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Correlation of Lifestyle with Physical Fitness in Sports Students Based on Gender

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Abstract

This study aims to examine the relationship between lifestyle and physical fitness in sports students of the Physical Education Study Program for Elementary School Teachers at University Of Education Indonesia, based on gender. Using a quantitative approach with a descriptive correlational and cross-sectional design, this research involved 90 purposively selected students (54 male and 36 female). Data were collected using the Health Promoting Lifestyle Profile II (HPLP-II) questionnaire to measure lifestyle and the Indonesian Physical Fitness Test (TKJI) to assess physical fitness. The results of the Spearman's rho correlation analysis showed a very strong and significant relationship between lifestyle and physical fitness ($r = 0.989$; $p < 0.001$). Students with a healthier lifestyle tended to have better physical fitness scores. Interestingly, no substantial differences were found between male and female students in both lifestyle and fitness levels. These findings underscore the crucial role of lifestyle in shaping physical fitness and suggest that gender-inclusive health education and campus-based support are essential.

How to Cite

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INTRODUCTION

Physical fitness is one of the fundamental aspects that determine a person›s quality of life, especially for teenagers and students. In recent decades, there has been a significant decline in the strength and physical endurance of the younger generation, including students. Data from the 2021 National Sport Development Index (SDI) Report shows that around 22.68% of Indonesians, especially students, are at a low level of physical fitness, with 53.63% in the very low category and only 23.69% having good physical fitness (Mutohir et al., 2021). In West Java itself, around 80% of students are classified as having low physical fitness, while only 20% reach the good category. This phenomenon is a particular concern, especially in the context of physical education which requires students to have physical fitness as the main capital in carrying out academic and practical activities optimally.

Physical education students, especially those in the Elementary School Teacher Education Physical Education study program, occupy a strategic position as prospective educators who will be role models in physical activity and fitness. They take courses with a proportion of 60% practice and 40% theory, which requires intensive physical involvement in the field. Therefore, good physical fitness is not only a must, but a basic need. Unfortunately, even though practical learning has been carried out consistently, there are various internal factors such as genetics, age, and gender as well as external factors such as diet, environment, academic stress, irregular sleep patterns, and lifestyles such as smoking that affect students› fitness conditions (Natalina et al., 2022),

Good physical fitness will support students in undergoing a learning process that requires physical activity, and make it easier for them to participate in practical lecture activities without significant obstacles (Aryani et al., 2018),emphasizes that physical fitness is very important to ensure that the body can carry out daily activities optimally and efficiently. Students who have inadequate physical fitness will face greater challenges in completing academic activities, especially field practice. This has implications not only for academic achievement, but also for their readiness as educators who will be role models in a healthy and active lifestyle.

From a general health perspective, physical fitness has very broad benefits. According to Putranto & Efendi (2024), maintaining physical fitness can reduce the risk of chronic diseases, improve mental health, and increase sleep quality and daily productivity. A person who has a fit body tends to have a better level of concentration, high endurance, and is better able to deal with academic and social pressures. Therefore, to maintain optimal physical fitness, students are advised to have a consistent exercise routine and a balanced and nutritious diet (Sitepu, 2022).

Health, according Wahana (2019), is a holistic growth process, encompassing physical, emotional, spiritual, and social dimensions. In the context of college students, maintaining health is no longer just an option, but a necessity that must be integrated into everyday lifestyle. College students often face high academic pressure, busy lecture schedules, and complex social and economic demands. All of these can disrupt the stability of their physical and mental conditions. Therefore, having a healthy lifestyle is an important foundation for maintaining a balance between academic demands and the needs of the body.

A healthy lifestyle not only contributes to physical health, but also has a significant impact on mental and social health. According to (Atina, 2021), explains that implementing a healthy lifestyle can increase endurance, improve mood, and support academic and social achievement. According to Stella et al (2020)added that a healthy lifestyle is a continuous educational process that includes physical activity, responsibility for personal health, spiritual growth, and overall psychological balance. In the long term, students who adopt a healthy lifestyle will be better prepared to face the dynamics of campus and social life.

