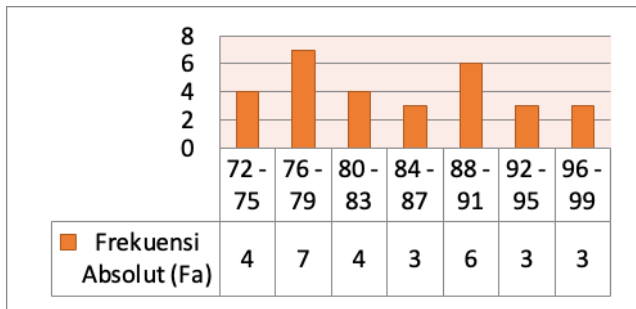


Figure 3. Physical Education Learning Outcome Score

The measurement of tahfidz al-Quran ability was carried out by testing the results of learning scores on 30 samples, the highest score of 92 was included in the Very Good category in the classification norm of report card scores which was in the range of 100-92, the lowest score of 85 was included in the Good category in the classification norm of report card scores which is in the range of 83-91, the average of 88.97 is included in the Good category in the classification norm of report card scores which is in the range of 91-83, the standard deviation obtained is 1.564. Based on the frequency distribution table of 30 samples, 2 people (6.6%) in the interval class of 85 – 86 according to the norm of the predicate range of KKM 75 were included in the Good category. 8 people (26.7%) in the interval class 87 – 88 according to the norm of the KKM predicate range of 75 are included in the Good category. 16 people (53.4%) in the interval class of 89 – 90 according to the norm of the predicate range of KKM 75 are included in the Baik category, and 4 people (13.3%) in the class 91 – 92 according to the norm of the predicate range of KKM 75 are included in the Very Good category. For more details, you can see the following histogram:

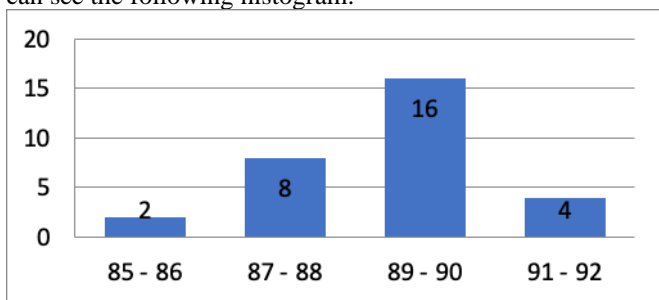


Figure 4. Physical Education Learning Outcome Score

1. Normality Test

The normality test was carried out on the variable of the liliefors test with a significance level of $\alpha = 0.05$, the test criteria were that H_0 rejected if the L_0 obtained from the data exceeded L_t and vice versa H_0 was accepted if L_t was greater than L_0 . The following are the results of the calculation of the data normality test with the liliefors test.

Table 2. Data normality test with liliefors test

| No | Variable | L_0 | L_{tabel} | Info |
|----|-------------------------------------|-------|-------------|--------|
| 1 | Learning Environment | 0.901 | 0.161 | Normal |
| 2 | Physical Fitness | 0.753 | 0.161 | |
| 3 | Results of Physical Education Value | 0.477 | 0.161 | |
| 4 | Tahfidz Al Quran Ability | 0.316 | 0.161 | |

2. Homogeneity Test

The homogeneity test uses the leverne test with the SPSS version 22 program by looking at a significance level value of > 0.05 means that the research data comes from the same variance (homogeneous) and if the significance level value < 0.05 means that the research data comes from a different variance (not homogeneous) as attached in the following table:

Table 3. Summary of Homogeneity Test Results against Y1

| Levene Statistic | df1 | df2 | Sig. | Info |
|------------------|-----|-----|-------|---------|
| 4,404 | 7 | 12 | 0,012 | Homogen |
| 3,521 | 7 | 12 | 0,027 | Homogen |

Table 4. Summary of Homogeneity Test Results against Y2

| Levene Statistic | df1 | df2 | Sig. | Info |
|------------------|-----|-----|------|---------|
| 3,033 | 4 | 22 | ,039 | Homogen |
| 3,375 | 4 | 22 | ,027 | Homogen |

3. Linearity test

The results of the Linearity test between X1 and Y1 are presented in the following table:

Table 5. Summary of the Results of the Analysis of the X1 Linearity Test against Y1

| Source | Total Squared | Dk | RJK | F | P |
|---------------------|---------------|----|--------|-------|-------|
| Deviation In Groups | 200,684 | 21 | 9,556 | 0,403 | 0,950 |
| Total | 166,000 | 7 | 23,714 | | |
| Total | 1814,300 | 29 | | | |

In Table 5 it can be seen that the price $F = 0.403$ with $p = 0.950$ ($p > 0.05$). This means that the regression equation is linear.

