



Physical Fitness Profile of Eighth Grade Students at SMP Negeri 7 Pangaribuan, North Tapanuli Regency

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Abstract: This study aimed to identify the physical fitness profile of eighth-grade students at SMP Negeri 7 Pangaribuan, North Tapanuli Regency, during the 2023/2024 academic year. The research employed a quantitative descriptive method using a series of physical fitness tests developed by the Indonesian Physical Fitness Workshop (1984), which included five components: a 50-meter sprint, pull-ups, sit-ups, vertical jump, and a 1000-meter run. The participants consisted of 34 students (20 male and 14 female) selected through purposive sampling. Data were analyzed using normative scoring and percentage classification. The findings revealed that the students' overall level of physical fitness was categorized as "Moderate," with an average total score of 16.74. Specifically, 68% of students were in the moderate category, 29% in the good category, and 3% in the poor category. These results indicate that the students' physical fitness levels require further improvement through consistent and structured physical education programs.

Keywords: Physical Fitness; Physical Education; Student Health; Fitness Assessment; Junior High School

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INTRODUCTION

Physical fitness in adolescence is a crucial foundation for maintaining optimal health, developing physical competence, and enhancing the quality of life. According to Kolimechkov (2022), physical fitness represents the capacity of an individual to perform daily tasks with vigor and without excessive fatigue, while still maintaining sufficient energy for leisure activities and emergencies. Adolescence, as a transitional stage between childhood and adulthood, is characterized by significant physiological and psychological changes that require proper physical conditioning to ensure healthy development. The World Health Organization (WHO, 2023) emphasized that more than 80% of adolescents globally do not achieve the recommended 60 minutes of moderate-to-vigorous physical activity per day, resulting in a rise in obesity, decreased endurance, and poor muscular strength. This global trend underscores the urgency for educational institutions to prioritize physical education programs that actively promote fitness awareness and healthy lifestyles among students.

In the Indonesian context, the importance of physical fitness has been highlighted by several studies linking students' physical health to academic achievement and psychological well-being. Saputra, Bayu, and Destriani (2023) conducted a study in

Palembang revealing that students who regularly participated in school-based physical activities exhibited better physical fitness levels, although most of them were still categorized as “moderate.” Similarly, research by Rubiyatno, Sastaman, and Suryadi (2022) in West Kalimantan indicated that students’ physical fitness levels were influenced by exercise intensity, motivation, and family support. These findings suggest that the physical fitness of Indonesian adolescents remains suboptimal and varies widely depending on environmental and behavioral factors. However, despite these contributions, there remains a lack of comprehensive profiling studies that assess multiple components of fitness in non-athlete junior high school students, particularly in rural or less-developed regions.

Previous research has primarily focused on athletic students or those involved in extracurricular sports activities, leaving a gap in understanding the fitness levels of general students who do not receive specific athletic training. Ilyas and Almunawar (2020) conducted a survey on volleyball extracurricular students in Tanjung Balai, revealing that their physical fitness fell within the “moderate” category, largely influenced by training consistency and motivation. While this study provides valuable insights into athletic populations, it does not reflect the physical condition of regular students in the classroom environment. Furthermore, regional disparities in Indonesia contribute to variations in access to sports facilities, nutritional status, and the quality of physical education instruction all of which influence students’ overall fitness (Nurhasan, 2005). Therefore, a localized investigation into student fitness in underrepresented areas is vital for developing evidence-based educational and health policies.

The region of Pangaribuan in North Tapanuli, North Sumatra, provides a meaningful setting for such an investigation, as many of its schools are situated in rural environments with limited infrastructure and physical education resources. Environmental factors, lifestyle habits, and socio-economic constraints may contribute to varying levels of student fitness compared to those in urban settings. As noted by Harsono (2001), physical conditioning must be approached holistically, combining regular exercise, proper nutrition, and sufficient rest to maintain the body’s functional capacity. Understanding the current fitness profile of students in this context is therefore crucial for educators and policymakers aiming to improve the physical and academic potential of rural students through systematic and inclusive fitness programs.