However, the reality on the ground shows that students often face challenges in implementing a healthy lifestyle. According to Hernández et al. (2020)mentioned that a busy lecture schedule, academic pressure, and the influence of the social environment are the main obstacles. Students tend to focus more on academic achievement and ignore basic needs such as regular eating patterns, adequate sleep, and physical activity. In addition, the campus environment that provides fast food, as well as a sedentary lifestyle such as playing games and watching movies, worsens the condition (Nubatonis & Huwae, 2022).

The transition period from adolescence to adulthood, as explained by Marsanda & Kurniawan (2023), is a very crucial phase in individual development. Students at this stage tend to like challenges and take risks without careful consideration. As a result, they often ignore the importance of maintaining physical fitness and

a healthy lifestyle. Lack of understanding of the long-term impacts of an unhealthy lifestyle is one of the factors that worsens the physical fitness of students.

Although theoretically students are considered to have adequate knowledge about a healthy lifestyle, practice in the field shows otherwise. According to Sunardi & Kriswanto (2020), explained that many students are not yet accustomed to implementing a healthy lifestyle consistently. Environmental habits such as smoking, irregular eating, sleeping late, and lack of physical activity are factors that worsen healthy living behavior. This is reinforced by data showing that such behavior has become a culture among students, especially in the campus environment.

Unhealthy lifestyles among students also have an impact on increasing the risk of physical and mental health disorders. According to Kim et al (2021), found that students who do not implement a healthy lifestyle experience a decline in overall health conditions. In addition to physical illnesses such as obesity and hypertension, students are also susceptible to psychological disorders such as stress, anxiety, and depression. Therefore, collective efforts are needed in the form of health education and promotion to increase student awareness of the importance of a healthy lifestyle (Pranata & Asfur, 2021).

According to (Lage et al., 2021)emphasizes that physical fitness reflects the optimal body condition to carry out daily activities. Fitness components such as muscle strength, cardiovascular endurance, flexibility, and balance are important indicators in determining a person›s fitness level. Students who have good physical fitness will be better prepared to participate in academic and non-academic activities.

According to Kusyandi et al. (2021), a healthy lifestyle is the main foundation for achieving a high level of physical fitness. Habits such as exercising regularly, eating healthy, and avoiding bad habits such as smoking and alcohol consumption will have a direct impact on students› physical and mental health. In the long term, a healthy lifestyle can reduce the risk of various chronic diseases and improve overall quality of life.

According to Sinuraya & Barus (2020), stated that physical fitness measurement can be done through the Indonesian Physical Fitness Test (TKJI), which includes various indicators such as sprint, sitting position, vertical jump, and long run. This test is used to assess the physical condition of students based on age and gender. In the context students of the Physical Education Study Program for Elementary School Teachers, this test is very relevant to see how far they have achieved the ideal level of fitness.

Although many studies have discussed the relationship between lifestyle and physical fitness in general, not many have specifically examined the relationship in sports students based on gender. This indicates a gap in the scientific literature that is important to fill. Therefore, this study is directed at determining the correlation between lifestyle and physical fitness in sports students based on gender, which is expected to provide scientific and practical contributions in the field of physical education and health.

Although previous studies have discussed the relationship between physical fitness and healthy lifestyle, most of these studies were conducted on general populations, such as high school students, employees, or adults in general, without considering the academic context and unique physical demands on sports students. This study is unique because it specifically focuses on physical education students, a group that has a high portion of physical activity according to the curriculum but is also faced with complex academic and social pressures. Furthermore, the novelty of this study also lies in its approach that considers gender as a differentiating variable.

This aspect is important, considering that physiological and behavioral differences between men and women can affect the way they live their lives and the level of fitness they achieve. Thus, this study not only strengthens empirical evidence on the importance of a healthy lifestyle in supporting physical fitness, but also opens up new perspectives in seeing the need for more contextual and gender-specific health interventions in higher physical education environments.