Table 6. Summary of the Results of the Analysis of the X1 Linear Test against Y2

| Source | Total Squared | Dk | RJK | F | P |
|---------------------|---------------|----|-------|-------|-------|
| Deviation In Groups | 23,070 | 21 | 1,099 | 0,659 | 0,784 |
| Total | 11,667 | 7 | 1,667 | | |
| Total | 55,467 | 29 | | | |

In Table 6, it can be seen that the price $F = 0.659$ with $p = 0.784$ ($p > 0.05$). This means that the regression equation is linear.

Table 7. Summary of the Results of the Analysis of the X2 Linearity Test against Y1

| Source | Total Squared | Dk | RJK | F | P |
|-----------|---------------|----|--------|-------|-------|
| Deviation | 518,224 | 9 | 57,580 | 0,884 | 0,556 |
| In Groups | 1237,333 | 19 | 65,123 | | |
| Total | 1814,300 | 29 | | | |

In Table 7 it can be seen that the price $F = 0.884$ with $p = 0.556$ ($p > 0.05$). This means that the regression equation is linear

4. Hypothesis test

The first hypothesis tested in this study is the relationship of learning environment factors to physical education learning outcomes. To determine the relationship between learning environment factors and physical education learning outcomes, a simple correlation analysis was used. In accordance with the results of the calculation, the correlation coefficient of the relationship between learning environment factors and physical education learning outcomes was obtained at 0.893. A summary of the analysis results can be seen in Table 8.

Table 8. Summary of the results of the correlation analysis between learning environment variables and learning outcomes Physical Education

| R | R Square | Adjusted R Square |
|----------|----------|-------------------|
| 0,893(a) | 0,798 | 0,791 |

The second hypothesis tested in this study is the relationship of learning environment factors to the ability of tahfidz al quran. To find out the relationship between learning environment factors and the ability to tahfidz al quran. In accordance with the results of the calculation, the correlation coefficient of the relationship between learning environment factors and tahfidz ability was obtained of 0.575. A summary of the analysis results can be seen in Table 9.

Table 9. Summary of the results of the correlation analysis between learning environment variables and ability outcomes Tahfidz Al Quran

| R | R Square | Adjusted R Square |
|----------|----------|-------------------|
| 0,575(a) | 0,331 | 0,307 |

The third hypothesis tested in this study is the relationship of physical fitness factors to tahfidz ability. To find out the relationship between physical fitness factors and tahfidz ability results, a simple correlation analysis was used.

In accordance with the calculation results, the correlation coefficient of physical fitness with tahfidz ability was obtained of 0.937. A summary of the analysis results can be seen in Table 10

Table 10. Summary of the results of the correlation analysis between physical fitness variables and physical education learning outcomes

| R | R Square | Adjusted R Square |
|----------|----------|-------------------|
| 0,937(a) | 0,878 | 0,874 |

The fourth hypothesis tested in this study is the relationship of physical fitness factors to PJOK learning outcomes. To determine the relationship between physical fitness factors and PJOK learning outcomes, a simple correlation analysis was used. In accordance with the calculation results, the correlation coefficient of physical fitness with PJOK learning outcomes was obtained of 0.480. A summary of the analysis results can be seen in Table 11.

Table 11. Summary of the Results of Correlation Analysis Between Physical Fitness Variables and the Ability of Tahfidz Al Qur'an

| R | R Square | Adjusted R Square |
|----------|----------|-------------------|
| 0,480(a) | 0,230 | 0,203 |

The fifth hypothesis tested in this study is the relationship between learning environment and physical fitness factors on physical education learning outcomes. To determine the relationship between learning environment factors and physical fitness factors on physical education learning outcomes, a simple correlation analysis was used. In accordance with the results of the calculation, the correlation coefficient of learning environment and physical fitness factors on Physical Education learning outcomes was obtained of 0.958. A summary of the analysis results can be seen in Table 12.

