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Physical Fitness Profile of Malang Phase B Students for Pre Service Physical Education Teachers

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Keywords

Physical fitness; Physical Education; learning planning

Abstract

Physical Education, Sport, and Health Physical Education is an important component in supporting students' physical development, motor skills, and readiness to learn. However,the increasing sedentary behavior among urban children may reduce their physical fitness levels. This study aimed to identify the physical fitness profile of Phase B students in Malang City as a foundation for preparing Physical Education learning plans for pre-service teachers. The research used a quantitative approach with a descriptive design and a test-based survey method. It was conducted at SDN Percobaan 1 Malang, with students selected through purposive sampling. The instrument used was the Indonesian Student Fitness Test for Phase B. The data were analyzed using descriptive statistics, including frequencies and percentages.The results showed that students' physical fitness was mostly in the good category (44.29%), followed by moderate (25.71%), very good (17.86%), and poor (12.14%). Different achievements were found in each test component. Hand-eye coordination and agility obtained better results than flexibility and core muscle endurance. These findings indicate that students'physical activity tends to develop coordinative and dynamic movement skills more than flexibility and muscular strength. Therefore, TKSI results can be used as a basis for designing Physical Education learning that is more relevant, adaptive, and aligned with students'needs.

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INTRODUCTION

Physical Education, Sport, and Health Physical Education contributes significantly to education, as it not only focuses on physical development but also supports cognitive, affective, emotional, and social growth (Sari et al., 2024). In the implementation of the Independent Curriculum, Physical Education learning in Phase B of elementary school is directed toward developing basic movement skills, forming healthy living habits, and improving students' physical fitness as provision for supporting learning activities and daily life.

At this phase, students are at an early motor development stage, so they require physical activity that is directed and structured so that physical growth and movement abilities can develop optimally. This condition shows that physical fitness is a very important part of Physical Education learning in elementary school. Students with good physical fitness are generally more active and enthusiastic during learning, can learn more effectively, and are less likely to become fatigued during school activities (Mulyana et al., 2024).

Physical fitness refers to a person's capacity to carry out daily activities properly without quickly becoming overly tired, even under specific physical loads (Wicaksono et al., 2022). For elementary school-age children, physical fitness is closely related to body growth, health status, movement skill development, and students' readiness to participate in learning. Students with good physical fitness generally have better endurance, better school attendance, and stronger concentration in learning (Citrawati & Ilyas, 2024). Research by Dewi et al., (2021) showed that good physical fitness can help reduce body fat levels. In addition, physical fitness is also associated with improved learning concentration, self-confidence, discipline, and academic achievement. These findings are supported by Anugrah & Pramesti, (2025) who showed that the better the students' physical fitness level, the more optimal their learning activities. In line with these findings Pratama & Nurrochmah, (2023) also indicated a meaningful relationship between physical fitness and student learning outcomes. Thus, physical fitness not only functions to maintain physical condition, but also contributes to the quality of learning and students' overall development.

In an ideal situation, Primary school children need to engage in regular physical activity to support and enhance their physical fitness(Due et al., 2024). The World Health Organization advises that children aged 5–17 years engage in at least 60 minutes of moderate-to-vigorous physical activity each day (Chaput et al., 2020). Consistent physical activity not only useful for maintaining health, but also helps growth, movement skill development, and students' readiness to learn.

In formal educational settings, Physical Education learning should be the main means for students to meet these physical activity needs through various planned and continuous movement activities. Through Physical Education learning, elements of physical fitness such as endurance, strength, speed, agility, body coordination, and flexibility can be developed systematically according to students' developmental stages. In addition, physical fitness exercises performed regularly at least three times a have likewise shown beneficial effects on children's physical health (Bafirman & Wahyuri, 2019).

However, this ideal condition has not yet been fully achieved for all students, especially in urban elementary schools. Changes in urban lifestyles have caused children's physical activity to decrease due to increased gadget use, longer screen time, limited play spaces, and the habit of using motorized vehicles in daily activities. This situation can affect the decline in students' physical fitness if daily physical activity needs are not met properly.

