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Comparison Of Physical Fitness Levels Of High School Futsal Extracurricular Students In Regency And Mojokerto City

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Abstract: Physical fitness is something that must belong to each person, because with a good physical body, someone will not feel tired when performing daily activities. With extracurricular activities can improve the quality of physical training, especially of students. In Mojokerto, the neighborhood and the city devoted to extracurricular futsal activities lag far behind other cities, in this case the study focused on fitness based on vo2max predictions of extracurricular futsal students. This study aimed to determine the MFT of students participating in extracurricular futsal activities at Mojokerto Regency, determine the MFT of students participating in extracurricular school futsal activities. The Mojokerto City course, determined a significant difference in the MFT of students participating in extracurricular futsal at Mojokerto Regency High School and Mojokerto City High School. The method used in this study is comparative using a comparative study design. Data collection technique using purposeful sampling. And analyze the data with statistical analysis. In this study, it was conducted at the high schools of Mojokerto Regency and City, each of the two. From the above results, it can be concluded that the VO2max ability of extracurricular futsal students using MFT shows that SMA Mojokerto Regency is better than SMA Mojokerto City.

Keywords: Physical Fitness; Futsal; High School Student

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INTRODUCTION

Physical Education is an educational activity by carrying out various educational programs with predetermined directions and procedures as a reference that can be used as a guide in developing student skills and making students feel happy in carrying out educational activities, with these activities will obtain physical and mental health, as well as social development can be created by the association between students when carrying out educational activities (Corbin, 2021). Sports achievement development requires special attention to physical condition and physical fitness. An important part of the physical condition training process is understanding and applying good knowledge in coaching and training. Optimal physical condition is the main factor in achieving good sports performance. Physical activity carried out by individuals can affect their level of physical fitness (Dewi, 2016). The maximum volume of oxygen (Vo2max) is the maximum ability to take up oxygen in the body that is processed optimally. The more oxygen that can be absorbed by the body, the better the performance of the muscles in absorbing waste substances that cause the body to become tired, so that if a person has a high Vo2max then that person has the stamina to be able to carry out more activities before

the body becomes tired (Millah, 2020).The importance of maintaining the physical fitness of an athlete is the responsibility of the athlete. The coach only supports the athlete's training program. However, the awareness of each athlete towards himself in order to achieve maximum performance is very important. This is done as material for evaluating a coach's training program and to control the physical fitness conditions of each athlete (Bile & Suharharjana, 2019). Futsal is a sport that has very high intelligence, apart from that futsal must also have very good physical fitness abilities, this can improve the quality of futsal games between players (Sela, 2023). To achieve optimal sports performance, structured and measurable coaching and training is needed. Optimal physical condition plays an important role in achieving good performance in sports. In principle, the game of futsal has similarities with the game of football, in which both involve the application of game techniques, physical conditions and strategies. Both futsal and football have the same goal, which is to score as many goals as possible. To achieve this goal, technical aspects, physical condition and strategy are very important key factors. There are three main factors that determine the outcome of the game, namely physical condition or level of physical fitness, technical expertise or skills, and environmental factors that influence the game (Mahfud et al., 2020)

To achieve optimal sports performance, structured and measurable coaching and training is needed. Optimal physical condition plays an important role in achieving good performance in sports. For an athlete who wants to achieve high achievements in sports competitions, excellent physical condition and in accordance with the demands of the sport being undertaken is very important (Yuliandra et al., 2020). In the sport of futsal, a physical condition really needs components of physical fitness related to health and movement abilities as body endurance. According to (Armadhani & Gigih, 2022) physical fitness is the ability of the body to be able to place the tasks of each body's organs towards a certain motion load as well as to environmental conditions that must be handled efficiently immediately, without causing excessive fatigue and being able to recover perfectly before the arrival of a similar task the next day (Suryadi et al., 2021). Futsal is a sport that requires tactics, special techniques and physical condition which are above the average person in general. The components of fitness needed are speed in movement, body strength in doing futsal games and movement agility with a relatively long time. So one must have good fitness condition (Litardiansyah & Hariyanto, 2022)

