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Comparative Analysis of Soccer and Futsal Extracurriculars: A Survey Study of Physical Fitness Profiles

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Abstract

Background: Futsal and soccer are sports that require endurance and good physical fitness. However, the striking difference, especially in terms of the field used, causes various assumptions.

Objectives: The purpose of this study is to compare the levels of physical fitness required for futsal and soccer as extracurricular activities.

Methods: The Indonesian Physical Fitness Test (TKJI), In this study, a survey administered to extracurricular football and futsal players aged 13 to 15 was used as a quantitative method. Male students from two separate schools who were involved in extracurricular activities participated in this study, including soccer at State Junior High School 3 Sukadana, and futsal at Madrasah Tsanawiyah State 1 Pontianak. Applying a purposive sampling strategy to collect the sample, 20 futsal extracurricular students and 20 soccer extracurricular students were obtained. The SPSS version 26 program was used to aid in the data analysis for this investigation.

Results: According to the study's findings, the average physical fitness score for soccer extracurricular was 15.1, while the average for futsal extracurricular was 11.75. Additionally, the significance value is 0.000 0.05, demonstrating a significant distinction between football and futsal as extracurricular activities.

Conclusion: The study on the degree of physical fitness in extracurricular futsal and football found that there is a big gap. These preliminary results might improve understanding of student fitness developments among exercise professionals.

Keywords: physical fitness, extracurricular, soccer, futsal.

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INTRODUCTION

Sport is a physical activity that everyone can do, including children and the elderly (Suryadi et al., 2022). By exercising, physical and spiritual health will be maintained (Suryadi & Rubiyanto, 2022). A study conducted by Hughes et al. (2020) thought to play a significant role in one's physical, psychological, and emotional well. Exercise has several advantages, including enhancing health and lowering disease risk (Meo et al., 2021). Several studies have proven that physical activity through sports has a positive effect on physical fitness (Baek et al., 2020; Dharma & Boy, 2020; Suryadi et al., 2021; Suryadi & Rubiyatno, 2022). It turns out that sustaining physical and spiritual health is something that non-athletes as well as athletes need to be physically fit in order to perform better (Suryadi et al., 2021). In addition, physical fitness offers significant advantages because it is intimately linked to daily activities (Suryadi, 2022). Therefore, it is important to maintain physical fitness to carry out activities properly. Lack of physical activity causes decreased physical fitness (Ahmed et al., 2020). it is suspected that this is a risk factor for various disorders of health complaints and perceived stress (Hidayat, 2017).

Other research have demonstrated that non-communicable diseases can be caused by physical inactivity (Lavie et al., 2019), cardiovascular problems and possibly the potential for fatality (Vancampfort et al., 2019; Zhao et al., 2019). Additionally, a study discovered a connection between resilience, mental health, physical fitness, and anxiety (Li et al., 2021). Based on these reviews, it can be concluded that physical activity greatly affects health. An effective strategy for breast cancer sufferers to improve physical fitness is exercise (Dieli-Conwright et al., 2018). Therefore, various sports activities are highly recommended to be carried out to maintain physical fitness so that they can have good body endurance (Bile & Suharharjana, 2019; Chrisly et al., 2015; Endrianto & Ma'mun, 2019; Hayudi & Pratama, 2019). Doing physical activity can improve the fitness of the cardiorespiratory system so that children will have healthy and fit bodies (Cohen et al., 2015). Additionally, this has a favorable effect on physiological and anthropometric health indicators in children who are obese or of normal weight (Byl & Kloet , 2014; Goldfield et al., 2012; Lambrick, Westrupp, Kaufmann, Stoner, & Faulkne, 2016).

An key predictor of teenagers' present and future health is their level of physical fitness (Rubín et al., 2017). A multitude of factors, including age, gender, BMI, waist size,

hypertension, and diabetes mellitus, lead to decreased physical fitness (Juliansyah et al., 2021). Furthermore, there is a link between the body mass index (BMI) of senior people and their age, gender, and BMI-based measures of physical fitness (Oktriani et al., 2020), dietary intake and physical activity (Erliana & Hartoto, 2019; Hartanti & Mawarni, 2020), and sleep quality (Gunarsa & Wibowo, 2021), overweight (Galan-Lopez et al., 2020). Additionally, environmental factors, food, and physical health have an impact on aging-related quality of life (Lu et al., 2018; Nikolaidis et al., 2019). The effects of diminishing physical fitness will be discussed after a review of physical fitness based on prior studies.

Another study by Oktaviani & Wibowo (2021) claimed that academic success and students' emotional health can be impacted by physical fitness. Given that PJOK is a required subject in the elementary, middle, and high school settings, this justification has demonstrated the significance of physical fitness for pupils (Rubiyatno & Suryadi, 2022). Therefore, this should receive special attention from PJOK teachers in learning at school. Where doing learning at school can actually provide an increase in physical fitness (Oktaviani & Wibowo, 2021), where physical fitness is closely related to student achievement (Mendes et al., 2022). Based on this explanation, it is important to know students' physical fitness, because this can be an illustration for providing suitable exercises for students.