METHOD

This study uses a quantitative approach with a descriptive correlational design and a cross-sectional model. This approach was chosen to explore and analyze the relationship between two main variables, namely lifestyle and physical fitness, in one measurement time. This design is suitable for obtaining an overview of the relationship between variables in a wider population efficiently and quickly. The study was conducted by collecting data directly from respondents through questionnaires and physical tests, which were then analyzed statistically to see the strength and

direction of the relationship between variables.

The population in this study were all active students of the Elementary School Teacher Education Study Program of Physical Education, University Of Education Indonesia, consisting of 732 students. The sample was selected purposively, namely students of the 2024 batch from classes A, B, and C, with a total of 90 people. The selection of this batch was based on considerations of age which was in the range of 17-21 years, namely the transition age from adolescence to early adulthood, which physiologically and psychologically is a crucial phase in the formation of lifestyle and physical fitness conditions. The sample consisted of 54 male students and 36 female students, who were selected based on suitability with the established inclusion criteria.

The research instrument consists of two main measuring instruments that complement each other. To measure lifestyle, the Health Promoting Lifestyle Profile II (HPLP-II) questionnaire was used, developed by (Walker, 1987). This instrument consists of 52 items covering six dimensions of a healthy lifestyle, namely health responsibility, physical activity, nutritional intake, spiritual approach, interpersonal relationships, and stress management. Each item uses a 4-point Likert scale, from "never" to "always." The final score is calculated as the average of all items, and a higher score indicates a healthier lifestyle.

Meanwhile, to measure physical fitness, the Indonesian Physical Fitness Test (TKJI) is used, which is designed for ages 16–19. TKJI consists of five types of physical tests, namely 60-meter sprint, 60-second body lift, 60-second lying down, vertical jump, and long-distance running (1200 meters for men and 1000 meters for women) (National, 2020). This test was chosen because it has high relevance to the physical abilities of students and has been adjusted to the age category and gender of the respondents. TKJI provides a numerical score for each aspect of fitness, which is then processed as a representation of the overall physical fitness level.

The research implementation procedure lasted for two days. On the first day, all respondents were given an explanation regarding the purpose and mechanism of the research, then asked to fill out the HPLP-II questionnaire under the supervision of the researcher. On the second day, physical fitness measurements were carried out using TKJI, which was carried out at the Bumi Siliwangi Stadium of the Indonesian Education University. Each participant took a series of tests with instructions and direct supervision from the researcher and field assistant, to ensure the validity and reliability of the test implementation.

The collected data was analyzed using IBM SPSS software version 26.(Fadluloh et al., 2024). The analysis stage begins with a descriptive test to describe the characteristics of respondents and the average, minimum, maximum, and standard deviation values of each variable. Furthermore, a normality test was carried out using Kolmogorov-Smirnov because the number of samples was more than 50. Based on the results of the normality test, it was found that one of the variables was not normally distributed, so the analysis of the relationship between lifestyle and physical fitness was carried out using the Spearman's rho correlation test. This test is used to determine the strength and direction of the relationship between two ordinal or interval variables that are not normally distributed, and to assess the statistical significance of the relationship.

Through this systematic and measurable method approach, the research is expected to provide an accurate and reliable picture of the correlation between lifestyle and physical fitness of students, as well as provide scientific contributions in the field of physical education, health, and lifestyle of students.

RESULTS AND DISCUSSION

The results of the data analysis above provide a clear picture of the characteristics of the data that has been collected with the number of respondent participation (N) being 90. In the results of the HPLP-II questionnaire, the smallest value (Minimum) is 185 and the largest value (Maximum) is 206. And the average mean is 194.63. The standard deviation of HPLP-II is 5.889

While the results of the TKJI test score the smallest value (Minimum) is 17 and the result of the value (Maximum) is 25 and the average mean is 20.44. The TKJI standard deviation is 2.375. Thus, the respondents have a healthy lifestyle and good physical fitness, with little variation among them. This emphasizes the importance of lifestyle and physical fitness in improving the quality of life and overall health.