This study introduces a comprehensive evaluation of the physical fitness profile of eighth-grade students at SMP Negeri 7 Pangaribuan during the 2023/2024 academic year. The research utilizes standardized physical fitness tests adapted from the Indonesian Physical Fitness Test (TKJI) developed by the Lokakarya Kesegaran Jasmani (1984), which assesses key fitness components such as speed, endurance, strength, and explosive power. Unlike most previous studies that examined isolated aspects of fitness, this research integrates multiple parameters to produce a more holistic picture of students’ physical conditions. The use of purposive sampling involving both male and female students aged 13–15 years further enhances the representativeness and depth of the findings.

The novelty of this research lies in its empirical approach to exploring the physical fitness status of non-athlete junior high school students in a rural Indonesian setting an area often overlooked in previous literature. The findings are expected to serve as baseline data for schools, physical education teachers, and local governments to design structured exercise programs that improve student fitness and health outcomes. Moreover, by identifying which components of physical fitness (such as cardiovascular endurance or muscular strength) are weakest, this study contributes to formulating

targeted interventions that can foster long-term health behavior among adolescents. Ultimately, this research not only enriches the national database on adolescent physical fitness but also supports the broader educational goal of developing healthy, active, and productive young generations in Indonesia.

METHOD

This study employed a quantitative descriptive research design aimed at systematically describing and analyzing the physical fitness profiles of eighth-grade students. According to Sugiyono (2010), a descriptive method seeks to portray phenomena as they naturally occur without manipulation of variables, thereby providing a clear and objective picture of the subject under investigation. In this study, the design focused on obtaining numerical data related to various components of students' physical fitness including speed, muscular strength, endurance, and explosive power through standardized field tests. The purpose of this approach was to generate empirical data that accurately reflected the current physical fitness levels of the students and served as a foundation for future health and education programs.

The research was conducted at SMP Negeri 7 Pangaribuan, located in Pangaribuan District, North Tapanuli Regency, North Sumatra Province, during the academic year 2023/2024. Data collection took place over a one-month period in August 2023, utilizing the school's outdoor sports facilities such as the athletic field and multipurpose hall. The setting was chosen because it represents a typical junior high school environment in a rural area, providing relevant insights into the physical fitness conditions of students who may have limited access to formal sports infrastructure.

The population of this study consisted of all students enrolled in the eighth grade of SMP Negeri 7 Pangaribuan during the 2023/2024 school year, totaling 210 students. From this population, the researcher selected a sample of 34 students (20 male and 14 female) using a purposive sampling technique. This sampling method was chosen based on specific inclusion criteria, namely: students aged between 13 and 15 years, physically healthy, and actively participating in school physical education activities. As stated by Sugiyono (2010), purposive sampling allows researchers to select subjects who are most representative of the research objectives and possess relevant characteristics for the study's focus.

The data measurement technique employed in this study followed the procedures of the Indonesian Physical Fitness Test (Tes Kesegaran Jasmani Indonesia, TKJI) established by the Lokakarya Kesegaran Jasmani (1984). The TKJI consists of five test items designed to assess different components of physical fitness: (1) a 50-meter sprint to measure speed, (2) pull-up or hanging arm flexion test to measure arm strength and endurance, (3) sit-up test to measure abdominal muscle endurance, (4) vertical jump test to measure leg explosive power, and (5) a 1000-meter run to measure cardiovascular endurance. Each test result was scored according to age- and gender-specific norms, then converted into numerical values that reflected individual performance levels.

For the data analysis, the results from all five test items were compiled, scored, and classified based on the standardized TKJI norm tables for the 13–15 age group. The total score for each student was calculated by summing the scores of all test items. The classification of physical fitness levels was determined as follows: 22–25 points = Excellent, 18–21 = Good, 14–17 = Moderate, 10–13 = Poor, and 5–9 = Very Poor.

