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Analysis of the Relationship between Physical Fitness Levels and Sport Values of High School Futsal Extracurricular Students

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Abstract

Physical fitness is an important element in achieving maximum athletic performance, while sport values reflect the attitudes and ethics that every athlete should possess. This study aims to identify the level of physical fitness and sport values among athletes participating in futsal extracurricular activities at senior high schools and to determine whether there is a relationship between physical fitness and sport values. This study used a quantitative descriptive method with a sample of 49 futsal extracurricular athletes at a high school in Cimahi City. Data were obtained through two stages, namely the TKSI (Indonesian Student Fitness Level) test and a questionnaire. The questionnaire was in the form of YSVQ-2 (Youth Sport Values Questionnaire) to measure the extent of sports values possessed, and the TKSI test consisted of 6 tests (hand and eye coordination, vertical jump, t-test, hand touch reaction test, dipping test, and beep test) to determine the level of physical fitness of the students. The results of the study showed that the average physical fitness score was 66% and the sport values score was 51%. In addition, the correlation test results showed that there was no correlation between physical fitness and sport values (sig=0.275; r=0.119). This was due to several factors, such as the fact that assessments in sports tend to be subjective and focus more on technical and tactical abilities, as well as environmental factors such as the availability of sports facilities. Weather conditions and social support can influence participation in physical activity. The impact on sports values and physical fitness can vary depending on these conditions. Therefore, values in sports cannot be used as an accurate indicator to assess a person's level of physical fitness.

How to Cite

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INTRODUCTION

Exercise requires good physical fitness and comfort to achieve optimal results in sports. Physical fitness is the body's ability to perform daily physical activities without feeling overly tired. Physical fitness is an important requirement that must be met so that our bodies are able to perform various activities optimally. According to (Grinin et al., 2025), physical fitness is very important until old age. The components of physical fitness include upper body strength and endurance, core strength and endurance, leg strength and endurance, and cardiorespiratory endurance (Zaqout et al., 2016).

The factors that influence physical fitness are: 1) Physical activity, which is any form of body movement performed by skeletal muscles that requires energy expenditure. This includes daily activities and structured physical exercise aimed at improving or maintaining physical fitness (Piepoli et al., 2016). 2) Exercise time and duration factors, such as frequency, intensity, and duration of exercise, play a significant role in determining the level of physical fitness. They also state that an individual who excels in a particular sport may not undergo training with sufficient intensity or duration to significantly improve physical fitness (Warburton & Bredin, 2017). 3) Nutrition and diet, which support physical fitness, involve consuming adequate amounts of carbohydrates, proteins, fats (macronutrients), as well as vitamins, minerals (micronutrients), and maintaining adequate fluid intake. Good nutrition helps the body adapt to physical exercise and maintain overall health (Kerksick et al., 2017). 4) An active lifestyle includes a daily routine of regular physical activity, which plays a crucial role in preventive efforts to maintain heart health and physical fitness (Piepoli et al., 2016). 5) Age and gender are important factors to consider when developing programs to encourage physical activity (Hickey & Mason, 2017).

Issues that can be studied in physical fitness include: 1) Effectiveness of exercise programs. The effectiveness of exercise programs includes how well the program achieves its objectives, such as improving physical fitness, reducing weight, increasing muscle strength, or improving overall health. Factors that influence the effectiveness of exercise programs include good program design, appropriate exercise intensity, exercise duration, exercise frequency, and adjustments to the goals of the individual or group being trained. 2) The influence of genetic factors. In the context of sports, there are several types of genotypes that have been shown to provide advantages in certain aspects such as muscle strength and endurance. This shows that genetics plays an important role in determining an individual's athletic ability (Ahmetov & Fedotovskaya, 2015). 3) Nutritional factors: adequate carbohydrate intake is very important for maximizing glycogen storage in muscles and improving athletic performance during training and competition (Thomas et al., 2016). 4) The influence of a healthy lifestyle, including a balanced diet, regular exercise, not smoking, and maintaining an ideal body weight, is associated with an increase in life expectancy and improved quality of life (Li et al., 2018). 5) Evaluation and measurement, objective assessment of physical fitness involves the use of scientifically tested methods and tools.

Sport values refer to the ethical, moral, and social principles promoted through sporting activities. According to (Subekti et al., 2024) These values include fair play, which emphasizes honest, fair play without cheating; teamwork, which encourages cooperation, solidarity, and mutual support among team members; discipline, which teaches discipline, perseverance, and responsibility; and a spirit of healthy competition, which builds motivation, mental resilience, and the ability to face challenges. According to (Meo, 2019), through sports, individuals not only develop physical and technical skills, but also learn to appreciate victory with humility and accept defeat gracefully, which ultimately contributes to the formation of strong character and a more harmonious society. These values are often emphasized in sports education to encourage positive personal and social growth.

