

Profile of the Physical Condition of Football Extracurricular Participants at the Senior High School/Vocational High School Level in Doro District, Pekalongan Regency

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Abstract

Good performance in a soccer game is strongly supported by the physical condition of the players to be able to perform various movements. Players who have good physical condition can show optimal performance during the match. This study aims to determine the physical condition profile of extracurricular soccer participants at the SMA / SMK level in Doro District, Pekalongan Regency. Physical condition is an important aspect of athlete performance, especially in the sport of soccer which demands speed, strength, agility, endurance, and flexibility. The research method used was descriptive quantitative with a survey approach. The sample in this study were all active soccer extracurricular participants from three schools (SMA Negeri 1 Doro, SMK Ma'arif NU Doro, and SMK Muhammadiyah Doro) total of 42 students, taken using the total sampling technique. The instrument used was the Indonesian Physical Fitness Test (TKJI), including 60-meter sprint, pull-ups, sit-ups, vertical jump, and 1200-meter run. The results of the analysis showed that most participants had physical conditions in the moderate category (73.81%), followed by the less category (23.81%), and good (2.38%). From the conclusion, it is recommended to increase the variety and intensity of physical exercise in extracurricular programs to improve students' physical performance.

Keywords: extracurricular; indonesian physical fitness test; physical condition; senior high school; soccer; vocational high school.

1. Introduction

Physical condition is a fundamental aspect of football. Several key components of physical condition that contribute to football performance include endurance, strength, speed, agility, and flexibility. Endurance is required to maintain performance throughout a long match. Muscular strength helps players perform various movements such as kicking, jumping, and tackling. Speed is needed to move quickly when chasing the ball or passing opponents. Agility is the ability to change body position quickly and accurately (Khilmi & Sudarmono, 2023). Agility allows players to move swiftly and efficiently within limited space. Flexibility is essential to prevent injuries and to maximize the range of motion (Bafirman & Wahyuri, 2018).

The contribution of physical condition to football achievement is highly significant. A good physical condition plays a crucial role in achieving football performance. Training for physical fitness components is an important part of the development process. It must be achieved through continuous and systematic development to reach the desired training goals (Bhakti & Adi, 2022).

Players with excellent physical condition tend to have better endurance, strength, and speed, allowing them to perform optimally during matches. Moreover, well-developed physical fitness also reduces the risk of injury that could hinder performance. Therefore, a structured and measurable physical training program is key to improving players' physical abilities and supporting achievement (Ridwan, 2020).

Extracurricular activities are activities conducted outside of regular class hours, which can take place either inside or outside the school (Rohmantunisa, Wahyudi, & Yudasmara, 2020). Among the many extracurricular programs available, sports—particularly football—are the most popular among students. The high interest in football extracurricular activities cannot be separated from the sport's popularity among teenagers and its benefits for improving physical fitness.

Football extracurricular programs at schools can serve as a platform for students to develop their physical condition. Through regular training, students can improve physical components such as endurance, strength, agility, and flexibility. Additionally, participation in football extracurricular activities can promote an active and healthy lifestyle among students. Thus, football extracurricular activities not only improve playing ability but also contribute to developing students' overall physical condition (Amin, 2018).

Football is one of the most popular sports, whether as entertainment, physical fitness activity, or as a competitive pursuit to represent a village, region, or nation. Football is a team game, and therefore teamwork is essential for any team that aims to win. Victory in football can only be achieved through good team cooperation. Modern football has experienced significant progress and rapid development in various aspects, including physical condition, technique, tactics, and players' mental strength (Maulana, 2020).

Achieving good performance in football must be supported by mastery of basic football techniques (Firmansyah, Sudarmono, & Annas, 2024). To achieve maximum performance in a particular sport, athletes must pay attention to several determining factors. These factors include: (1) physical condition or fitness level, (2) technical accuracy or skill mastery, and (3) environmental factors (Dahlan et al., 2020).

Physical training and sports activities are systematic activities performed over a long period, progressively and individually increased, targeting specific physiological and psychological characteristics of humans to achieve predetermined goals. It is evident that reaching peak performance requires a long process and persistent effort according to the demands of the sport (Febi & Rifki, 2020). Improving all aspects of physical condition must be done with appropriate training loads neither too heavy nor too light to ensure continuous and optimal development (Haloho & Sudarmono, 2021).

Junaidi (2020) explains that physical condition serves as the most dominant basic preparation for performing at maximum physical capacity. The basic components of physical condition from a muscular perspective include endurance, strength, explosive power, speed, flexibility, agility, balance, and coordination. From a metabolic perspective, it consists of aerobic and anaerobic capacity.