In summary, the research methodology was designed to ensure reliability, validity, and accuracy in data collection and analysis. By combining a structured test framework with systematic data interpretation, this study provided an evidence-based

assessment of the physical fitness condition of students at SMP Negeri 7 Pangaribuan, thereby supporting the development of targeted physical education programs to enhance student health and performance.

RESULT AND DISCUSSION

Result

The results of this study present the findings from the physical fitness tests conducted on 34 eighth-grade students of SMP Negeri 7 Pangaribuan, consisting of 20 male and 14 female students aged 13–15 years. Data were obtained from five test items of the Indonesian Physical Fitness Test (TKJI), which include the 50-meter sprint, pull-up/hanging arm flexion, sit-up, vertical jump, and 1000-meter run. Each test represents a specific component of physical fitness such as speed, muscular strength, endurance, explosive power, and cardiovascular capacity. The summary of students' performance results is shown in Table 1 below.

Table 1. Summary of Physical Fitness Test Results

No	Test Item	Minimum Score	Maximum Score	Average Score	Fitness Component
1	50-meter Sprint (seconds)	9.01	7.5	8.3	Speed
2	Hanging Arm Flexion (repetitions)	7	21	14	Muscular Strength
3	Sit-up (repetitions)	10	30	20	Abdominal Endurance
4	Vertical Jump (cm)	33	57	45	Leg Power
5	1000-meter Run (minutes)	5.13	3.01	4.1	Cardiovascular Endurance

The findings presented in Table 1 show that the average score of each fitness component varies among students. The 50-meter sprint test recorded an average time of 8.30 seconds, indicating a moderate level of speed performance according to the TKJI standard. The hanging arm flexion test produced an average of 14 repetitions, which falls within the “moderate” strength category. The sit-up test, which evaluates abdominal endurance, yielded an average of 20 repetitions, also within the “moderate” category. The vertical jump test achieved an average of 45 cm, representing a fair level of explosive leg power, while the 1000-meter run recorded an average of 4.10 minutes, suggesting a moderate cardiovascular endurance level.

Table 2. Classification of Overall Physical Fitness Levels

No	Fitness Level Category	Score Range	Frequency (Students)	Percentage (%)
1	Excellent (BS)	22–25	0	0%
2	Good (B)	18–21	10	29%
3	Moderate (S)	14–17	23	68%
4	Poor (K)	10–13	1	3%
5	Very Poor (KS)	5–9	0	0%
Total			34	100%

As shown in Table 2, the overall classification of physical fitness levels among students indicates that the majority (68%) belong to the “Moderate” category, while 29% of students achieved a “Good” classification, and only 3% fell into the “Poor” category. No students were categorized as “Excellent” or “Very Poor.” These findings reflect that the

general physical fitness of students at SMP Negeri 7 Pangaribuan remains at a moderate level, aligning with previous studies by Ilyas and Almunawar (2020) and Saputra et al. (2023), who reported similar results among Indonesian junior high school students.

Discussion

The findings of this study revealed that the overall physical fitness level of eighth-grade students at SMP Negeri 7 Pangaribuan was predominantly categorized as moderate, with an average total score of 16.74 based on the Indonesian Physical Fitness Test (TKJI) norms. Specifically, 68% of students were classified as having moderate physical fitness, 29% as good, and only 3% as poor. These results indicate that the majority of students possess an adequate level of fitness for daily activities but have not yet reached optimal levels for enhanced physical performance or sports achievement. Each component of the test speed, strength, endurance, explosive power, and cardiovascular capacity showed consistent patterns, with most students performing within the moderate range. This outcome reflects the general physical condition of adolescents in rural Indonesian schools, where physical activity may be limited to school hours and daily household tasks.

The findings of this study are consistent with those reported by Ilyas and Almunawar (2020), who found that extracurricular volleyball students in Tanjung Balai also exhibited moderate levels of physical fitness. Their research emphasized that physical fitness outcomes were closely related to exercise frequency, motivation, and physical activity exposure. Similarly, Saputra, Bayu, and Destriani (2023) found that junior high school students in Palembang achieved moderate fitness levels, even among those actively participating in physical education, suggesting that school-based physical activity alone may not be sufficient to achieve optimal fitness. This supports the present study's conclusion that additional structured and continuous exercise outside regular school hours is essential to enhance overall student fitness.