Fostering a spirit of sportsmanship in children can be done through a consistent and integrated approach in daily life, starting with encouraging their active participation in various sports activities from an early age, such as playing soccer, swimming, or other team sports, which naturally teach values such as fair play, teamwork, and discipline (Salahudin et al., 2024). Parents and educators play an important role as role models by demonstrating behavior that respects rules, accepts defeat gracefully, and praises effort rather than just results, while discussing these values through simple conversations after the game to reinforce children's understanding (Ayub et al., 2024). Additionally, according to (Andriansyah et al., 2025). a supportive environment for healthy competition by avoiding excessive pressure, encouraging role rotation within the team so that all children feel involved, and integrating sports into school or household

routines, such as through family games or local sports clubs, ultimately helps children develop strong character, emotional resilience, and the ability to work together, so that sporting values become an integral part of their personality.

Although physical fitness and sports values play a significant role in school sports activities, many students who participate in futsal as an extracurricular activity have not yet demonstrated optimal physical fitness or a strong commitment to sports values (Suryadi & Rubiyatno, 2022). In many schools, extracurricular activities often focus more on improving technical skills and in-game performance, while aspects such as overall physical fitness, sportsmanship, teamwork, discipline, and respect are not always evaluated comprehensively. As a result, students may possess strong playing skills but still have weaknesses in physical endurance and in applying positive sports values during practice and games (Aditia, 2015). In addition, limited sports facilities, inconsistent training intensity, environmental factors, and differences in coaching approaches can also influence students' physical fitness and the development of their sports values. Therefore, it is important to examine whether there is a relationship between students' physical fitness levels and their sports values (Usman, 2023).

The purpose of this study is to identify the levels of physical fitness and sport values among high school students participating in futsal extracurricular activities in Cimahi City. Additionally, this study aims to analyze whether there is a significant relationship between students' physical fitness levels and their sport values. The results of this study are expected to provide useful information for teachers, coaches, and schools in developing extracurricular programs that not only improve students' physical condition but also strengthen sports values and foster positive character development.

The novelty of this study lies in its focus on examining the relationship between physical fitness levels and sport values among high school students participating in futsal extracurricular activities using two specialized instruments: the TKSI (Indonesian Student Fitness Test) and the YSVQ-2 (Youth Sport Values Questionnaire-2). Previous studies generally examined physical fitness and sport values separately, whereas this study integrates both aspects within the context of school futsal extracurricular activities. Furthermore, this study provides empirical evidence that physical fitness levels do not always correlate with sport values, suggesting that the development of character and sport values may be more influenced by environmental, social, and coaching approaches than by physical condition alone.

METHOD

This study uses descriptive quantitative methods in the form of paragraphs. Descriptive quantitative methods are used to describe the characteristics of a population or phenomenon being studied. This method involves collecting numerical data and statistical analysis to provide a clear understanding of the variables being studied (Creswell, 2003). The sample used in this study consisted of 49 futsal athletes from the Cimahi High School extracurricular program, using purposive sampling. According to (Fraenkel & Wallen, 1990)

Purposive sampling is a sampling process based on respondent characteristics. The characteristics of the sample in this study were adolescents aged 14-19 years. The instruments used were the TKSI test and the YSVQ-2 questionnaire with the aim of identifying the relationship between physical fitness and the values contained in sports among extracurricular athletes at Cimahi High School. This study utilized data analysis with the assistance of SPSS version 26. Data analysis began with descriptive statistics to determine the mean, percentage, minimum, and maximum values of the TKSI and YSVQ-2 scores. Next, a normality test was conducted using the Shapiro–Wilk test because the sample size was less than 50. The normality test was used to determine whether the data were normally distributed or not.

RESULTS AND DISCUSSION

This study aims to identify the level of physical fitness and determine whether there is a relationship between physical fitness and sport values.

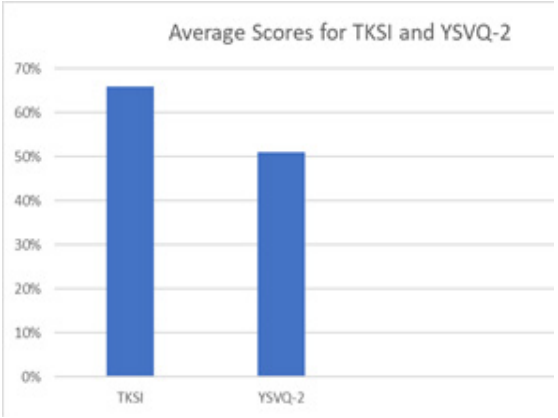

Figure 1. Average Scores for TKSI and YSVQ-2

The **Figure 1** above shows that the average score of the 49 students was 66% on the TKSI test and 51% on the YSVQ-2 test, indicating that the sport values of students participating in futsal extracurricular activities were in the moderate category. The sport values scores obtained reflect that students have an understanding and application of sports values such as sportsmanship, cooperation, and effort, but have not yet fully developed optimally in the context of school sports coaching (Koh et al., 2016).

