Multidisciplinary Journal of Tourism, Hospitality, Sport and Physical Education
Vol. 1, No. 2, Dec 2024, pp. 94~101
ISSN: 3062-9551, DOI: 10.37251/jthpe.v1i2.3370

Physical Fitness Profile of Male Students Participating in a Junior High School Futsal Extracurricular Program

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Article Info

Article history:

Received Oct 30, 2024
Revised Nov 7, 2024
Accepted Dec 9, 2024
OnlineFirst Dec 12, 2024

Keywords:

Futsal Extracurricular
Indonesian Physical Fitness
Junior High School Students
Physical Fitness Level
School Sports

ABSTRACT

Purpose of the study: This study aimed to determine the physical fitness level of male students participating in the futsal extracurricular program at MTs Hasanah Pekanbaru.

Methodology: This study employed a descriptive quantitative research design. The population consisted of 25 male students participating in the futsal extracurricular program at MTs Hasanah Pekanbaru, selected using total sampling. Data were collected using the Indonesian Physical Fitness Test for boys aged 13–15 years, including a 50-meter sprint, 60-second pull-up test, 60-second sit-up test, vertical jump test, and 1,000-meter run. Data were analyzed using descriptive statistics and percentage analysis.

Main Findings: The results showed that the physical fitness level of the students was predominantly in the moderate category. Of the 25 participants, 15 students (60%) were classified as moderate, 3 students (12%) as good, 5 students (20%) as poor, and 2 students (8%) as very poor, while no student achieved the very good category. The overall average fitness score was 14.56, which falls within the moderate classification according to the Indonesian Physical Fitness Test norms.

Novelty/Originality of this study: This study provides an updated profile of physical fitness among junior high school students involved in extracurricular futsal activities using the Indonesian Physical Fitness Test framework. The findings offer practical baseline data for coaches, physical education teachers, and schools to design evidence-based training programs that enhance students' fitness levels and support better participation and performance in school sports activities.

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1. INTRODUCTION

Physical fitness is one of the fundamental components supporting an individual's health, physical performance, and overall productivity. During adolescence, physical fitness plays a crucial role in supporting growth and development, both physically and psychologically. Students with good physical fitness levels are generally able to participate effectively in academic activities, sports, and daily routines without experiencing excessive fatigue [1]-[3]. Conversely, low levels of physical fitness may reduce learning concentration, decrease physical endurance, increase susceptibility to illness, and negatively affect students' overall performance.

Therefore, improving physical fitness among students has become one of the primary objectives of physical education programs in schools [4].

Physical education is an integral part of the educational system that aims to develop students' physical abilities, motor skills, health awareness, and character through structured physical activities. The implementation of physical education extends beyond classroom instruction and includes extracurricular sports programs that provide students with opportunities to develop their interests, talents, and athletic potential [5], [6]. Extracurricular activities contribute significantly to enhancing students' physical fitness, fostering healthy lifestyles, and developing important values such as discipline, teamwork, responsibility, and sportsmanship. Consequently, extracurricular sports activities serve as an essential medium for promoting both educational and health-related outcomes among students [7].

Among various extracurricular sports programs, futsal has emerged as one of the most popular activities among junior high school students. Futsal is a fast-paced, high-intensity sport that requires players to perform repeated movements involving speed, agility, muscular strength, power, coordination, and cardiovascular endurance [8], [9]. Due to the dynamic nature of the game, players must possess adequate physical fitness to maintain optimal performance throughout training sessions and competitive matches. Insufficient physical fitness can reduce technical effectiveness, increase fatigue during gameplay, and elevate the risk of injuries. Therefore, physical fitness serves as a fundamental prerequisite for successful participation in futsal activities [10].

The importance of physical fitness in futsal is particularly evident among adolescent athletes who are still experiencing physiological growth and development. At this stage, regular participation in sports activities can positively influence cardiovascular health, muscular endurance, flexibility, and overall physical well-being [11]. However, these benefits can only be achieved when students maintain an adequate level of physical fitness. Schools and coaches therefore need accurate information regarding students' fitness conditions to design appropriate training programs that meet their developmental needs [12], [13]. Regular assessment of physical fitness can provide valuable data for monitoring students' physical conditions and identifying areas requiring improvement.

