

Physical Fitness Profile of SDN 3 Batulicin Football Team

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Abstract

This study aims to determine the physical fitness level of the SDN 3 Batulicin football team. The background of this study is based on the importance of physical fitness as a fundamental foundation for supporting football performance, particularly at the elementary school level. In football, players are required to possess adequate physical capacity in order to maintain playing intensity, execute techniques effectively, and complete matches without experiencing excessive fatigue. Based on preliminary observations, the SDN 3 Batulicin football team showed indications that the players' fitness condition was not yet optimal; therefore, a systematic assessment was necessary. This study employed a descriptive quantitative approach using a survey method. The research subjects consisted of 25 students, all of whom were members of the SDN 3 Batulicin football team. The instrument used was the Indonesian Physical Fitness Test (Tes Kebugaran Jasmani Indonesia/TKJI) for children aged 10–12 years, which includes the 40-meter sprint, pull-up, sit-up, vertical jump, and 600-meter run. The data were analyzed using descriptive statistics in the form of mean, median, standard deviation, minimum score, maximum score, frequency distribution, and percentage. The results showed that the physical fitness level of the SDN 3 Batulicin football team was in the moderate category. These findings confirm that the students already possess a sufficient basic level of physical ability to participate in football activities, although it is not yet fully optimal to support stable and sustainable performance. Thus, the main premise of this study is confirmed: physical fitness is an important aspect that deserves attention in the development of youth football. This study recommends the need for a more structured, gradual, and age-appropriate physical training program, tailored to the characteristics of elementary school students, in order to improve physical fitness quality and support the achievement of better performance outcomes.

Keyword: Physical Fitness; Indonesian Physical Fitness Test; Soccer; Elementary School Students.

INTRODUCTION

Physical education is an integral part of the educational system that places movement activities as a medium for learning, health development, and the enhancement of students' potential. Movement is a basic characteristic of living beings, while physical activity serves as an important foundation for the development of individual physical quality (Arrahman & Firdaus, 2024). In a broader context, sport functions not only as a means of recreation to achieve health and fitness, but also as a vehicle for performance development at regional, national, and international levels (Arsyad et al., 2025). One of the most popular competitive sports with a very broad participation base is football (Baktiar, 2021); (Ferrari et al., 2022). popularity of football is evident not only at the professional level, but also strongly established within educational settings, including elementary schools, because this sport is easy to play, attractive, and capable of fostering teamwork, sportsmanship, and a competitive spirit (Humaedi, 2022); (Irfan, 2021).

As a team sport, football requires the integration of various performance components, namely technique, tactics, mentality, and physical fitness (Jusran S dkk, 2022). The game not only demands the ability to control the ball and score goals, but also requires coordination among players,

team cohesion, and the ability to maintain performance throughout the match (Subekhi et al., 2021); (Ismi Oktaria Nasution, 2021). In practice, football is characterized by intermittent activity, combining high-intensity movements such as sprinting, jumping, and rapid changes of direction with lower-intensity activities such as walking and jogging. Therefore, football players must possess good physical capacity, particularly endurance, speed, strength, and explosive power, in order to continue playing effectively throughout the match (Satria et al., 2026); (A. T. Candra, 2020) Adequate physical condition is also closely related to the achievement of performance, because players with good fitness are better prepared to carry out movement tasks, make decisions, and maintain the quality of play until the end of the game (Arsyad et al., 2025); (R. Candra et al., 2024).

In sports science studies, physical fitness is understood as the body's ability to perform daily activities or physical tasks without experiencing excessive fatigue, while still having sufficient energy reserves to carry out other activities optimally (Piprani et al., 2025); (Andriyanti & Kurniawan, 2024). Good physical fitness is a fundamental asset for students and athletes to participate actively in physical education and sports training efficiently and sustainably. This fitness can be improved through appropriate, systematic, and measurable physical training (Zaim et al., 2021). In football, physical fitness is especially important because the game lasts for a long duration, involves physical contact, demands high mobility on the field, and requires the body to respond quickly to changing game situations (Alvandri Maqri, 2026); (Ucok Hasian Refiater, 2026). Thus, physical fitness is not merely a supporting component, but one of the main prerequisites for players to perform optimally.