Students' physical fitness issues were still not being tracked, according to the findings of a preliminary investigation through extracurricular teacher interviews. This statement is reinforced by Suryadi (2022) extracurricular activities that have been carried out do not have clear goals and objectives. In addition, PJOK teachers only focused on extracurricular exercise programs, but had never conducted physical fitness tests on students. Furthermore, futsal and soccer are sports that have similarities in play. Apart from the game, futsal and soccer also require good physical condition, This statement is reinforced by Supriatna et al. (2023) that a good physique is indispensable to the success of the game. However, seeing the difference in the fields used, of course this is also a question of whether there are differences in the level of fitness possessed in the sport of the game. Although previous research by Suryadi (2022) has made comparisons of physical fitness, researchers have not found a study that compares physical fitness from different cities and schools. Therefore, this research is one of the gaps as well as the

reason why this study is important. The purpose of this study is to compare the physical fitness levels of extracurricular soccer and futsal players.

METHOD

Study Design and Participants

The Indonesian Physical Fitness Test (TKJI), administered to extracurricular football and futsal student aged 13 to 15, is used in this research method, which takes a quantitative approach through surveys. Male pupils who participated in extracurricular football at State Junior High School 3 Sukadana, Kayong Utara Regency, and boys The study's subjects were students at Madrasah Tsanawiyah state 1 Pontianak who took part in extracurricular futsal. Applying a purposive sampling strategy to collect the sample, 20 futsal extracurricular students and 20 soccer extracurricular students were obtained.

Research Instruments

The Indonesian Physical Fitness Test (TKJI), which assesses students' physical fitness between the ages of 13 and 15, was the test tool employed in this study. (Doewes et al., 2022), which included a 50-meter sprint test, a 1000-meter long-distance running test, a 60-second lying test, a body lifting test, and an upright jumping test.

Table 1. TKJI norms for ages 13-15

Rate	Classification
22 -25	Excellent
18 -21	Good
14 -17	Medium
10 -13	Poor
5 -9	Very Poor

Data Analysis

Descriptive percentages were used in the data analysis for this study. It tries to assess how much physical activity outside of class football and futsal players engage in (Serrano et al., 2021). Additionally, to identify differences between the use of the SPSS version 26 application and an independent t test.

RESULTS

The following table provides a detailed description of the data recording of the sample's physical fitness assessment based on the study's findings. Table 2 displays the outcomes.

Table 2. Descriptive Value Results

Physical fitness	N	Min.	Max.	Means	std. Deviation
Soccer Extracurricular	20	13.00	18.00	15.10	1.44
Futsal extracurricular	20	9.00	15.00	11.72	1.48

According to table 2's findings, the average physical fitness level for soccer extracurriculars is 15.1, whereas the average for futsal extracurriculars is 11.72. These findings indicate that the extracurricular football average score is higher than the extracurricular football average.

Table 3. Shapiro-Wilk Normality Test

		Statistics	df	Sig.
Physical fitness	Soccer Extracurricular	.910	20	.065
	Futsal extracurricular	.941	20	.246

The Shapiro-Wilk test formula was employed to carry out the essential normality test before the differential test. According to the findings, futsal extracurricular has a significance value of 0.246 and 0.65 for extracurricular soccer, respectively. These results support the notion that the data is regularly distributed. Table 3 displays the outcomes.

Table 4. Test of Homogeneity of Variance

		Levene Statistics	df	df2	Sig.
Physical fitness	Based on Means	.137	1	38	.713

In Table 4, the homogeneity test, a significant result of 0.713 > 0.05 is displayed. The findings show that the data are homogeneous. The Independent Samples Test formula will then be used in this study to conduct a separate test.

Table 5. Independent Samples Test Difference Test

		F	t	df	Sig. (2-tailed)
Physical fitness	Equal variances assumed	.137	7,231	38	.000
	Equal variances not assumed		7,231	37,978	.000

The findings of the study's t test, which was conducted after the precondition test, revealed a significance value of 0.000 0.05. These findings support the notion that the level of physical fitness required for futsal extracurricular, and soccer is significantly different. Table 5 is a listing of the outcomes. In this approach, the data demonstrates that students who play extracurricular soccer have higher physical fitness levels than students who play extracurricular futsal.