Research conducted by Weda (2021) revealed that the importance of physical condition components greatly influences and supports football performance. The physical components developed to meet the demands of football are extensive. Studies on physical components have been carried out for various football techniques, but the most commonly examined components are general physical attributes such as strength, flexibility, speed, endurance, and anthropometric aspects such as arm and leg length.

There are three high schools/vocational schools in Doro Subdistrict, namely SMA Negeri 1 Doro, SMK Ma'arif NU Doro, and SMK Muhammadiyah Doro. Based on preliminary observations, football extracurricular activities in these schools are quite popular among students. The program is coached by a trainer from a local football school (SSB) in Doro Subdistrict, Pekalongan Regency. The coach has no difficulty delivering various materials related to football training. Football extracurricular activities are held every Saturday from 15:00 to 17:00 WIB, covering materials such as basic techniques, tactics, strategies, mental preparation, and physical conditioning. Each year, students participate in district-level competitions such as POPDA and LPI, although they have not yet achieved championship titles, mainly because many players are not physically competitive with other teams.

It was found that in these schools, football extracurricular training mainly focuses on technique and strategy. From the coach's perspective, students' technical, tactical, and mental aspects are already good; however, their physical condition is still below expectations. This physical limitation has affected players' performance. The coach has never conducted a physical condition test to determine the students' fitness profiles. It is important to note that the physical condition of each student differs, including among those participating in the football extracurricular program.

Based on these findings, this study was conducted under the title "Profile of the Physical Condition of Football Extracurricular Participants at the Senior High School/Vocational High School Level in Doro Subdistrict, Pekalongan Regency." It is expected that this research can serve as an evaluation material to improve the physical condition of football extracurricular participants at the high school/vocational high school level in Doro District, Pekalongan Regency.

2. Method

This research uses a quantitative study design, specifically a descriptive quantitative or non-experimental method. A non-experimental design is an approach in which the researcher does not have the possibility to manipulate or control variables that may play a role in the occurrence of phenomena, because the observed signs have already occurred (Sugiyono, 2017). This is because this research aims to identify the physical condition profile of students participating in football extracurricular activities at the high school/vocational school level in Doro District, Pekalongan Regency.

The research design used is a survey research design. This research is a descriptive quantitative study using a survey strategy; therefore, in this stage of the study, no hypothesis is formulated (Sugiyono, 2017). This research aims to describe the physical condition profile of students participating in football extracurricular activities at the high school/vocational school level in Doro District, Pekalongan Regency.

Population, Sample, and Sampling Technique

The data in this research come from the entire group of subjects to be studied, commonly referred to as the population. According to Sugiyono (2017), the population is a generalization area consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and from which conclusions are drawn. The population in this study consists of students participating in football extracurricular activities at the high school/vocational school level in Doro District, Pekalongan Regency, totaling 42 people. This number was taken from three schools located in Doro District.

A sample is a portion of the population to be studied so that it can represent the total population. The sample in this study was determined according to inclusion criteria. The sample in this study consists of 42 active students participating in football extracurricular activities at the high school/vocational school level in Doro District, Pekalongan Regency.

Sampling is a method used to obtain an appropriate sample representing the entire population. The sampling technique used in this study is total sampling, in which all members of the population are included as samples. This means that all 42 active students participating in football extracurricular activities at the high school/vocational school level in Doro District, Pekalongan Regency, were used as the research sample (Arikunto, 2016).

The sampling technique in this study uses total sampling, which is a sampling method where the number of samples equals the population (Sugiyono, 2017).

Operational Definition of Research Variables

The operational variables used in this study include:

Physical Condition

Physical condition is a state in which the body is able to perform its daily tasks efficiently without significant fatigue and still has reserves to deal with sudden emergencies or to enjoy leisure time with active recreation (Pratama & Winarno, 2022). The indicators of physical condition levels include:

- a. Speed: 60-meter sprint
- b. Arm Muscle Strength: Pull-ups (60 seconds)
- c. Abdominal Muscle Endurance: Sit-ups (60 seconds)
- d. Explosive Power: Vertical jump
- e. Aerobic Endurance: Long-distance running (1200 meters)

Validity and Reliability of Research Instruments

Data validity is determined by the estimation process used, assuming that an instrument measures what it is intended to measure. Thus, the measuring instrument is said to have high effectiveness. The Pearson correlation is used to determine validity. The steps in testing the validity of each statement are that the calculated r value must be higher than the r table value. If the calculated r value is lower than the r table, it means the item has a lower relationship with other items being tested, and therefore, it is declared invalid (Ghozali, 2016).