Previous studies have shown that physical fitness and the physical condition of football players are highly important issues in sports development. Earlier research has highlighted the physical condition profiles of football athletes across various age groups and levels of training, such as 16-year-old players (Baktiar, 2021), football academy athletes aged 16–19 years (Ismi Oktaria Nasution, 2021), U-13 football school participants (Putra et al., 2021), female football players (Batubara & Lubis, 2023), and secondary school football teams (Sulastio et al., 2025); (Joko Sanyoto, 2026). These findings indicate that physical fitness, aerobic capacity, and physical condition are important elements influencing the quality of players' performance in both training and competition (Allsabab, 2021); (Shodiqin, 2025); (Yunus, 2026). In addition, several studies have emphasized that physical fitness at school age is closely related to health, activity capacity, and readiness to participate in more serious sports development programs (Solikha & Muhammad, 2022); (Mawartiani et al., 2026).

However, a review of the literature shows that most previous studies have been conducted at the level of football schools, clubs, or adolescent age groups, whereas studies specifically examining the physical fitness level of football teams at the elementary school level, particularly those based on school extracurricular activities, remain relatively limited. In fact, the elementary school phase is a highly important early stage in establishing physical foundations and long-term sports development. In addition, the local context has not yet been adequately explored. In the case of SDN 3 Batulicin, football is one of the active extracurricular activities that regularly participates in tournaments, including the *Kemerdekaan Cup* in Tanah Bumbu Regency, Batulicin. However, based on preliminary observations, this team has not yet demonstrated optimal achievement; the best result attained was only reaching the group stage as runner-up in 2023. The researcher's observations also revealed a decline in playing tempo, an inability to maintain game intensity until

the end of the match, and indications of low player endurance during trial matches against other schools. This condition points to a real problem related to physical fitness that needs to be mapped objectively and systematically. These findings provide an important basis for conducting this study.

Based on these conditions, the solution proposed in the literature to understand players' physical readiness is through the measurement of physical fitness using standardized instruments. In this study, the selected approach is the Indonesian Physical Fitness Test (*Tes Kebugaran Jasmani Indonesia / TKJI*) for children aged 10–12 years, which includes the 40-meter sprint, pull-up, sit-up, vertical jump, and 600-meter run. (Putra et al., 2021). This instrument is relevant because it is capable of providing a comprehensive overview of several key physical components required in football, such as speed, muscular strength and endurance, leg explosive power, and cardiorespiratory endurance. (Damsir et al., 2021). The use of TKJI is also appropriate to the characteristics of the research subjects, who are elementary school students and members of an extracurricular football team.

However, this is where the research gap lies. Although many studies have examined the physical condition and fitness of football players, only a limited number of studies have specifically documented the physical fitness profile of elementary school football teams within the context of public-school extracurricular activities in the Batulicin area using TKJI as the primary measurement instrument. In other words, although the measurement approach is already available in the literature, its implementation in terms of subjects, regional context, and training setting such as SDN 3 Batulicin remains insufficiently addressed. It is this gap that gives the present study both academic and practical significance. Academically, this study expands the empirical evidence on the physical fitness of early-age football players. Practically, the findings may serve as a basis for evaluation for teachers, coaches, and schools in designing more targeted training programs, particularly in the areas of endurance and overall player fitness.

On that basis, this study aims to explore and analyze the physical fitness level of the SDN 3 Batulicin football team. Specifically, it seeks to provide an objective description of the players' fitness condition based on the results of the TKJI test, so that their fitness level categories can be identified more accurately. The novelty of this study lies in its specific focus on mapping the physical fitness of an elementary school football team involved in extracurricular activities within the local context of SDN 3 Batulicin, which has received limited attention in previous research. In addition, this study links the need for early-age performance development with the evaluation of physical fitness using a national instrument relevant to the 10–12-year age group. The scope of this study is limited to measuring the physical fitness level of the SDN 3 Batulicin football team players through the TKJI components, without examining technical, tactical, or specific training intervention aspects. Thus, this study is expected to serve as an initial foundation for the development of more systematic physical training programs in early-age football, particularly within the elementary school setting.