This phenomenon is important to examine among Phase B students in Malang City. The school actually provides various activities that support students' physical fitness, such as Physical Education learning every Tuesday, gymnastics and cleaning group activities every Wednesday, and extracurricular activities every Thursday. However, the existence of these activities still cannot clearly show the extent to which students' physical fitness has developed optimally. Therefore, research on the physical fitness profile of Phase B students in Malang City is needed to obtain empirical data that can be used as a reference in preparing Physical Education learning plans, especially for pre-service teachers. Such data are important because good learning planning should be prepared based on students' real conditions, so that

Physical Education learning is not only carried out as routine, but can also take place in a more directed, adaptive, and need-based manner.

Previous studies on elementary school students' physical fitness have been widely conducted. Due et al., (2024) found that the physical fitness condition of fifth-grade students at SDI Tarawaja was classified in the moderate category. Meanwhile, Wahid & Kurniawan, (2023) found that students' physical fitness level at SDN Kauman 1 Malang City was dominated by the very poor category. These differences indicate that students' physical fitness may be related to various factors, such as environmental conditions, physical activity habits, and students' lifestyles.

Although various studies on physical fitness have been conducted, research that specifically examines the physical fitness profile of Phase B students in Malang City and links it to Physical Education learning planning for pre-service teachers is still limited. Therefore, this research is important to provide a clearer picture of students' physical fitness conditions and to serve as a guide in designing Physical Education learning that is more appropriate to students' needs. As future Physical Education teachers, the ability to design learning that is relevant to students' needs is a highly necessary competency. Well-designed learning that pays attention to learning objectives can help students learn and develop optimally (Bayu et al., 2022). Therefore, learning planning should not only be based on curriculum targets, but also on empirical data regarding students' conditions, including their physical fitness level.

In this context, students' physical fitness profiles can be used by pre-service teachers as a basis for determining learning objectives, choosing appropriate physical activities, setting exercise intensity, and developing more relevant learning strategies according to students' conditions. Research by Finny et al., (2024) proved that differentiated learning adapted to learners' physical abilities can improve students' physical fitness. In addition, physical fitness assessment results can also be applied to evaluate and enhance the learning process that has been carried out (Fudin, 2023). Thus, pre-service teachers do not only act as learning implementers, but also as educators who are able to make data-based pedagogical decisions. This is reinforced by Bayu et al., (2021) who stated that student fitness data can be used by teachers to analyze students' physical conditions and determine the right steps to maintain and improve their physical fitness.

Referring to this background, this research was conducted to analyze the "Physical Fitness Profile of Phase B Students in Malang City as a Basis for Planning Physical Education Learning for Pre-Service Teachers." The study is expected to provide information about students' physical fitness conditions and at the same time become a reference for pre-service teachers in preparing Physical Education learning that is more relevant, effective, and in line with the characteristics of elementary school students.

METHODS

This research was conducted using a quantitative approach and descriptive design through a test survey method (Arikunto, 2021). This approach was chosen to describe students' physical fitness conditions objectively based on numerical data without any special treatment for the research subjects (Creswell & Creswell, 2021). Through this method, the researcher could obtain a factual picture of students' physical fitness levels based on measurements obtained in the field.

This study was conducted at SDN Percobaan 1 Malang City among Phase B students. The study involved all third- and fourth-grade students as the population. Meanwhile, the sample was selected using purposive sampling, where participants were determined based on specific criteria most appropriate to the research purpose (Sugiyono, 2019). Based on this technique, the sample in this study focused on 28 fourth-grade students because they belonged to Phase B of the Merdeka Curriculum and were the learning subjects taught by the researcher during the Field Experience Program (PPL).

The data in this study were collected using the TKSI Phase B instrument, developed by the Indonesian Ministry of Elementary and Secondary Education. This instrument consists of five test forms. The five test items were designed to evaluate various physical fitness components of students. Data collection was carried out by administering the entire sequence

of tests according to the TKSI Phase B procedure. The test results were then recorded and converted into physical fitness norm categories. Next, the data were analyzed using descriptive statistical methods by calculating mean values, frequencies, and percentages to determine the students' overall physical fitness profile as well as the profile of each test component.

RESULTS AND DISCUSSION

Overall Physical Fitness Profile of Phase B Students

The research was carried out at SDN Percobaan 1 Malang City on May 17, 2026, with a duration of 140 minutes. The participants involved in this study were 28 Phase B students. The results of the physical fitness assessment are presented in **Figure 1**.