In supporting the achievement of futsal achievements there are several important factors that must be prepared, such as components of physical fitness, and basic techniques to support futsal games in the matches held. The main component in supporting the creation of team cohesiveness in a match with the hope of winning a match and competition that is participated in by the school concerned. In this problem, the problem is created to support the achievement of school achievement in the sport of futsal, the authors compare physical fitness based on the VO2max predictions of school students in Mojokerto to find out how good the level of physical fitness of students is based on VO2max predictions in high schools in Mojokerto, both in the city and in the district. In determining the population, the author visited schools in the Regency and City of Mojokerto, for SMAN 1 Bangsal the sports teacher was not allowed because the futsal field was renovated for this reason futsal extracurricular activities were temporarily closed, then for SMAN 3 Mojokerto City it was not allowed by extracurricular coaches because only 10 students attended the exercise, for schools that allowed and met the criteria for the prerequisites to be used as research samples, namely SMAN 1 Puri, and SMAN 1 Mojosari for high schools in Mojokerto Regency, while for high schools in Mojokerto City, namely SMAN 1 Mojokerto City, and SMAN 2 Mojokerto City.

To test the level of physical fitness of students, the author uses the Multistage Fitness Test (MFT) submitted to the sports measurement test book (Pasaribu, 2020). MFT aims to measure the maximum level of heart and lung function, this can be seen when carrying out tests, the body will take maximum oxygen into the body to support the body's activity needs in carrying out test activities efficiently and optimally (Armadhani & Gigih, 2022). Multistage Fitness Test , this test is one of the most accurate tests for measuring and predicting the level of vo2max in an athlete's body, and can determine the intensity that is suitable for athletes in compiling an optimal training program (Paradisis et al., 2014).

METHOD

Comparative research approach which is carried out in each field in each school that has been determined by the author (Mahendra & Hidayat, 2020). The sample selection used a purposive sampling technique . The sample that will be the object of a study is part of the existing population, namely male students who take part in the futsal extracurricular at the school as many as 15 students from SMAN 1 puri, 15 students from SMAN 1 Bangsal, 15 students from SMAN 2 Kota Mojokerto , and 15 students from SMAN 1 Kota Mojokerto. All male gender from each school, the number of students tested must meet the sample requirements specified in the written rules. In this study, the researcher used a comparative design by carrying out interval frequency data types with statistical analysis to test the normality of the data using Chi-Square testing , then continued with the homogeneity test with ANOVA, then to find out the differences continued with the T independent sample test . In this study, researchers used the SPSS version 27 application to process data (Maksum, 2018).

RESULT AND DISCUSSION

Result

From the data obtained it shows that out of a total population of 60 students, the average MFT test result from students participating in high school futsal extracurricular activities in Mojokerto Regency was 42.81, for the std. deviation was 6.01 with a range of 32.4 — 55 .7 then for the average MFT results of students who took part in the test was 39.46 then the value obtained for the std. deviation was 5.68 with a range of 28.7 — 49.3. In this context, the following are the results of data analysis obtained from MFT research data that has been carried out by futsal extracurricular students at high schools in the City and Regency of Mojokerto. Furthermore, the results of the MFT data were processed statistically to prove the hypothesis mentioned above. The following are a number of tests that must be carried out to find out the results of hypothesis testing in the analysis of this study, namely:

One of the things used to determine the normality of this research data is using a normality test based on statistics "One Sample Kolmogorov-Smirnov Test" in the IBM Statistical Product and Service Solutions (SPSS) program for windows v. 27, if the test results are significant (Significant more than 0.05) then they are normally distributed. The results of the normality test calculations can be seen in the following table:

Table 1. Normality Test

No.	Variable	P Value	Significant	Ket
1.	SMA in Mojokerto Regency	0.336	0.05	Normal
2.	SMA in Mojokerto City	0.627	0.05	Normal

The results of the table above state that all data from students who took part in the high school futsal extracurricular in Mojokerto Regency was normally distributed with a P value of 0.336, while students who took part in high school futsal extracurricular in Mojokerto City had a normal distribution with a P value of 0.627. based on the testing criteria the data is said to be normal if (P Value > Significant) it can be concluded that the overall distribution is normally.

Homogeneity test is needed to indicate differences in variance . In this observation, the homogeneity test was used to determine the variant form of the student population participating in futsal extracurricular activities in the city and district of Mojokerto.