METHODS

Research Design

This study employed a quantitative descriptive research method using an *ex post facto* approach. (Ihsan, 2026). which aims to describe the physical fitness level of the SDN 3 Batulicin football team without providing any specific treatment to the research subjects, in order to systematically and accurately portray the facts and characteristics of the object under study. The

method used in this research is a survey method. (Kurniawan, 2023). The data collection techniques employed in this study were tests and measurements, aimed at determining the level of physical fitness of the SDN 3 Batulicin football team. The scores obtained were then analyzed using statistical techniques and presented in the form of percentages. The research design used in this study was a descriptive research design with a qualitative approach, intended to address problems related to conditions as they naturally occur in the field by describing and observing the subjects or variables under study without testing any hypotheses. The method applied was a survey, with data collected through tests and measurements. (Aditya Ainul Hidayat, 2024). This study aims to describe the physical fitness level of the SDN 3 Batulicin football team. The scores obtained were then analyzed using statistical techniques and presented in the form of percentages.

Research Subjects and Procedures

According to (Syahban, 2026) Population is the entire set of research subjects. If a researcher intends to examine all elements within the research area, then the study is considered a population study. According to (Hardani dkk, 2020) Population is the generalization area consisting of objects or subjects that have certain quantities and characteristics determined by the researcher to be studied and subsequently drawn into conclusions. Population refers to the entire set of research subjects. (Humaedi, 2022). Population refers to the entire group of people, events, occurrences, or objects of interest to the researcher. It is also defined as a generalization area consisting of objects or subjects that possess certain qualities and characteristics determined by the researcher to be studied and from which conclusions are drawn. In this study, the population consisted of 25 students who were members of the SDN 3 Batulicin football team. (Hardani dkk, 2020) A sample is a subset of the population that possesses the characteristics of that population. It represents a portion or a representative of the population being studied. The sampling technique used in this study was total sampling. (Hardani dkk, 2020) The sample in this study consisted of all players of the SDN 3 Batulicin football team, totaling 25 students.

Research Instrument

According to (Irfan, 2021) A research instrument is a tool used and selected by the researcher to collect data in order to make the process more systematic and manageable. Therefore, to support the success of a study, the instrument must be designed in such a way that it is capable of producing data in accordance with the research objectives. In this study, the instrument used for data collection was the Indonesian Physical Fitness Test (Tes Kebugaran Jasmani Indonesia/TKJI) 2010 for children aged 10–12 years. (Putra et al., 2021). The purpose of this instrument is to serve as a benchmark for measuring the level of physical fitness, which is assessed through a series of test components. It is intended to determine the physical fitness level of children based on the age category of the research subjects. In this study, the instrument was used to collect data on the physical fitness level of the SDN 3 Batulicin football team using the Indonesian Physical Fitness Test (TKJI). The components of the test include: (1) 40-meter sprint, (2) pull-up (60 seconds), (3) sit-up (30 seconds), (4) vertical jump, and (5) 600-meter run.

Table 1. Values of Physical Fitness Test Norms

Value Norms	Catagory
22-25	Excellent
18-21	Good
14-17	Medium
10-13	Low
5-9	Veri Low

Data Analysis

Data analysis in this study employed descriptive statistics because the aim was to describe the physical fitness level of the SDN 3 Batulicin football team without testing any hypotheses. The data were obtained from the Indonesian Physical Fitness Test (Tes Kebugaran Jasmani Indonesia/TKJI) for children aged 10–12 years, which included the 40-meter sprint, pull-up, sit-up, vertical jump, and 600-meter run. (Putra et al., 2021). The scores from each test item were tabulated and then processed to obtain the mean, median, standard deviation, minimum score, and maximum score. Subsequently, the results were classified according to the TKJI norms into the categories of very good, good, moderate, poor, and very poor (see Table 1). To provide a clearer presentation of the data distribution, the results were also presented in the form of frequency distributions and percentages, thereby offering a systematic and clear description of the physical fitness level of the research subjects.