These results indicate that most students have sufficient physical ability to participate in futsal activities, but there is still room for improvement in physical fitness through more structured and continuous training programs (Barbieri et al., 2016).

Table 1. Test of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
YSVQ	.086	49	.200*	.971	49	.273
TKSI	.092	49	.200*	.975	49	.383

*. This is a lower bound of the true significance.

The normality test results show that the significance value for the sport values variable (YSVQ-2) is 0.273 and the physical fitness variable (TKSI) is 0.383. Both significance values are greater than 0.05, so it can be concluded that the data is normally distributed. Thus, further data analysis can be performed using the Pearson Product Moment correlation test.

Table 2. Test of Correlation

		YSVQ	TKSI
YSVQ	Pearson Correlation	1	.119
	Sig. (2-tailed)		.417
	N	49	49
TKSI	Pearson Correlation	.119	1
	Sig. (2-tailed)	.417	
	N	49	49

The correlation value between the YSVQ-2 and TKSI variables is 0.119, indicating a weak relationship between physical fitness and sport values. The significance value is 0.417>0.05, indicating that there is no significant correlation between physical fitness and sport values.

The results of this study indicate that there is a weak and non-significant relationship between physical fitness and sport values among students participating in futsal extracurricular activities (Khudair & Arbinaga, 2025). These findings suggest that students with higher levels of physical fitness do not necessarily possess better sport values. One contributing factor is the influence of environmental factors such as the availability of sports facilities, weather conditions, family support, and encouragement from peers. These factors can influence students' participation in physical activities while shaping sports values in different ways. Additionally, extracurricular activities at school often focus more on the technical and tactical aspects of futsal rather than on the comprehensive development of physical fitness and character building (Alfarid, 2025). Consequently, students may possess good playing skills but do not necessarily demonstrate high levels of sports values such as sportsmanship, discipline, and teamwork.

Another reason for this weak relationship is that physical fitness is influenced by many other factors beyond sports values. Nutritional intake, sleep quality, stress levels, daily activity patterns, and training intensity can have a greater impact on students' physical fitness. Therefore, even if students possess strong sports values, their level of physical fitness may still vary depending on their lifestyle and health conditions (Siedentop & Van der Mars, 2022). The results of this study differ slightly from the initial research objective, which assumed that students with stronger sport values would also have higher levels of physical fitness. However, the results indicate that sport values and physical fitness are two aspects that can develop independently.

This study also has several limitations. First, the sample size was relatively small and drawn solely from a single high school in Cimahi City, so the findings cannot yet be generalized to all high school students. Second, the measurement of sports values relied on a questionnaire that depended on students' honesty and subjectivity in their responses. Third, this study only examined the direct relationship between physical fitness and sport values without considering other variables such as parental support, coaching style, training frequency, dietary patterns, and students' socioeconomic backgrounds. Therefore, future researchers are advised to use a larger and more diverse sample size, include other influential variables, and employ mixed-methods approaches such as interviews and observations to gain a deeper understanding of the development of physical fitness and sport values among students.

CONCLUSION

Based on the results of this study, it can

be concluded that the In terms of sport values, in the moderate category. This indicates that students already demonstrate sport values such as sportsmanship, teamwork, discipline, respect for rules, and effort during training and competition. However, these values have not yet been fully internalized by all students. Some students may already understand the importance of sport values, but their application in real situations is still inconsistent. Therefore, schools and coaches need to provide more emphasis on character building, not only through advice and theory, but also through direct practice and habituation in every activity.

Furthermore, the results of the correlation test showed that there is a weak and statistically insignificant relationship between physical fitness and sport values. This means that students who have better physical fitness do not necessarily have better sport values, and vice versa. Thus, the title and purpose of this study, which aimed to determine whether there is a relationship between physical fitness level and sport values among futsal extracurricular students, can be answered by stating that no significant relationship was found between the two variables.

This finding indicates that physical fitness and sport values are two different aspects that can develop independently. Physical fitness is more influenced by factors such as exercise intensity, nutritional intake, sleep quality, health condition, and daily physical activity. Meanwhile, sport values are more influenced by environmental factors, parenting style, coaching approach, peer interaction, team culture, and the values emphasized during sports activities. Therefore, improving students' physical fitness alone is not enough to strengthen sport values. Likewise, strengthening sport values alone does not automatically improve physical fitness.

Overall, this study confirms that futsal extracurricular activities in schools should not only focus on improving physical ability and game performance, but also need to balance physical development with character and sport values education. Through a balanced approach, students are expected not only to become physically fit and skilled in playing futsal, but also to develop positive values such as discipline, responsibility, teamwork, and sportsmanship that can be applied in everyday life.

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