Observations conducted at MTs Hasanah Pekanbaru indicated several issues related to students' physical fitness during futsal extracurricular activities. Some students experienced fatigue before training sessions were completed, demonstrated limited endurance capacity, and exhibited unstable balance during warm-up exercises. In addition, several participants showed low levels of participation in physical activities outside the futsal program. These conditions suggest that students may not possess optimal physical fitness levels, which could potentially hinder their performance and participation in sports activities. Considering that physical fitness is closely related to sports achievement and overall health, understanding students' fitness profiles becomes an important concern for educators and coaches [14].

Assessment of students' physical fitness is necessary to determine whether current extracurricular activities adequately support their physical development. The Indonesian Physical Fitness Test provides a standardized and widely accepted instrument for evaluating physical fitness among adolescents. Through measurements of speed, muscular strength, muscular endurance, explosive power, and cardiovascular endurance, TKJI offers a comprehensive overview of students' fitness conditions [15], [16]. Therefore, investigating the physical fitness levels of students participating in futsal extracurricular activities can provide empirical evidence for improving training programs and enhancing students' physical performance.

Several previous studies have investigated physical fitness among adolescent students involved in sports activities. Rubiyanto and Perdadana [17] reported that the physical fitness level of senior high school students was generally categorized as moderate, indicating the need for continuous physical conditioning programs. Hastuti (2008) found that extracurricular sports participation contributed positively to students' physical fitness development; however, the study focused on basketball activities and did not specifically examine futsal participants. Furthermore, Najafabadi et al. [18] demonstrated that physical fitness significantly influenced learning outcomes in physical education, emphasizing the importance of maintaining adequate fitness levels among students. Although these studies provide valuable insights, they primarily focus on general student populations, different sports disciplines, or educational outcomes. Research specifically examining the physical fitness profiles of junior high school students participating in futsal extracurricular programs remains limited, creating a gap in the existing literature.

The novelty of this study lies in its focus on assessing the physical fitness level of male students participating in a futsal extracurricular program at an Islamic junior high school using the Indonesian Physical Fitness Test for adolescents aged 13–15 years. Unlike previous studies that examined general student populations or different sports activities, this research provides a comprehensive profile of physical fitness among futsal participants by evaluating multiple fitness components, including speed, muscular endurance, strength, explosive power, and cardiovascular endurance. The findings offer updated empirical data that can be used as a reference for extracurricular sports development in similar educational settings.

The implications of this study extend to students, coaches, physical education teachers, and school administrators. The results can serve as a basis for developing evidence-based training programs aimed at

improving students' physical fitness and sports performance. Coaches can utilize the findings to identify physical weaknesses and design targeted conditioning exercises, while schools may use the information to support policies promoting student health and active lifestyles. Furthermore, the study contributes to the broader field of sports education by providing practical insights into the relationship between extracurricular participation and physical fitness development among adolescents.

This study is urgently needed because physical fitness among adolescents has become a growing concern in the modern era, where sedentary lifestyles and reduced physical activity are increasingly common. Insufficient physical fitness may negatively affect students' health, academic performance, and participation in sports activities. As futsal continues to gain popularity among junior high school students, understanding the physical fitness status of participants becomes essential for ensuring effective training, preventing injuries, and supporting long-term athletic development. Therefore, this research provides important baseline information for improving the quality of extracurricular sports programs and promoting healthier lifestyles among students.

2. RESEARCH METHOD

2.1. Research Design

This study employed a quantitative descriptive research design [19], [20]. Descriptive research is intended to systematically describe and analyze phenomena, conditions, or situations as they naturally occur without manipulating any variables. The purpose of this study was to identify and describe the physical fitness level of male students participating in the futsal extracurricular program at MTs Hasanah Pekanbaru. The research focused on measuring students' physical fitness conditions using standardized testing procedures and subsequently classifying the results according to the Indonesian Physical Fitness Test norms for adolescents aged 13–15 years. Quantitative descriptive methods were considered appropriate because the study aimed to obtain factual and objective information regarding students' physical fitness status through numerical data analysis.