RESULTS

Based on the data and results of the study conducted on the physical fitness level of the SDN 3 Batulicin football team using a survey test approach, the findings were analyzed using statistical data analysis. The total physical fitness score showed a mean of 15.04 with a standard deviation of 2.525, indicating that the subjects' fitness level generally falls within the moderate category with relatively moderate inter-individual variation. When examined by component, the highest mean scores were found in pull-ups (3.84) and sit-ups (3.64), indicating that upper body and abdominal muscle strength and endurance are relatively better than other physical components. The vertical jump had a mean of 3.12, suggesting a moderate level of lower limb explosive power, while the 40-meter sprint, with a mean of 2.92, indicates that the subjects' speed still needs improvement. The lowest component was the middle-distance run, with a mean of 1.52, indicating that cardiorespiratory endurance is the weakest aspect in the fitness profile of this sample. The relatively small standard deviation values for each item indicate that participants' performance tends to be homogeneous, particularly in the middle-distance run. Therefore, it can be concluded that the subjects' fitness profile is more supported by muscular strength than aerobic endurance capacity, suggesting that future training programs should prioritize improving endurance capacity without neglecting the maintenance of other physical components.

Tabel 2. Descriptive Statistic

Measurements	Valid	Missing	Mean	Std. Deviation	Variance	Range	Minimum	Maximum	Sum
Pull-Up	25	0	3.84	1.143	1.307	3	2	5	96
Sit-Up	25	0	3.64	0.907	0.823	3	2	5	91
Vertical Jump	25	0	3.12	0.666	0.443	2	2	4	78
Sprint (40 Meter) mid-distance running	25	0	2.92	0.572	0.327	2	2	4	73
Physical Fitness	25	0	15.04	2.525	6.373	10	1	2	38
	25	0	15.04	2.525	6.373	10	9	19	376

Based on the frequency distribution of the pull-up test, it can be interpreted that the participants' upper body strength and muscular endurance tend to be at a fairly good level. This is indicated by the dominance of a score of 5 achieved by 10 participants (40%), followed by a score of 3 obtained by 6 participants (24%), a score of 4 by 5 participants (20%), and a score of 2 by 4

participants (16%). This distribution shows that most participants have been able to achieve relatively high performance in the pull-up component, although there is still a small group at a lower level. The absence of missing data further confirms that this distribution represents the entire sample comprehensively. Academically, this frequency pattern suggests that upper body strength and endurance constitute one of the more developed physical components compared to others, with a tendency toward higher score categories. However, the presence of participants with lower scores indicates individual variability, implying that future training programs should be designed in a more differentiated manner to ensure more evenly distributed improvements across all participants.

Table 3. Frequencies for Pull-Up

Pull-Up	Frequency	Percent	Valid Percent	Cumulative Percent
2	4	16		16
3	6	24		40
4	5	20		60
5	10	40		100
Missing	0	0		
Total	25	100		

Based on the frequency distribution of the sit-up test, it can be interpreted that the participants' abdominal muscle strength and endurance were at a fairly good level, with the distribution relatively concentrated in the middle score range. The majority of participants obtained a score of 3, totaling 10 individuals (40%), followed by a score of 4 obtained by 8 individuals (32%), a score of 5 by 5 individuals (20%), and only 2 individuals (8%) who obtained a score of 2. This pattern indicates that most participants already possessed sufficient abdominal muscle capacity to support basic physical activities in football, although the dominance of middle-range scores suggests that this ability has not yet reached an optimal level. The absence of missing data indicates that this distribution fully represents the entire sample. Academically, this frequency distribution suggests that the component of abdominal muscle strength and endurance has developed relatively evenly among most participants; however, further improvement is still needed so that the distribution of ability shifts toward higher score categories and supports more stable movement performance, particularly in activities requiring body control, postural stability, and movement efficiency during play.

Table 4. Frequencies for Sit-Up

Pull-Up	Frequency	Percent	Valid Percent	Cumulative Percent
2	2	8		8
3	10	40		48
4	8	32		80
5	5	20		100
Missing	0	0		
Total	25	100		

Based on the frequency distribution of the vertical jump test, it can be interpreted that the participants' lower limb explosive power tended to be at a moderate to fairly good level, with the greatest concentration at a score of 3, achieved by 14 participants (56%). Furthermore, 7 participants (28%) obtained a score of 4, while 4 participants (16%) were in the score 2 category. This distribution pattern indicates that the majority of participants already possessed sufficient lower limb explosive capacity to support fundamental movements in football, such as jumping, initiating acceleration, and rapidly changing body position, although this ability had not yet reached an optimal level across the

entire sample. The absence of missing data confirms that this distribution represents all research participants comprehensively. Academically, the dominance of middle-range scores indicates that the lower limb explosive power component has developed relatively evenly, yet there remains room for improvement so that more participants may shift into higher score categories. Thus, these findings emphasize the need for a targeted training program to enhance lower limb power, so that participants' explosive movement performance in sports activities can develop more optimally and evenly.