Table 12. Summary of the Results of Correlation Analysis Between Learning Environment Variables and Physical Fitness on Physical Education Learning Outcomes.

| R | R Square | Adjusted R Square |
|----------|----------|-------------------|
| 0,958(a) | 0,917 | 0,911 |

The sixth hypothesis tested in this study is the relationship between learning environment and physical fitness factors to the ability of tahfidz al qur'an. To determine the relationship between learning environment factors and physical fitness to tahfidz al qur'an ability, a simple correlation analysis was used. In accordance with the results of the calculation, the correlation coefficient of learning environment and physical fitness factors on the ability of tahfidz al qur'an was obtained of 0.596. A summary of the analysis results can be seen in Table 13.

Table 13. Summary of the Results of the Correlation Analysis Between Learning Environment Variables and Physical Fitness on the Ability of Tahfidz Al Qur'an.

| R | R Square | Adjusted R Square |
|-------|----------|-------------------|
| 0,596 | 0,355 | 0,307 |

IV. DISCUSSION

The environment has a significant impact on student learning outcomes in various educational contexts, including physical education and tahfidz Al-Quran. The environment in question includes both physical and non-physical aspects, both of which play an important role in influencing learning outcomes. The physical aspect includes the facilities and infrastructure available in the school or dormitory, such as sports fields, sports equipment, and study rooms (Yhee, Kim, and Kang 2021). Meanwhile, the non-physical environment includes factors such as social support, psychological conditions, and the use of technology and media (Ningning and Wenguang 2023). Good physical facilities can facilitate student participation in physical education activities (Hu et al. 2021). This is in line with previous research (Marsudi et al. 2024) that with the availability of adequate sports facilities, such as well-maintained fields and complete sports equipment, greatly affects students' involvement in these activities. Then according to (Valtonen et al. 2021) good facilities not only increase the comfort of students but also motivate them to participate more actively. For example, students who have access to appropriate sports fields and sufficient equipment will be more enthusiastic about participating in physical activities, which can ultimately improve their learning outcomes. With a conducive study space helps students to focus and reduce stress, which supports the memorization process. So, not only the physical aspect affects learning outcomes. The non-physical environment also has an equally important role.

Physical fitness aspects are closely related to cognitive performance and learning outcomes (Haverkamp et al. 2020). Regular physical exercise not only improves physical fitness but also contributes to better brain function (De la Rosa et al. 2020). Previous research has shown that regular physical activity increases blood flow to the brain, improves nerve structure, and supports brain plasticity, all of which play a role in improving cognitive function (De Sousa Fernandes et al. 2020). Then the research conducted by Dominguez et al (2021) that physical fitness is also associated with a reduced risk of cognitive decline and dementia. Thus, physical fitness can improve students' learning ability in physical education and tahfidz Al-Quran. However, this study has some limitations, such as the lack of empirical data that specifically correlates non-physical environmental variables with learning outcomes and individual variability in response to the environment. Further research is recommended to carry out longitudinal studies to monitor the long-term effects of various environmental factors on learning outcomes. In addition, further research is needed to explore the influence of technology and media in

more depth and how physical fitness affects the process of memorizing the Quran in different age groups.

V. CONCLUSIONS

The study showed that: (1) There was a relationship between learning environment factors and students' physical education learning outcomes by 79.8% with the category of Very Strong Correlation (2) There was a relationship between learning environment factors and students' ability to tahfidz Al-Quran by 33.1% with the category of Strong Correlation. (3) There was a correlation between physical fitness and student physical education learning outcomes of 87.8% with the category of very strong correlation (4) There was a relationship between physical fitness factors and the ability to tahfidz Al-Quran by 23% with the category of Sufficient correlation (5) There was a relationship between learning environment factors and physical fitness factors on students' physical education learning outcomes of 91.7% with the category of Very strong correlation (6) There was a relationship between learning environment factors and physical fitness factors on the ability of tahfidz Al-Quran by 35.5% with the category of Strong correlation.

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