Reliability testing is used to measure the level of accuracy or precision of the measuring instrument. Reliability refers to the consistency of the instrument used. The reliability of the instruments in this study is tested using Cronbach's Alpha. A variable is considered reliable if the Cronbach's

Alpha value is greater than 0.6. Conversely, if the coefficient is lower than 0.6, the instrument is considered unreliable for research use (Ghozali, 2016).

Data Collection Technique

Data collection techniques are steps aimed at uncovering facts about the variables studied (Rukajat, 2018). Data can be collected from primary or secondary sources. Primary sources provide data directly to the researcher, while secondary sources provide data indirectly.

This study collected data from primary sources using a physical condition test instrument. The basic physical ability test aims to measure an individual's fundamental physical abilities typically used in daily activities. The components of physical condition are divided into general physical condition and combined physical condition. General physical condition includes strength, speed, flexibility, and endurance, while combined physical condition includes explosive power, agility, speed endurance, and strength endurance. To determine the physical condition value, each component is measured. This study aims to determine the physical condition profile of students participating in football extracurricular activities at the high school/vocational school level in Doro District, Pekalongan Regency.

Data Analysis Technique

After all data have been collected, the next step is to analyze them so that conclusions can be drawn. The two data analysis techniques used in this research are as follows:

1. Normality Test

The normality test aims to determine whether the data distribution is normal. The test depends on the variable being processed. The normality test used is the Shapiro-Wilk Test, as the sample size is less than 50, and the test will be performed using the SPSS 26 software. The rule used to determine normal distribution is: if $p > 0.05$, the data are normally distributed.

2. Descriptive Statistics

This research uses a descriptive approach to provide a description of the physical condition profile of students participating in football extracurricular activities at the high school/vocational school level in Doro District, Pekalongan Regency. The results of each measurement test are presented in numerical form; thus, the data are quantitative. The collected data are categorized based on physical condition norms for athletes. The processed data are used to obtain the mean, maximum, and minimum values to describe the physical condition profile of students participating in football extracurricular activities at the high school/vocational school level in Doro District, Pekalongan Regency.

3. Result and Discussion

Prerequisite Test Results

Normality Test

The normality test used in this study was the Kolmogorov-Smirnov test, considering that the number of samples was more than 50. This test was conducted to determine whether the data were normally distributed or not. The data are considered normal if the p-value or probability value is greater than 0.05 ($p > 0.05$). The results of the normality test in this study can be seen in Table 4.2 below.

Table 1. Normality test

Data	Sig. Value	Description
Physical Condition of Football Extracurricular Participants at the High School/Vocational School Level in Doro District	0,131	Normal

Source: Primary data processed, 2025

Based on Table 1 regarding the normality test results, the probability or significance value of the physical condition of football extracurricular participants at the High School/Vocational School level in Doro District, Pekalongan Regency, is 0.131. This means that the significance value is greater than 0.050, so it can be concluded that the data on the physical condition of football extracurricular participants in this study are normally distributed.

Homogeneity Test

The data variance homogeneity test used the Test of Homogeneity of Variance. This test aims to determine whether several population variances are equal or not. The criterion used is that if the significance value is greater than 0.05, the variances of two or more data groups are considered equal. In this study, the homogeneity test was carried out using SPSS version 26. Based on the data analysis results, the findings are as follows:

Table 2. Homogeneity test

Data	Sig. Value	Description
Physical Condition of Football Extracurricular Participants at the High School/Vocational School Level in Doro District	0.794	Homogeneous

Source: Primary data processed, 2025

Based on Table 2, the homogeneity test results show a Sig. value of 0.794, meaning that the data in this study are overall homogeneous, as the probability value is greater than 0.05.

Descriptive Analysis

The descriptive statistical analysis aims to provide an overall overview of the data collected during the study. The descriptive data include the total score values consisting of the mean, median, standard deviation, lowest score, and highest score of the physical condition of football extracurricular participants at the Senior High School/Vocational High School level in Doro District, Pekalongan Regency. The results were obtained through physical condition tests conducted on 42 samples. The quantitative description of the physical condition of football extracurricular participants at the Senior High School/Vocational High School level in Doro District, Pekalongan Regency, can be seen in Table 4.4 below.