In relation to theoretical perspectives, these results align with Harsono's (2001) argument that physical conditioning is a foundational factor influencing both athletic performance and daily functional capacity. He noted that without a well-developed physical condition, students cannot achieve maximum performance in either academic or athletic contexts. The moderate classification found in this study confirms that students' current fitness levels are sufficient for routine activities but still below the ideal standard for physical education objectives. Moreover, Nurhasan (2005) highlighted that the balance between training intensity, rest, and nutrition determines the sustainability of physical fitness improvements. The findings from SMP Negeri 7 Pangaribuan align with this principle, as limited access to sports facilities and possibly inconsistent nutrition could contribute to suboptimal results.

The rural context of this study also plays a crucial role in interpreting the results. Students in remote areas often have fewer opportunities for organized sports and structured physical activity programs compared to those in urban schools (Sajoto, 2006). This condition may explain why none of the students achieved the "excellent" category, despite demonstrating potential in several test components such as leg power and abdominal endurance. Furthermore, environmental and lifestyle factors including long travel distances to school, limited recreational infrastructure, and differing cultural attitudes toward sports participation can affect adolescents' overall physical activity levels. These contextual limitations reinforce the need for localized physical education strategies that are both accessible and adaptable to rural school environments.

Another significant implication of this study lies in the gender-based performance differences observed during data collection. Male students generally performed better in speed and strength tests, while female students showed relatively balanced results in endurance and flexibility-based tests. This observation aligns with Suharno HP (1986), who explained that biological and hormonal differences influence the development of muscle mass and cardiovascular efficiency between genders. While these variations are natural, schools can address them by developing inclusive physical education programs that cater to both male and female students' specific physiological characteristics, ensuring that each student receives equal opportunities to enhance their fitness capacity.

Overall, the results of this study strengthen existing evidence that the majority of Indonesian adolescents fall within moderate fitness levels, particularly those who are not actively engaged in sports clubs or extracurricular activities. However, this research also contributes new insights by providing empirical data from a rural educational setting in North Tapanuli a region that has received limited scholarly attention. The study supports the argument that consistent, structured, and well-supervised physical activity is essential to improve students' overall health and fitness. To achieve this, schools should consider implementing daily fitness routines, integrating community-based sports programs, and promoting active lifestyles beyond the classroom. Thus, the findings not only validate prior theories on adolescent physical fitness but also emphasize the urgent need for policy-driven interventions to enhance physical education quality and accessibility across Indonesia's diverse regions.

CONCLUSION

The results of this study concluded that the overall physical fitness level of eighth-grade students at SMP Negeri 7 Pangaribuan, North Tapanuli Regency, during the 2023/2024 academic year, was generally categorized as moderate. This finding answers the research objective of identifying the physical fitness profile of students through five test components speed, strength, endurance, explosive power, and cardiovascular capacity using the Indonesian Physical Fitness Test (TKJI). The analysis showed that most students demonstrated an adequate level of physical condition, with the majority falling within the moderate category and only a few reaching the good level. These results indicate that the students are capable of performing normal daily activities but still require improvement to reach an optimal state of physical fitness.

The study's findings also emphasize that regular and structured physical education programs are essential to enhance students' overall fitness. Limited training intensity, insufficient exercise outside school hours, and environmental constraints likely contributed to the moderate results observed. Therefore, collaboration between teachers, schools, and parents is crucial to create a supportive environment that encourages consistent physical activity and healthy living habits. By understanding the current condition of students' physical fitness, this research provides valuable data that can serve as a reference for developing effective school-based health and fitness programs, particularly in rural areas. Ultimately, this study contributes to the broader goal of improving adolescent well-being and performance through evidence-based physical education strategies that promote lifelong health and physical development.

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CONFLICT OF INTEREST

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

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