Based on the data results above, it is shown in the table that the lifestyle patterns of men and women have similar values at a minimum of 185 and a maximum of 206. Meanwhile, the average value is...– the average male mean is 194.37 and the standard deviation is 6.063. While the average female mean is 195.03 and the standard deviation is 5.679.

The results of the physical fitness data for boys and girls have similar values at a minimum of 17 and a maximum of 25. Meanwhile, the average value...-the mean for boys was 20.30 and the standard deviation was 2.416, while the mean value for girls was 20.30 and the standard deviation was 2.416.-The mean for female students was 20.67 and the standard deviation was 2.330. Thus, it shows that there are similarities in physical fitness, there is a slight difference in the mean.-average and variation between the two groups. Overall, while there were small differences in the average-average and variation, lifestyle and physical fitness between boys and girls show quite significant similarities.

The normality test in this data uses the Kolmogorov-Smirnov normality test, because the amount of data is more than 50 people, it is more suitable to use the Kolmogorov-Smirnov normality test to provide more accurate results for data with large amounts. This sample used in the data above is 90 respondents. Based on the results of the data table above, it is known that the Sig. value in Kolomogorov-Smirnov in the HPLP-II data is 0.042, so the data value is> 0.05 or normally distributed. While in the Indonesian Physical Fitness Test TKJI data, the Sig. value is known. 0.000, so the value is not normally distributed because the Sig. value <0.05. Because one of the data is not normally distributed, the Pearson product moment correlation test is not met. Thus, as a replacement, the researcher uses a non-parametric test, namely the Spearman rho correlation test.

The correlation between lifestyle and physical fitness. The results of statistical tests using SPSS 26 Spearman software obtained a p valuevalueof (0.000) < 0.05. Therefore, H0 is rejected and H1 is accepted, meaning that there is a significant relationship between lifestyle and physical fitness in Physical Education Students of Elementary School Physical Education Teachers, University Of Education Indonesia. In addition, in this study there are results of the correlation coefficient calculation of 0.989**. The result of the correlation coefficient calculation is (0.989) which is included in the correlation coefficient value (0.989 – 0.01). Thus, there is a very strong and significant relationship between lifestyle and physical fitness.

The results of this study indicate that there is a very strong and significant relationship between lifestyle and physical fitness of sports students of the Physical Education Study Program for Elementary School Teachers, University Of Education Indonesia. This is proven through the Spearman's rho correlation test which shows a coefficient value of 0.989 with a significance level of 0.000. This means that the better the lifestyle of students, the higher the level of physical fitness they have. This finding strengthens previous theories which state that physical fitness is greatly influenced by a person's lifestyle, including in terms of physical activity, nutrition, sleep patterns, and other daily habits (Aryani et al., 2018)And ((Sunardi & Kriswanto, 2020).

Elementary School Physical Education students are a group that according to the curriculum gets a large portion of physical practice activities, so that their fitness demands are at a higher level compared to students from other study programs. Therefore, success in maintaining or improving physical fitness is highly dependent on how they manage their daily lifestyle. In this case, the HPLP-II questionnaire used in this study successfully captured important dimensions of a healthy lifestyle such as health responsibility, physical activity, stress management, and spiritual approach, all of which make a real contribution to physical fitness performance.

One important factor that supports this correlation is physical activity that is done routinely. As explained in the literature review, structured and regular physical activity will smooth blood flow to the brain and increase oxygenation and nutrition of the body (Alamsyah et al., 2017). This study confirms that students with better physical activity levels have higher TKJI scores. This is in accordance with the findings of Silva et al. (2020) which stated that physical fitness in students is significantly correlated with weekly physical activity habits and levels of participation in recreational sports (Silva et al., 2020, Journal of Physical Education and Sport).

In addition to physical activity, the dimensions of a healthy diet also play an important role in supporting students' physical fitness. In this study, students who had regular and nutritious eating habits showed better fitness scores. This is in line with findings fromAulia et al (2020) And Mulyana et al (2023), which states that students who skip breakfast or frequently consume sweet foods are at risk of obesity and metabolic disorders. According to Stavridou et al (2021)also added that a balanced nutritional intake has a direct effect on body composition, endurance, and physical recovery of students after exercise (Frontiers in Public Health).