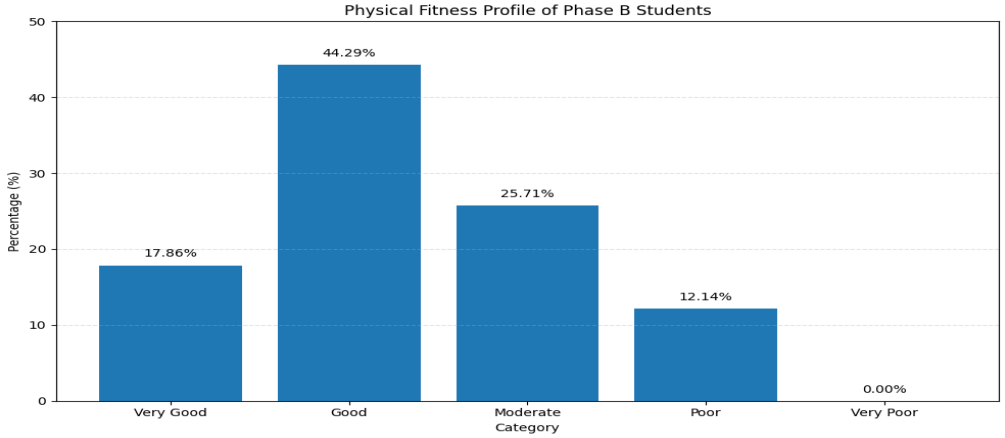

Figure 1. Physical Fitness Profile of Phase B Students

Based on **Figure 1.** the physical fitness profile of Phase B students showed that the good category was the most dominant, with a percentage of 44.29%. This was followed by the moderate category at 25.71%, the very good category at 17.86%, and the poor category at 12.14%. The absence of students in the very poor category indicates that, in general, the students' physical fitness level was fairly optimal and adequate.

The findings of this study are consistent with Wachid & Firdaus, (2025) who found that the physical fitness condition of students at SDN Ambunten Timur generally fell into the good category based on the TKSI instrument. This shows that most students already have sufficient physical condition to actively participate in Physical Education lessons and daily learning activities at school. This is supported by Choi et al., (2022) who found that fit children tend to be more focused and enthusiastic in learning, and have stronger endurance during school activities.

This condition is inseparable from the school culture, which indirectly encourages students to develop an active lifestyle. Based on field observations, the school has several routine programs that support students' physical activity, such as group gymnastics, cleaning group activities every Wednesday, Physical Education learning every Tuesday, and extracurricular activities every Thursday. These activities show that the school environment has provided consistent movement stimuli for students. From an educational ecology perspective, a physically active school environment plays a vital role in developing children's movement behavior and supporting continuous improvements in physical fitness.

Profile of Each Test Component

The results of each physical fitness test component are presented in **Figure 2.** Based on **Figure 2.** variations were observed across the different components of students' physical fitness. The Hand-Eye Coordination Test, the very good category was the most dominant at 64.00%. Meanwhile, the T-Test showed that most students were in the good category at 43.55%. These results indicate that students' movement coordination and agility developed better than other fitness components.