Table 3. Descriptive analysis

Data	60 m Sprint	Pull-Up	Sit-Up	Vertical Jump	1200 m Run
Mean	10.07	8.81	34	71	7.27
Median	10.03	8.50	34	70	7.26
Std. Deviation	0.9613	2.442	4.924	4.736	0.730

Minimum	8.06	4	26	59	5.40
Maximum	12.25	13	44	79	8.58

Source: Processed data, 2025

Based on Table 3, the descriptive analysis results were obtained from the physical condition test scores of football extracurricular participants at the Senior High School/Vocational High School level in Doro District, Pekalongan Regency. The 60-meter sprint test recorded an average score of 10.70, a median of 10.7, a standard deviation of 0.9613, a minimum score of 8.06, and a maximum score of 12.25. Second, the pull-up (upper-body strength) test showed an average score of 8.81, a median of 8.50, a standard deviation of 2.442, a minimum score of 4, and a maximum score of 13. Third, the sit-up (abdominal muscle strength) test had an average score of 34, a median of 34, a standard deviation of 4.924, a minimum score of 26, and a maximum score of 44. For the vertical jump test, the average score was 71, the median 74, the standard deviation 4.736, the minimum score 59, and the maximum score 79. Finally, in the 1,200-meter running endurance test, the average completion time was 7.27 minutes, with a median of 7.26, a standard deviation of 0.730, a minimum time of 5.40 minutes, and a maximum time of 8.58 minutes.

Physical Condition Level

Based on the previous tests, the data were found to be normally distributed and homogeneous; therefore, the next analysis conducted was a descriptive statistical analysis of the physical condition level of football extracurricular participants at the Senior High School/Vocational High School level in Doro District, Pekalongan Regency, using SPSS version 26.

The first physical test was the 60-meter sprint, as shown in the following table:

Table 4. Speed level (60-meter sprint)

Category	Frequency	Percentage (%)
Very Good	0	0
Good	1	2.4
Average	13	31
Poor	23	54.8
Very Poor	5	11.9
Total	42	100

Source: Processed data, 2025

Based on Table 4, the results show that the number of participants classified as Good in the 60-meter sprint was 1 person (2.4%), which is the lowest percentage. Meanwhile, 23 participants (54.8%) fell under the Poor category, representing the highest percentage in the 60-meter sprint speed measurement.

Table 5. Arm muscle strength (pull-up)

Category	Frequency	Percentage (%)
Very Good	0	0
Good	0	0
Average	21	50
Poor	20	47.6
Very Poor	1	11.9
Total	42	100

Source: Processed data, 2025

Based on Table 5, the results show that the number of participants classified as Very Poor in the pull-up test was 1 person (11.9%), which is the lowest percentage. Meanwhile, the Fair category was the most frequent, with 21 participants (50%) achieving this classification in the arm muscle strength test.

Table 6. Abdominal muscle strength (sit-up)

Category	Frequency	Percentage (%)
Very Good	6	14.3
Good	28	66.7
Average	6	19
Poor	0	0
Very Poor	0	0
Total	42	100

Source: Processed data, 2025

Based on Table 6, the results show that 6 participants (14.3%) were classified as Very Good, the lowest number in this test, while 28 participants (66.7%) fell under the Good category, representing the highest percentage in the sit-up test measuring abdominal muscle strength.

Table 7. Explosive power (vertical jump)

Category	Frequency	Percentage (%)
Very Good	18	42.9
Good	23	54.8
Average	1	2.4
Poor	0	0
Very Poor	0	0
Total	42	100

Source: Processed data, 2025

Based on Table 7, the results show that only 1 participant (2.4%) fell into the Fair category, representing the lowest proportion. Meanwhile, the majority of participants 23 people (54.8%) were classified as Good in the vertical jump test, indicating strong lower-body explosive power.

Table 8. Endurance level (1.200-meter run)

Category	Frequency	Percentage (%)
Very Good	0	0
Good	0	0
Average	7	16.7
Poor	11	26.2
Very Poor	24	57.1
Total	42	100

Source: Processed data, 2025

Based on Table 8, the results show that 7 participants (16.7%) were classified as Fair, the lowest number in this test, while 24 participants (57.1%) were in the Very Poor category, representing the largest proportion in the 1.200-meter aerobic endurance test.

Table 9. Overall physical condition level

No.	Score Range	Classification	Frequency	Percentage (%)	Mean
1	22-25	Very Good (VG)	0	0.00	
2	18-21	Good (G)	1	2.38	14.67
3	14-17	Average (A)	31	73.81	(Fair)
4	10-13	Poor (P)	10	23.81	
5	05-09	Very Poor (VP)	0	0.00	
Total			42	100	

Source: Processed data, 2025

Based on Table 9, the analysis shows that the overall physical condition level of active football extracurricular participants at the Senior High School/Vocational High School level in Doro District, Pekalongan Regency, falls into the Fair category. This classification is illustrated in Figure 1 below.