Sleep quality factors are also important elements in a healthy lifestyle. This study shows that students with good sleep quality (sufficient duration and consistent sleep time) have higher

fitness. This strengthens the findings Alamsyah et al. (2017)as well as Kim et al (2021), which states that irregular sleep and academic stress contribute to decreased physical and mental performance. Research by Lo et al (2016), confirmed that sleep deprivation significantly affects cognitive performance and physical strength, especially among sports students.

Another important finding in this study is that there was no significant difference between male and female students in terms of lifestyle and physical fitness scores. Although there was a slight variation in the mean scores, the results showed that both males and females contributed equally to a healthy lifestyle and physical performance. This suggests that efforts to promote a healthy lifestyle should not be limited by gender factors, but should be comprehensive and inclusive. Although general literature suggests that males have a biological advantage in terms of strength and endurance (Nugraha & Pudjijuniarto, 2019), a healthy lifestyle can bridge this gap significantly.

In a broader context, these results support the findings of previous research byMonzera (2023) And Yuliyanika et al. (2024), which stated that there is a significant relationship between healthy lifestyle and physical fitness levels in adult and student populations. However, this study provides a new contribution by focusing on sports students and considering gender differences, an aspect that has not been widely explored in previous studies. Thus, these results enrich the scientific literature in the field of physical education and health promotion among students.

The results of this study also provide strong practical implications for higher education institutions, especially students of the Physical Education Study Program for Elementary School Teachers. A more systematic integration between the academic curriculum and healthy lifestyle mentoring programs is needed. Activities such as nutritional counseling, healthy sleep education, and stress management training need to be developed so that students are not only active in physical activities, but also have full awareness of the importance of maintaining overall body health. According toPérez-Ros et al (2023), campus-based health promotion strategies have been shown to be effective in forming long-term healthy living habits, especially among first-year college students (International Journal of Environmental Research and Public Health).

In addition, adequate social environmental support and campus facilities are also key to success in forming a healthy lifestyle. A campus environment that provides easily accessible sports facilities, healthy food, and decent rest and recreation spaces will greatly assist students in forming a positive and productive lifestyle. This is in line with findings from Zhang et al (2022),which emphasizes the importance of a campus ecosystem approach in creating sustainable healthy lifestyle habits.

Overall, this study suggests that healthy lifestyle is an important determinant in achieving optimal physical fitness. In a population of sports students, lifestyle not only influences academic and physical performance, but also reflects an individual's readiness to undertake future professional roles. Therefore, the results of this study provide a strong basis for the development of physical education-based intervention programs that emphasize the formation of healthy lifestyles from an early age, regardless of gender or social background.

CONCLUSION

Based on the results of data analysis and discussion that have been conducted, it can be concluded that there is a very strong and significant relationship between lifestyle and physical fitness in sports students of the Physical Education Study Program for Elementary School Teachers, University Of Education Indonesia. Students who implement a healthy lifestyle—which includes regular physical activity, a balanced diet, good sleep quality, and effective stress management—show a more optimal level of physical fitness. This finding confirms that lifestyle is the main determinant in the formation and maintenance of prime physical condition, especially in the early adult age group who are in the transition period towards physical and psychological independence.

These results also show that both male and female students have the same potential in living a healthy lifestyle and achieving good physical fitness, as long as they are supported by self-awareness and a conducive environment. Therefore, strengthening healthy lifestyle education and providing campus facilities that support fitness must be an integral part of physical education programs in higher education.

For further researchers, it is recommended to expand the scope of this study by considering additional variables such as exercise motivation, social support, academic stress levels, and digital habits that have the potential to indirectly affect physical fitness. Comparative research between study programs or between universities can also

provide a broader perspective on student lifestyles and their impact on physical health. In addition, the use of a mixed methods approach can enrich the understanding of this phenomenon from a quantitative and qualitative perspective simultaneously.

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