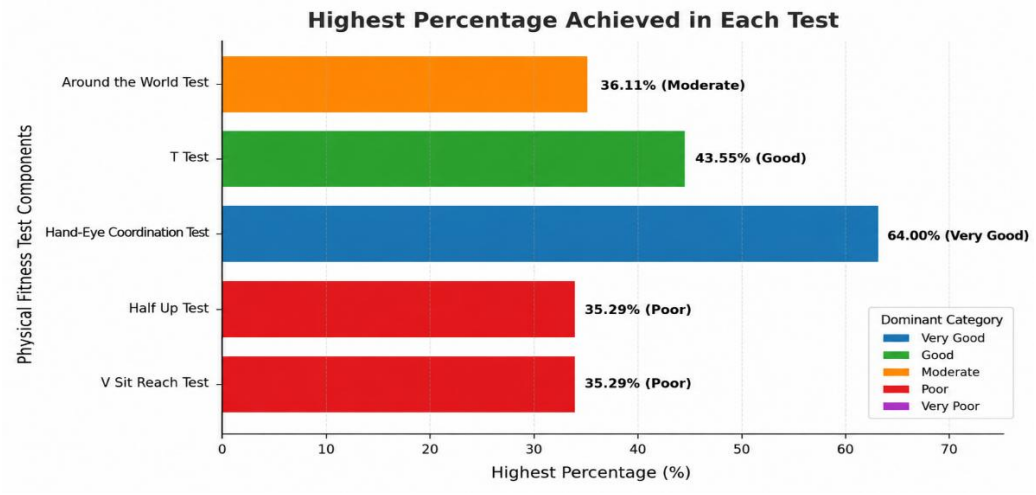

Figure 2. Highest Percentage Achieved in Each Physical Fitness Test Component

Movement coordination and agility are important components in the improvement of physical fitness from an early age (Kardi et al., 2025). Movement coordination helps the body perform movements effectively, efficiently, and in a controlled manner, while agility supports the capacity to move and change direction swiftly while maintaining balance. Both components contribute greatly to physical performance and overall physical fitness.

The high achievement in these two components may be influenced by the characteristics of physical activities that students often perform at school. Various activities involving dynamic movement, active play, body position changes, and collaborative tasks indirectly train students' coordinative and agility abilities. Group gymnastics, games in Physical Education lessons, and extracurricular programs provide chances for students to perform movement activities that involve coordination and agility more often. This finding shows that repeated exposure to movement activities can help improve motor adaptation in elementary school-age children. This is consistent with Naufaldi, (2025), who stated that routine variations in play activities can significantly improve the basic motor movement skills of elementary school students.

However, the results showed that the development of several physical fitness components was not yet balanced. In the Half Up Test, the moderate category was the most dominant, with a percentage of 30.56%. Meanwhile, the V Sit and Reach Test and the Around the World Test showed relatively high percentages in the poor category, at 35.29%. These findings indicate that students' flexibility and core muscle endurance had not developed as optimally as their movement coordination and agility.

In fact, flexibility and muscular endurance are important components of physical fitness (Arjuna et al., 2025). Flexibility plays a role in improving movement efficiency while helping reduce the risk of injury, whereas muscular endurance supports the ability to engage in physical activity for a prolonged time without excessive fatigue. In other words, both components play an important role in supporting students' daily physical activities and movement performance.

From a physiological perspective, this condition may be influenced by students' daily physical activities, which are more dominated by spontaneous movements, play, and recreational activities. These activities are indeed effective in training coordinative ability and agility, but they are not specifically designed to train core muscle strength and body flexibility. This shows that although the school has succeeded in building an active lifestyle culture among students, the exercise stimulus provided still needs to be directed more specifically so that the development of each physical fitness component can take place more evenly.

The results of this study indicate that high student physical activity is not always followed by the development of all physical fitness components equally. These research findings are in line with Muhammad et al., (2022), who showed that high physical activity does not necessarily improve all physical fitness components evenly. Some types of physical activity tend to have a greater effect on endurance than on flexibility or muscular strength.

General physical activity is indeed effective in forming active movement habits in students, but it does not necessarily optimize all aspects of fitness if it is not designed in a gradual and directed way. Therefore, in the context of school education, Physical Education teachers have a very important role in designing learning activities according to students' physical needs.

The use of TKSI results should not be limited to physical fitness measurement alone, but should also be used as a basis for more targeted learning interventions. Through these data, teachers can maintain students' abilities in areas that are already well developed, such as coordination and agility, while adding activities focused on core muscle strengthening, dynamic stretching, and flexibility training so that the development of students' physical fitness becomes more balanced.

Implications for Learning and Educational Practice

More broadly, the results of this study show that physical fitness has an important relationship with elementary school students' readiness to learn. Students with good fitness levels tend to be able to follow learning more optimally, both in terms of concentration and involvement in learning activities. This is in line with Laurent et al., (2022), who proved that students with good fitness conditions have better learning readiness and concentration during the learning process.

In addition, Indrayogi et al., (2021) also explained that fit students are better able to maintain concentration while learning and are active in participating in the learning process at school. These findings indicate that physical fitness is not only related to physical condition, but also affects the quality of students' learning. Therefore, physical fitness needs to be viewed as an important part of the elementary school education ecosystem.