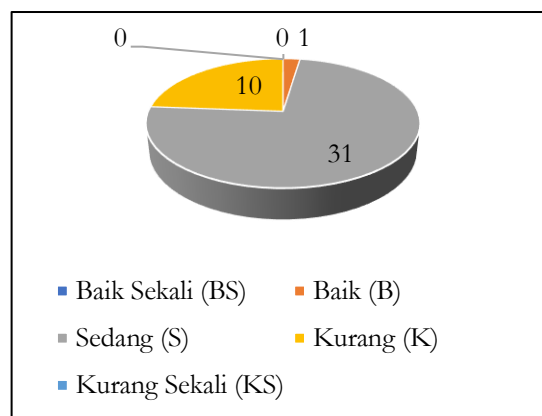


Figure 1. Description of the physical condition level

Based on the results of data analysis and research findings, it can be concluded that the physical condition level of active students participating in football extracurricular activities at the Senior High School/Vocational High School level in Doro District, Pekalongan Regency falls into the moderate category. This is shown by the results indicating that one student (2.38%) is in the good category, thirty-one students (73.81%) are in the moderate category, and ten students (23.81%) are in the poor category. The data analysis also shows that the majority of active students participating in football extracurricular activities at the Senior High School/Vocational High School level in Doro District, Pekalongan Regency are in the moderate physical condition category, totaling thirty-one students or 73.81%.

This finding is consistent with the research conducted by Setiawan (2021), which revealed that the physical fitness level of male students participating in volleyball extracurricular activities at SMA Negeri 12 Merangin was classified as moderate, with an average score of 16.63 points. In addition, it is supported by the study conducted by Khaerul H (2018), which found that there is an influence

of physical fitness level on the football playing ability of male students at SMA Negeri 7, East Luwu Regency. This shows the importance of physical condition and fitness level for a person or a football player. It is implied that an individual's physical condition level affects their sports performance.

Optimal physical condition is the main foundation of a football player's performance. Physiologically, football is an intermittent high-intensity sport that combines aerobic and anaerobic activities. The aerobic energy system dominates during phases of the game involving light to moderate movements, such as jogging or walking, while the anaerobic system particularly lactic and alactic anaerobic systems is activated during sprints, jumps, and physical duels. Good cardiorespiratory endurance allows players to maintain high work intensity consistently, while anaerobic capacity affects the ability to accelerate quickly and recover between sprints.

In addition to energy capacity, muscle strength and flexibility also play important roles in preventing injuries and supporting technical performance. For example, strong core and lower-limb muscles help maintain stability when dribbling, kicking, or tackling. Good flexibility in the hamstring, quadriceps, and hip muscles reduces the risk of muscle injury due to explosive movements. A balance between strength and flexibility supports optimal body control, especially when changing direction suddenly or during aerial duels.

From the perspective of student or youth athlete development, physical condition is also closely related to biological development and motor learning ability. Students with good physical fitness tend to absorb technical and tactical training better because their bodies are prepared to handle various training loads. Gradual physiological adaptations to physical training also help strengthen bone and muscle structures, which are essential during the growth period. Therefore, systematic monitoring and development of physical condition are crucial aspects in the comprehensive development of young football athletes.

In this study, the researcher has made every effort to achieve the best possible results; however, there were several limitations during the process. The limitations of this study include research location, sample size, and research duration. The research was conducted only in one area; if the study were carried out in several districts or football clubs in other cities, the results might have been different. The second limitation concerns the sample size, which included only 42 participants. This limitation was due to considerations of efficiency in time, cost, and effort. The final limitation was the restriction of time, budget, energy, and thought, which made this the maximum that could be accomplished by the researcher.

4. Conclusion and Recommendation

Based on the results of the research and discussion, it can be concluded that the physical condition level of active students participating in football extracurricular activities at the Senior High School/Vocational High School level in Doro District, Pekalongan Regency falls into the moderate category. This is shown by the results indicating that one student (2.38%) is in the good category, thirty-one students (73.81%) are in the moderate category, and ten students (23.81%) are in the poor category. The following suggestions can be given:

For Coaches, Coaches are expected to provide varied training methods to improve the physical condition level of football extracurricular participants.

For Athletes: Athletes are expected to maximize their efforts to enhance the quality and achievements of football performance through optimal physical condition levels.

For Future Researchers: Future researchers are expected to explore other factors that can improve physical condition levels through the development of new and relevant training models suited to football as a sport discipline.

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