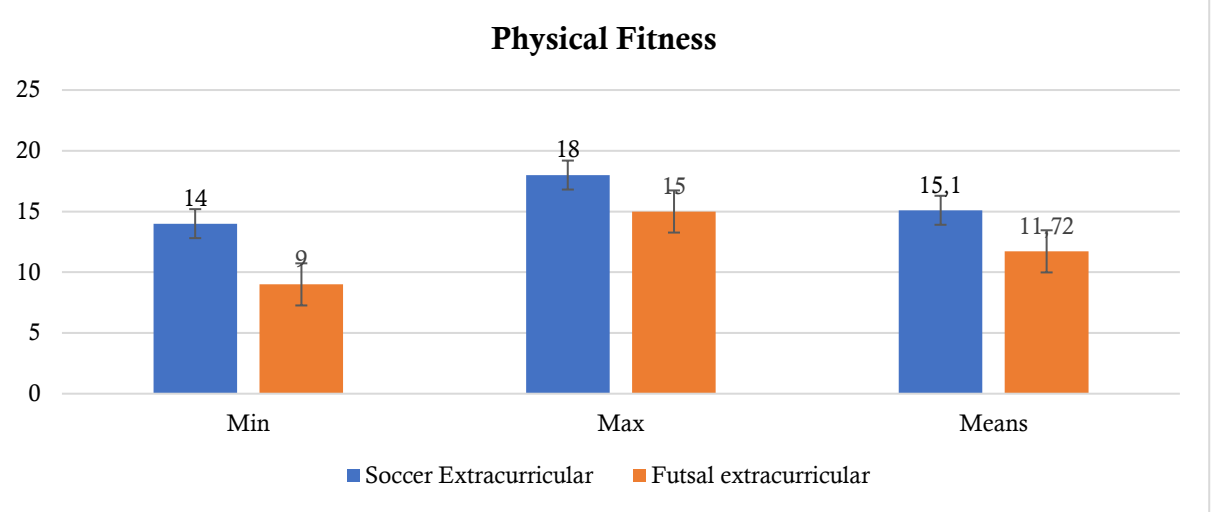

Figure 1. Comparison of Football and Futsal Extracurricular Physical Fitness

DISCUSSION

The purpose of this study is to compare the physical fitness levels of extracurricular soccer and futsal players. The findings revealed that the level of physical fitness in the soccer extracurricular varied by a mean (15.1) in the medium category and in the futsal extracurricular category, which was 11.72 in the less category. The results of the research also show that the differences that occur are significant, and the results of the t count are greater than the t table. Previous relevant research has proven that there is a difference in cardiorespiratory endurance where soccer extracurriculars are better than futsal (Cejudo et al., 2021). There is a significant difference *in physical performance* in football and futsal extracurricular students (Sevin et al., 2022).

Other studies comparing basketball and futsal extracurriculars obtained the results that there were differences in the average value of physical fitness between basketball and futsal extracurriculars (Magno et al., 2020). According to the study done by Miguel (2021) the results obtained significant differences in the physical fitness of basketball and futsal. Research by Sebayang & Hasibuan (2020) found a significant difference between students who took part in extracurricular sports and those who did not take part in extracurricular sports. These results were reinforced by Bahari, Hanief, & Junaedi (2020) in their research that futsal extracurriculars were in the moderate category. Furthermore, research conducted on health students showed less (Maliqi et al., 2022), and also Physical Education students (Panchuk et al., 2022), as well as highland junior high school students (Firmansyah et al., 2021).

These results indicate a low level of physical fitness, therefore the need for various methods to maintain physical fitness. Exercising regularly turns out to have a good influence on maintaining physical fitness (Ruiz-Pérez et al., 2021). Several studies have proven that physical activity through gymnastics can improve physical fitness (Arifin, 2018; Fitri et al., 2020; Mulyadi & Rifki, 2021; Sujoko & Saputra, 2021). A study by Fromel et al. (2022) in his research proved that circuit training and interval training had an effect on the physical fitness of high school futsal extracurricular students. It turns out that physical fitness can be improved with weight training exercises (Suryadi et al., 2021). These findings show that sports-related physical exercise can be used to maintain and advance physical fitness. As a result, it's vital to assess pupils' physical fitness level using a fitness test.

According to certain studies, non-communicable diseases can emerge as a result of poor physical fitness (Lavie et al., 2019), Consequently, cardiovascular disease is a dangerous cause of death (Vancampfort et al., 2019; Zhao et al., 2019). Similar thing said by Saputra & Riyoko, (2023) that physical fitness is very important in daily life.

CONCLUSION

Based on the references provided in the results of the discussion, the findings of this study have a solid foundation regarding disparities in levels of physical fitness in football and futsal extracurricular students aged 13–15 years. This study demonstrates that the typical degree of physical fitness among students participating in futsal and soccer as extracurricular activities differs. The study's findings demonstrated that the extracurriculars of futsal and soccer had significantly different levels of physical fitness. These findings undoubtedly offer an additional perspective on physical fitness, and it is hoped that they will aid coaches and teachers in maintaining the physical fitness of their pupils who participate in extracurricular activities. The development of suitable training programs for kids between the ages of 13 and 15 is encouraged, particularly in terms of enhancing physical preparedness for soccer and futsal.

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CONFLICT OF INTEREST

The author officially certifies that there are no conflicts of interest with any party with respect to this research.

AUTHOR'S CONTRIBUTION

Didi Suryadi is the lead author of this study responsible for all writing processes. Mikkey Anggara Suganda interprets data analysis from statisticians. Makan Sacko and Y Touvan Juni Samodra contributed to the interpretation and drew conclusions. Eka Supriatna, Rubiyatno, and Isti Dwi Puspita Wati helped produce and Ardo Okilanda revise and refine data analysis.

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