Table 5. Frequencies for Vertical Jump

Pull-Up	Frequency	Percent	Valid Percent	Cumulative Percent
2	4	16	16	16
3	14	56	56	72
4	7	28	28	100
Missing	0	0		
Total	25	100		

The participants' speed ability tended to fall within the moderate category, with the largest concentration at a score of 3, obtained by 17 participants (68%). Furthermore, 5 participants (20%) were in the score 2 category, while only 3 participants (12%) achieved a score of 4. This pattern indicates that the majority of participants already possessed sufficient speed ability to support basic activities in football, such as chasing the ball, accelerating, and changing positions, although this ability had not yet developed evenly at a high level. The dominance of middle-range scores suggests that the speed component has developed in most participants, but still requires further improvement in order to optimize sprint performance. The absence of missing data indicates that this distribution fully represents the entire research sample. Thus, academically, it can be stated that the participants' speed profile remains at a fair level, and therefore a targeted and continuous training program is needed to improve acceleration and movement responsiveness so as to better support the demands of football performance effectively.

Table 6. Frequencies for Sprint (40 Meters)

Pull-Up	Frequency	Percent	Valid Percent	Cumulative Percent
2	5	20	20	20
3	17	68	68	88
4	3	12	12	100
Missing	0	0		
Total	25	100		

The participants' cardiorespiratory endurance tended to be at a low to moderate level, with a nearly balanced distribution between the two available score categories. A total of 12 participants (48%) obtained a score of 1, while 13 participants (52%) obtained a score of 2, and no missing data were identified, indicating that this distribution fully represents the entire sample. This pattern shows that the majority of participants have not yet demonstrated strong performance in the aerobic endurance component, as the scores remain concentrated at the lower levels without variation toward higher categories. Academically, these findings indicate that endurance is the weakest fitness component compared to the other physical components, and it may therefore affect the participants' ability to maintain the intensity of physical activity throughout the game. Thus, these results highlight the need for special attention to the development of endurance capacity through planned, gradual, and age-appropriate training, so that playing performance can become more stable, efficient, and sustainable.

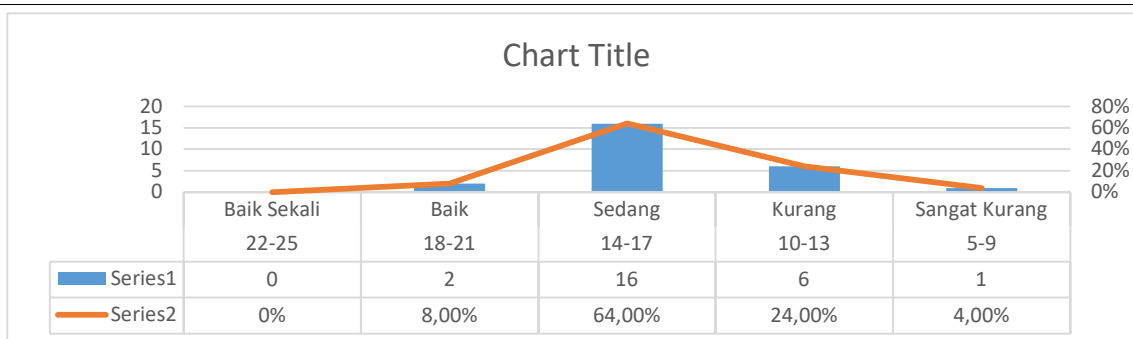
Table 7. Frequencies for mid-distance running

Pull-Up	Frequency	Percent	Valid Percent	Cumulative Percent
1	12	48	48	48
2	13	52	52	52
Missing	0	0		
Total	25	100		

Based on the percentage distribution of the physical fitness levels of the SDN 3 Batulicin football team, it can be interpreted that the overall fitness profile of the participants was concentrated in the moderate category, achieved by 16 participants (64.0%). This indicates that most players already possessed sufficient basic physical ability to take part in football activities, although they had not yet reached an optimal level. Furthermore, 6 participants (24.0%) were in the poor category, 1 participant (4.0%) was in the very poor category, and only 2 participants (8.0%) reached the good category, while no participants were classified in the very good category (see Table 8). This distribution pattern confirms that the team's physical fitness ability was still dominated by moderate to lower levels. Academically, it may therefore be stated that the players' physical foundation has been established, but it still requires systematic improvement, particularly to enable more participants to shift into the good category. The absence of participants in the highest category also indicates that physical conditioning has not yet fully produced a collectively superior level of fitness. Thus, these findings suggest that the physical fitness of the SDN 3 Batulicin football team still needs to be improved through a planned, gradual, and age-appropriate training program in order to support more stable, efficient, and competitive playing performance.