Table 2. Homogeneity Test S

No.	Variable	N	Leven statistics	Significant
1.	SMA in Mojokerto Regency	30	0.067	0.796
2.	SMA in Mojokerto City	30		

From the results of the table listed, it can be concluded that the F-count value is 0.067 and the significance is 0.796. Data will be considered significant if the significance value exceeds 0.05 (p > 0.05). Therefore, it can be concluded that the data on the level of physical fitness of students participating in futsal extracurricular activities at senior high schools in the city and district of Mojokerto are homogeneous.

Table 3. Independent Samples Test

No.	Variable	N	Different Means	DF	T-Count	Significant
1.	SMA in Mojokerto Regency	30	3,350	58	2,216	0.031
2.	SMA in Mojokerto City	30				

The results of the calculations as contained in the table above are to obtain information regarding the comparison of the results of physical fitness levels between students who take part in futsal extracurricular activities at high schools in the city and district of Mojokerto with a significant value of 0.031, the data is said to have a significant difference if the significant value is less than 0 .05 (F < 0.05). So in these data there is a significant difference between high schools in Mojokerto Regency and high schools in Mojokerto City.

Discussion

Based on the data that has been presented, it can be explained the differences in the level of physical fitness between students who take part in futsal extracurricular activities in Mojokerto Regency and Mojokerto City. The results of the analysis using IBM SPSS for Windows v.27 show that there is a significant difference in the level of physical fitness between the two groups, with the average value of the physical fitness level of students participating in futsal extracurricular activities in Mojokerto Regency of 42.81, while students participating in Futsal extracurricular activities in Mojokerto City have an average score of 39.46. In addition, the significance value of the data reached 0.031, indicating a significant difference between the two groups in terms of physical fitness level.

Based on the data above, it can be explained that the level of physical fitness between students who take part in futsal extracurricular activities at high schools in the district and in the city of Mojokerto has a significant difference in the level of physical

fitness. In terms of achievement, SMA in the district is superior to SMA in Mojokerto city. In addition to having good physical condition, the district futsal team also has good team cohesion, mentality and skills, so it's not surprising that they often win. But based on the results of observations of the differences between the two teams there are significant differences. This is because schools in Mojokerto Regency carry out futsal extracurricular activities twice a week, while schools in Mojokerto City only once a week. physical fitness based on the vo2max predictions of each student. In order for VO2max to increase, consistency in training and continuous progress in each session needs to be maintained. Through a well-planned and sequential training program, individual fitness levels can be maximize (Kong et al., 2016).

This study shows that the VO2max ability of extracurricular futsal students in Mojokerto district is superior to students in Mojokerto city. This conclusion is supported by various research findings highlighting the importance of cardiovascular endurance in futsal players, which is influenced by training intensity and body composition. The cardiovascular endurance of students involved in extracurricular futsal activities is generally low, suggesting the need for a better training regimen (Anwarul Fadli & Hariyoko Hariyoko, 2023). Comparative Analysis Research comparing different high schools suggests that students from Mojokerto district high schools may have better training conditions or more effective coaching strategies, leading to superior VO2max results (Muzakki & Hariyoko, 2023; Zubaida et al., 2024). The body mass index (BMI) of participants also plays a role, as those with an ideal BMI tend to show better cardiovascular endurance (Anwarul Fadli & Hariyoko Hariyoko, 2023). While the findings show clear advantages for Mojokerto district high schools, it is important to consider that variations in training intensity, student motivation, and extracurricular support could significantly influence these results. Further research could explore these factors in more depth.

CONCLUSION

Based on the results of the research on the title "differences in the level of physical fitness of futsal extracurricular students based on vo2max predictions between high schools in Mojokerto Regency and high schools in Mojokerto City" it can be concluded as follows, first in this study researchers determined the condition and level of physical fitness of students from high schools in Mojokerto Regency with an average test result of 42.81. Second, in this study the researchers determined the condition and level of physical fitness of high school students in Mojokerto City with an average test result of 39.46. Third, after carrying out the research there was a significant difference between students who took part in futsal extracurricular between high schools in the Regency and City of Mojokerto on the level of physical fitness of students who took part in futsal extracurricular based on the vo2max prediction. The physical fitness level of futsal extracurricular students based on vo2max predictions from high schools in Mojokerto Regency is higher than high schools in Mojokerto City, this is evidenced by the average difference value of 3.35.

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CONFLICT OF INTEREST

Clearly explain whether there are any conflicts of interest related to the reported research.

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