The novelty of this study lies in the use of TKSI data, which are not only used to identify students' physical condition, but also serve as a basis for making Physical Education learning decisions. With this data, teachers can design learning that is more flexible, contextual, and aligned with students' needs so that the learning process becomes more effective and directed.

This study shows that the physical fitness profile of Phase B students in Malang City is generally in the good category. This indicates that most students already have sufficient physical condition to support their involvement in Physical Education learning. In addition, the findings also show that elementary school students' physical fitness is still in a functional condition, allowing it to support learning activities that involve a lot of movement.

This condition is in line with the developmental stage of elementary school children, who need structured physical activity to support physical growth, motor development, and overall readiness to learn. Therefore, physical fitness should not only be viewed as an indicator of physical health, but also as an important part that supports the quality of the learning process at school.

More specifically, the findings show variations in achievement across each physical fitness component. The hand-eye coordination and agility components showed relatively better results than the others. The dominance of the very good category in the Hand-Eye Coordination Test and the high achievement in the T-Test indicate that students already have fairly well-developed coordinative and movement control abilities. This may be influenced by the characteristics of elementary school children's activities, which tend to involve more dynamic games, manipulative activities, and movement from place to place. In the Physical Education learning context, good coordination and agility are important assets for students to participate in various games, basic sports, and movement-skill-based learning.

On the other hand, the results show that students' core muscle endurance and flexibility had not developed optimally. This is seen from the dominance of the moderate category in the Half Up Test and the relatively even distribution of results in the V Sit and Reach Test and Around the World Test. These findings indicate that students' physical abilities in flexibility and core muscle endurance still need to be improved compared to other fitness components.

This condition suggests that the development of each physical fitness component has not yet occurred evenly. Theoretically, this may happen because the physical activities that students perform in daily life involve more dynamic and coordinative movements than

exercises that specifically focus on flexibility and core muscle strengthening. In addition, the increase in sedentary behavior among elementary school children, such as prolonged use of gadgets and low levels of physical activity outside school, may also be a factor influencing this condition.

The results of this study confirm that Physical Education learning has a very important role in maintaining and improving students' physical fitness. In elementary school, Physical Education does not only function to develop movement skills, but also serves as a means to establish active and healthy lifestyle habits from an early age. Therefore, Physical Education learning should be designed in a more structured and systematic manner, with the aim of developing all physical fitness components in a balanced manner. Teachers should not only emphasize games and agility, but also gradually and systematically include flexibility exercises, core muscle strengthening, and physical endurance activities according to the developmental characteristics of Phase B students.

The findings of this study also have important implications for Physical Education pre-service teachers in designing learning that matches students' needs. Students' physical fitness profiles can be used as initial data to determine learning objectives, select relevant teaching materials, regulate physical activity intensity, and establish learning strategies in accordance with students' conditions. In this way, Physical Education learning is not only oriented toward carrying out physical activities, but is also designed based on an actual analysis of students' needs in the field. Such a data-based approach is important so that the learning process can take place more adaptively, effectively, and in line with the context and needs of learners.

In addition, this study also shows that the use of TKSI is not only useful as an instrument for assessing students' physical fitness, but can also serve as a basis for Physical Education pre-service teachers in making instructional decisions. Through the fitness test results, teachers can identify which physical components have developed well and which components still need improvement through learning. Based on this information, pre-service teachers can design learning that is more directed, both to maintain students' coordination abilities and to improve flexibility and core muscle endurance. Therefore, the novelty of this study lies in the use of physical fitness profiles as a foundation for designing Physical Education learning that is tailored to students' needs, rather than merely as a description of students' fitness levels.

CONCLUSION

This study found that the physical fitness profile of Phase B students in Malang City was generally in the good category, indicating that they were physically ready to participate in Physical Education learning. However, the development of fitness components was not yet balanced, as hand-eye coordination and agility were better than flexibility and abdominal muscle endurance. The findings of this research show that students' physical fitness profiles can be used as a basis for designing Physical Education learning for pre-service teachers, helping them create learning that is more contextual, adaptive, and relevant to students' needs. Nevertheless, this study was limited to one elementary school, so future research should involve larger and more diverse samples to obtain a more comprehensive physical fitness profile of elementary school students.

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