Table 8. Percentage of Fitness Level of SDN 3 Batulicin Football Team

Valeu	Category	Frequency	Percentage
22-25	Excellent	0	0%
18-21	Good	2	8,0%
14-17	Medium	16	64,0%
10-13	Low	6	24,0%
5-9	Veri Low	1	4,0%
Total		25	100%



Picture 1. Grafik Percentage of Fitness Level of SDN 3 Batulicin Football Team

DISCUSSION

The findings of this study indicate that the physical fitness level of the SDN 3 Batulicin football team generally falls within the moderate category. Rationally, this result may be understood as a reflection of the physical training condition of elementary school students who have been actively involved in football activities, but whose development has not yet been fully supported by a systematic, measurable, and sustainable physical training program. At the elementary school age, children are in a highly dynamic phase of growth, meaning that their physical abilities develop

gradually and are strongly influenced by training frequency, the quality of movement stimulation, daily activity habits, nutritional status, and the biological readiness of each individual. Therefore, the moderate category identified in this study may be interpreted as a transitional condition in which the research subjects already possess sufficient basic physical capacity to participate in football, but still require improvement in certain fitness components in order to meet the demands of the game more optimally. This interpretation is important because football is not merely a game that requires technical skills, but also demands physical readiness that enables players to move actively, quickly, and efficiently throughout the match. (A. T. Candra, 2020); (Sulastio et al., 2025).

Empirically, this finding is also reasonable when related to the characteristics of football itself. Football is an intermittent sport that combines low-, moderate-, and high-intensity activities alternately within a single sequence of play. (Kuncoro Darumoyo, Arief Nur Wahyudi, 2020). Players must be able to sprint, change direction, jump, stabilize their bodies, move without the ball, and recover within a short period before repeating the next activity. Consequently, a physical fitness level that remains only in the moderate category indicates that players are likely capable of meeting most of the game's demands, but are not yet stable in maintaining the quality of physical performance until the end of the match or during repeated high-intensity activities. In the context of an elementary school football team, this condition is quite understandable because extracurricular training generally places greater emphasis on introducing the game, enjoying movement, and developing basic skills, while the training of specific fitness components is not always specially designed. As a result, children's playing ability may appear adequate during the early phase of activity, but tends to decline when the intensity of the game increases or the duration of play becomes longer. This explanation is consistent with the view that football requires an integrated development of technique, tactics, physical fitness, mental readiness, and teamwork from an early age. (Arrahman & Firdaus, 2024); (Satria et al., 2026).

The rationality of this finding can also be understood from the field context described in previous literature, namely the symptoms of declining playing tempo and the inability to maintain performance until the end of the game. Although the discussion section does not need to repeat the numerical data, these symptoms reinforce the interpretation that the participants' physical fitness level has not yet reached an optimal stage to support consistent playing performance. In youth sports development, physical fitness is not merely a measure of physical ability when tested, but is also related to the body's readiness to cope with training and match demands, the ability to recover after activity, and the efficiency of bodily functions when performing repeated movements. If physical fitness has not developed optimally, then technical and tactical performance may also be affected, because players will experience fatigue more quickly, decreased concentration, slower decision-making, and reduced effectiveness in teamwork. Thus, the findings of this study not only describe the profile of physical fitness, but also suggest that the overall quality of team performance is very likely influenced by physical capacity that has not yet been fully developed.