2.2. Participants and Sample

The population of this study consisted of all male students participating in the futsal extracurricular program at MTs Hasanah Pekanbaru during the 2019 academic year. The total population was 25 students distributed across Grades VII, VIII, and IX. Since the population size was relatively small, the study employed a total sampling technique, whereby all members of the population were included as research participants. Total sampling allows researchers to obtain comprehensive information regarding the characteristics of the entire population and eliminates sampling bias that may arise from selecting only a portion of participants.

Table 1. Distribution of Research Participants

Grade	Number of Students
VII	5
VIII	14
IX	6
Total	25

2.3. Data Sources and Data Collection Techniques

The primary data source consisted of physical fitness test results obtained directly from the participants [21]. Data collection was conducted through field observations, literature review, and physical fitness testing. Observation was performed to identify the conditions of futsal extracurricular activities and students' participation during training sessions. Literature review was conducted to obtain theoretical references related to physical fitness, sports training, and adolescent health. The main data collection technique involved administering the Indonesian Physical Fitness Test for boys aged 13–15 years. All tests were carried out according to standardized procedures to ensure data validity and reliability. The testing process was supervised by researchers and trained assistants to minimize measurement errors.

2.4. Research Instrument

The research instrument used in this study was the Indonesian Physical Fitness Test for adolescents aged 13–15 years. The Indonesian Physical Fitness Test is a standardized instrument widely used to assess physical fitness among Indonesian students. The test evaluates five major components of physical fitness, including speed, upper-body muscular strength and endurance, abdominal muscular endurance, explosive power, and cardiovascular endurance [22].

Table 2. Components of the Indonesian Physical Fitness Test (TKJI)

Test Item	Physical Fitness Component Measured
50-meter Sprint	Speed
60-second Pull-Up Test	Arm and Shoulder Strength-Endurance
60-second Sit-Up Test	Abdominal Strength-Endurance
Vertical Jump Test	Explosive Power
1000-meter Run	Cardiovascular Endurance

The scoring system followed the official Indonesian Physical Fitness Test norms for male adolescents aged 13–15 years. Each test component was assigned a score ranging from one to five points, and the total score represented the overall physical fitness level of each participant.

2.5. Data Analysis Technique

The collected data were analyzed using descriptive statistical techniques. Scores obtained from each TKJI test item were converted into standardized scores according to the established Indonesian Physical Fitness Test norms. The scores from all five test components were then summed to obtain the overall physical fitness score for each participant. Subsequently, the total scores were categorized into five fitness classifications: Very Good, Good, Moderate, Poor, and Very Poor. The percentage distribution of participants within each fitness category was calculated using the following formula [23]:

$$P = \frac{F\ x\ 100\%}{N} \qquad \ldots(1)$$

Where:
P = Percentage
F = Frequency of participants in each category
N = Total number of participants

The resulting percentages were used to describe the overall physical fitness profile of the participants.

Table 3. Physical Fitness Classification Based on Indonesian Physical Fitness Test Norms

Total Score	Classification
22–25	Very Good
18–21	Good
14–17	Moderate
10–13	Poor
5–9	Very Poor

2.6. Research Procedure

The research was conducted through several systematic stages. Initially, permission was obtained from the school administration and extracurricular coordinator. Subsequently, participants were identified and informed about the research objectives and testing procedures. The physical fitness assessment was then administered using the five Indonesian Physical Fitness Test test components. All test results were recorded and tabulated for analysis. After data collection was completed, the scores were converted into standardized Indonesian Physical Fitness Test scores, analyzed using descriptive statistics, and interpreted according to the established fitness classifications. Finally, conclusions were drawn based on the findings.

3. RESULTS AND DISCUSSION

3.1. Physical Fitness Profile of Male Students Participating in the Futsal Extracurricular Program

The assessment of physical fitness was conducted using the Indonesian Physical Fitness Test for boys aged 13–15 years. The evaluation included five test items: a 50-meter sprint, 60-second pull-up test, 60-second sit-up test, vertical jump test, and 1000-meter run. These components were selected because they represent the primary elements of physical fitness, namely speed, muscular strength and endurance, explosive power, and cardiovascular endurance. The results of each test were converted into Indonesian Physical Fitness Test scores and subsequently classified according to the established national standards.