When compared with previous studies, the findings of this study are supported by a number of studies since 2020 indicating that the physical fitness level of school-age football players or those in early-stage development programs often falls within the moderate or average category. (A. T. Candra, 2020) This confirms that physical condition in football plays a crucial role in supporting players' performance, particularly in components such as endurance, speed,

agility, and explosive power. The findings of this study are consistent with this perspective, as the moderate fitness profile indicates that the players already possess a basic level of physical ability, but have not yet reached a level that fully supports optimal football performance. (Baktiar, 2021), (Putra et al., 2021), and (Hasruddin, 2022) This also supports the idea that young football players often demonstrate uneven levels of physical fitness, making physical conditioning a fundamental need in the training process. The consistency of these findings confirms that the issue of physical fitness among early-age players is not an isolated case, but rather a fairly common phenomenon in football development programs within both school settings and football academies.

Further support is also provided by previous studies (Andriyanti & Kurniawan, 2024) which emphasize that the physical fitness of elementary school students participating in football extracurricular activities serves as a fundamental basis for supporting physical engagement in play. The findings of this study are consistent with this perspective, as the results indicate that the research subjects already possess a foundation of physical fitness, although it is not yet fully optimal. (Sulastio et al., 2025) dan (Arsyad et al., 2025) This further strengthens the argument that, in the context of football development, assessing physical condition and fitness is essential as a basis for designing training programs. In other words, this study contributes to a consistent pattern of findings in the literature that physical fitness assessment should be positioned as an initial step in evaluating training programs, rather than merely a one-time measurement activity. The results of this study are particularly relevant as they provide a real depiction of the condition of elementary school extracurricular participants who actively compete in tournaments, yet still require physical development as a foundation for improving performance.

In addition to supporting previous findings, this study also opens space for contradiction, or at least a difference in emphasis, compared with several earlier studies. Some studies involving athletes or players who follow more structured training systems have reported better physical condition or aerobic capacity than those in general development groups. For example, studies have shown that (Allsabab, 2021), (Irfan, 2021), and (Shodiqin, 2025) studies have shown that appropriate training interventions, such as interval training or high-intensity interval training (HIIT), can significantly improve aerobic endurance capacity. This difference can be explained by variations in subject characteristics, age, level of training, training intensity, and program objectives. The subjects in this study were elementary school students within a school extracurricular context, rather than competitive athletes undergoing specialized physical conditioning programs. Therefore, if the findings of this study do not demonstrate a fitness profile as high as that of athlete groups who have undergone systematic training, this should not be considered a methodological weakness, but rather a logical consequence of differences in training ecosystems. In fact, this contrast highlights an important message: the quality of physical fitness is strongly influenced by the design of training programs and the quality of coaching provided.

Another contrast may also emerge when compared with studies conducted on more mature age groups or within club environments that have a stronger training culture. (Satria et al., 2026), (Joko Sanyoto, 2026), and (Yunus, 2026) studies have shown that the physical condition and endurance profile of football players are closely associated with training frequency, coach supervision, and playing experience. Compared with that context, the players of SDN 3 Batulicin are still at an early stage of development; therefore, the less-than-optimal

fitness level found in this study actually underscores the importance of a long-term training process. Thus, differences between the findings of this study and those of studies conducted at more advanced levels of training should be understood as contextual variation rather than inconsistency in results. This enriches the discussion by emphasizing that the physical fitness category of football players cannot be viewed universally, but must instead be understood in relation to age, training setting, and developmental environment.

From a theoretical perspective, the findings of this study can be explained through the basic concept of physical fitness as the body's ability to perform activities effectively and efficiently without experiencing excessive fatigue, while still retaining sufficient energy reserves for subsequent activities. (Andriyanti & Kurniawan, 2024); (Piprani et al., 2025). From the perspective of training theory, physical fitness is not something static, but rather the result of the body's physiological adaptation to loads applied regularly, progressively, and specifically. Therefore, a fitness level that falls within the moderate category can be understood as the result of existing physical activity stimuli that are present, but not yet strong enough to produce maximal adaptation. Children who participate in football regularly do gain fitness benefits from playing activities; however, without a structured training plan, improvements in physical capacity tend to remain limited. This is consistent with the view that (Zaim et al., 2021); (Mawartiani et al., 2026) and (Solikha & Muhammad, 2022) that good physical fitness is achieved through appropriate, systematic, and well-balanced physical training without excessive load.

More specifically, physical conditioning theory in football states that game performance is supported by the interaction of various biomotor components, particularly endurance, strength, speed, agility, and explosive power. (A. T. Candra, 2020). These five components are reflected in the TKJI test items used in this study, so the resulting fitness profile can be understood as a representation of the players' overall physical ability. In the context of early-age players, limitations in one physical component may affect the execution of other components. For example, suboptimal endurance may reduce the effectiveness of speed or agility during the later stages of a game; conversely, low muscular strength may limit the ability to accelerate, engage in physical duels, or maintain movement stability. Therefore, the findings of this study theoretically support the view that physical fitness evaluation should be conducted comprehensively, as football does not rely on a single physical component. The moderate category identified indicates that the players' physical foundation has been established, but is not yet strong enough to fully support all the movement demands of football.

The findings of this study can also be explained through theories of child development in sports. At the elementary school age, the primary objective of training should not be solely oriented toward winning, but rather toward the development of fundamental movement skills, motor experiences, habituation to physical activity, and the enhancement of fitness in accordance with the stages of growth and development. Within this framework, the moderate category found in this study should not be viewed negatively, but rather as an indicator that students are at an initial stage that can be further developed. However, if schools or coaches aim to improve performance quality in tournaments, physical fitness needs to be enhanced through more structured training models that align with the principles of youth training. Thus, theoretically, this study reinforces the idea that early-age sports development must balance aspects of growth, safety, enjoyment, and training effectiveness.

On the other hand, this study also provides practical implications derived from both theoretical perspectives and empirical findings. Since physical fitness is closely related to

players' ability to perform consistently throughout the game, the results of this study can serve as a basis for coaches and schools to design more targeted physical training programs. Such programs do not need to be intensive or replicate adult training models, but can take the form of enjoyable, varied, and age-appropriate activities, such as modified games, game-based endurance training, coordination drills, reaction speed exercises, and activities aimed at improving strength and explosive power through a pedagogical approach. This approach is important to ensure that fitness development remains aligned with the nature of children's play. Within the framework of modern training theory, early-age physical development is more effective when delivered through meaningful, progressive, and context-specific activities related to the sport being practiced

CONCLUSION

The physical fitness level of the SDN 3 Batulicin football team was generally classified in the moderate category. This finding indicates that the students already possess a sufficient basic level of physical ability to participate in football activities; however, this condition is not yet fully optimal to support stable, effective, and sustainable game performance. A moderate level of fitness suggests that the players still require further development, particularly in order to maintain playing intensity, improve endurance throughout the match, and support the more consistent execution of techniques and teamwork. The results of this study confirm that physical fitness is an important component in early-age football development, as it serves as the foundation for students' ability to meet the demands of the game. A less-than-optimal level of fitness may affect performance quality, especially when players are faced with continuous physical activity over the duration of a match. Therefore, physical conditioning should become an important focus in elementary school football extracurricular programs. This study provides an important preliminary overview of the physical fitness profile of the SDN 3 Batulicin football players. The findings may be used as evaluation material for coaches, teachers, and schools in designing more structured, gradual, and age-appropriate training programs. With an appropriate development program, the level of physical fitness is expected to improve, thereby supporting better playing performance and encouraging more optimal achievement in future matches or tournaments.

RECOMMENDATIONS

Recommendations are addressed to the school, physical education teachers, and football extracurricular coaches at SDN 3 Batulicin to provide more focused attention to the development of students' physical fitness. Training programs should not only emphasize technical playing skills, but should also include the development of physical condition components such as endurance, speed, strength, and explosive power in ways that are appropriate to the characteristics of elementary school students. Training should be designed in a gradual, regular, and enjoyable manner so that students remain motivated and are able to participate optimally without feeling overburdened. For coaches, the findings of this study may serve as an evaluation basis for designing more systematic physical training programs within football extracurricular activities. Coaches are advised to monitor students' fitness conditions periodically so that the development of physical abilities can be identified at an early stage and used as a basis for improving training programs. In addition, training approaches should be adjusted to the students' stages of growth and development so that the objectives of training are not solely oriented toward match results, but also toward building a strong long-term physical

foundation. For future researchers, it is recommended to develop studies that not only describe the level of physical fitness, but also examine the factors influencing it, such as training intensity, active lifestyle patterns, nutritional status, and frequency of participation in matches. Future studies may also employ action research or experimental designs to test the effectiveness of specific training models in improving the physical fitness of early-age football players, so that more applicable recommendations can be generated for sports development in schools.

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