The 50-meter sprint test was used to measure students' speed. The findings indicated that most participants demonstrated relatively good speed performance. Of the 25 students assessed, 21 students (84%) achieved the highest category, while 3 students (12%) were classified in the good category and only 1 student (4%) was categorized as moderate.

Table 4. Results of the 50-Meter Sprint Test

Category Score	Frequency	Percentage (%)
5	21	84
4	3	12
3	1	4
2	0	0
1	0	0

These findings indicate that futsal participation contributes positively to the development of speed-related physical abilities. Since futsal requires rapid acceleration, quick directional changes, and continuous movement in limited spaces, regular participation in training sessions may enhance students' sprinting performance. The pull-up test measured upper-body muscular strength and endurance [24]. The results revealed relatively low performance levels. Sixteen students (64%) were categorized in the lowest classification, while only two students (8%) reached the moderate category.

Table 5. Results of the 60-Second Pull-Up Test

Category Score	Frequency	Percentage (%)
5	0	0
4	0	0
3	2	8
2	7	28
1	16	64

The findings suggest that the students' upper-body muscular endurance remains underdeveloped. This condition may be explained by the fact that futsal training generally emphasizes lower-body movement patterns, agility, and cardiovascular activities rather than specific upper-body strength training.

The sit-up test was administered to evaluate abdominal muscular endurance. The results demonstrated relatively satisfactory performance, with 44% of participants classified in the good category and 12% categorized as very good.

Table 6. Results of the 60-Second Sit-Up Test

Category Score	Frequency	Percentage (%)
5	3	12
4	11	44
3	7	28
2	4	16
1	0	0

The relatively strong performance in this component indicates that regular futsal activities may contribute to improved core muscle endurance. Core strength is essential for maintaining balance, stability, and efficient movement during futsal matches.

The vertical jump test measured explosive leg power. The majority of participants (56%) were classified in the moderate category.

Table 7. Results of the Vertical Jump Test

Category Score	Frequency	Percentage (%)
5	0	0
4	4	16
3	14	56
2	4	16
1	3	12

The moderate performance suggests that students possess adequate but not optimal explosive power. Considering that explosive leg strength is crucial for acceleration, jumping, and rapid directional changes during futsal matches, additional plyometric training may be required.

The 1000-meter run assessed cardiovascular endurance. The results showed that 64% of students were classified in the poor category.

Table 8. Results of the 1000-Meter Run Test

Category Score	Frequency	Percentage (%)
5	0	0
4	0	0
3	5	20
2	16	64
1	4	16

These findings indicate that cardiovascular endurance is one of the weakest components of students' physical fitness. Although futsal is characterized by intermittent high-intensity movements, the training frequency and duration may not have been sufficient to substantially improve aerobic capacity.

The cumulative Indonesian Physical Fitness Test scores revealed that the majority of participants were classified within the moderate fitness category.

Table 9. Overall Physical Fitness Classification

Classification	Frequency	Percentage (%)
Very Good	0	0
Good	3	12
Moderate	15	60
Poor	5	20
Very Poor	2	8

The mean physical fitness score was 14.56, placing the participants within the moderate classification according to Indonesian Physical Fitness Test standards. These findings indicate that while students possess sufficient fitness levels to participate in extracurricular activities, considerable opportunities remain for improvement, particularly in muscular endurance and cardiovascular fitness.

The findings demonstrate that the overall physical fitness level of male students participating in the futsal extracurricular program at MTs Hasanah Pekanbaru falls within the moderate category. This result indicates that students possess an adequate level of physical fitness to participate in sports activities; however, their fitness level has not yet reached the optimal standards expected for adolescent athletes. The moderate classification reflects the existence of several physical fitness components that require improvement, particularly upper-body muscular endurance and cardiovascular endurance.

The strongest performance was observed in the speed component, as measured through the 50-meter sprint test. This result is consistent with the physiological demands of futsal, which require players to perform repeated short sprints, rapid accelerations, and quick directional changes [25]. Frequent exposure to such movement patterns during training likely contributes to the development of speed-related abilities. Similar findings

have been reported in sports science literature, where athletes participating in invasion games often demonstrate superior sprint performance compared to non-athletes due to repeated high-intensity movement exposure.

In contrast, the weakest performance was observed in the pull-up and 1000-meter run tests. The poor results in the pull-up test indicate insufficient upper-body muscular endurance, while the low scores in the endurance run suggest limited aerobic capacity. These findings may indicate that existing training programs emphasize technical and tactical aspects of futsal rather than comprehensive physical conditioning. Without structured strength and endurance training, improvements in these components may remain limited despite regular participation in sports activities [26].

The moderate performance observed in the sit-up and vertical jump tests indicates that students possess satisfactory core endurance and explosive power. Core endurance is essential for maintaining body stability during movement, while explosive power contributes to acceleration and agility. Although the results were acceptable, the absence of participants in the highest fitness category suggests that training intensity and conditioning programs may need further enhancement to maximize physical development.

The present findings support the study conducted by Hasan and Resmana [27], which reported that students' physical fitness levels generally fell within the moderate category. Likewise, the findings are consistent with Hastuti (2008), who concluded that extracurricular sports participation positively contributes to physical fitness development. Furthermore, the results align with Silvia [28], who emphasized the importance of physical fitness in supporting educational and sports performance. However, unlike previous studies that focused on general student populations or different sports activities, the present study specifically examines futsal extracurricular participants at the junior high school level. This distinction addresses a gap in the literature concerning sport-specific physical fitness profiles among adolescent futsal players in Islamic secondary school settings.

The novelty of this study lies in its comprehensive assessment of multiple physical fitness components among male futsal extracurricular participants using the Indonesian Physical Fitness Test . While previous studies primarily focused on general physical fitness conditions or different sports disciplines, this study provides a detailed physical fitness profile of adolescent futsal players [29]. The findings contribute new empirical evidence regarding the strengths and weaknesses of specific fitness components among junior high school futsal participants, thereby expanding the existing body of knowledge in school-based sports science research.

The findings have important implications for sports coaches, physical education teachers, and school administrators. The identification of weak performance in upper-body muscular endurance and cardiovascular endurance suggests the need for more structured conditioning programs [30]. Coaches may incorporate circuit training, aerobic conditioning, resistance exercises, and plyometric activities into regular training schedules. Furthermore, schools can utilize these findings as baseline data for monitoring students' physical fitness development and designing health promotion programs aimed at fostering active lifestyles among adolescents.

Despite its contributions, this study has several limitations. First, the sample size was relatively small and consisted of only 25 male students from a single school, limiting the generalizability of the findings. Second, the study employed a descriptive research design, which does not allow for the investigation of causal relationships between training participation and physical fitness outcomes. Third, factors such as nutritional status, physical activity outside school, training frequency, and socioeconomic background were not examined, although they may influence physical fitness levels. Future studies should involve larger and more diverse samples, include female participants, and investigate additional variables that may affect adolescent physical fitness.

4. CONCLUSION

This study aimed to determine the physical fitness level of male students participating in the futsal extracurricular program at MTs Hasanah Pekanbaru. Based on the results of the Indonesian Physical Fitness Test, the overall physical fitness level of the participants was classified as moderate, with an average score of 14.56. Most students (60%) were categorized as having moderate physical fitness, while 12% were classified as good, 20% as poor, and 8% as very poor. The findings indicate that the students possess sufficient physical fitness to participate in futsal activities; however, several fitness components, particularly upper-body muscular endurance and cardiovascular endurance, require improvement. Therefore, more structured and comprehensive physical conditioning programs are needed to enhance students' overall fitness levels and support better performance in extracurricular sports activities.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to all parties who contributed to the completion of this research. Appreciation is extended to everyone who provided support, encouragement, valuable insights, and assistance throughout the research process. The constructive contributions received have been invaluable in facilitating the successful completion of this study.

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