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Indonesia student fitness: a quantittive descriptive study SDN 5 sungai ulin, banjarbaru

Kebugaran siswa indonesia: studi deskriptif kuantitatif di sdn 5 sungai ulin, banjarbaru

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ABSTRACT

This study aims to describe the physical fitness levels of students at SDN 5 Sungai Ulin based on the results of the TKSI Stage B test, evaluated by individual test items. A descriptive quantitative approach was used in this research. The study was conducted at the elementary school field of SDN 5 Sungai Ulin, Banjarbaru. The subjects were third and fourth-grade students, consisting of 104 students (52 males and 52 females) aged 8-10 years during the 2024/2025 academic year. The survey method was employed, with data collected through the Indonesian Student Fitness Test (TKSI). The Stage B TKSI results include five main assessment items: V Sit and Reach Test, Half Up Test, Hand-Eye Coordination Test, T-test, and Around the World Test. These five fitness tests provide a comprehensive picture of various physical fitness aspects, including flexibility, abdominal strength, hand-eye coordination, agility, and cardiovascular endurance. In general, most students fall within the "Moderate" to "Poor" categories. Flexibility and hand-eye coordination showed relatively good results, particularly among female students. However, agility and aerobic endurance require significant improvement, with most students categorized as "Poor".

Keywords: *physical fitness; quantitative descriptive; primary school*

Penelitian ini bertujuan untuk mendeskripsikan tingkat kebugaran jasmani siswa di SDN 5 Sungai Ulin berdasarkan hasil tes TKSI Tahap B secara peritem test. Penelitian ini menggunakan pendekatan deskriptif kuantitatif. Lokasi penelitian terletak di Lapangan Sekolah Dasar 5 Sungai Ulin Kota Banjarbaru. Subjek penelitian adalah siswa kelas tiga dan empat dari Sekolah Dasar Negeri 5 Sungai Ulin, yang terdiri dari 104 siswa (52 laki-laki dan 52 perempuan) dengan rentang usia 8-10 tahun pada tahun ajaran 2024/2025. Metode yang digunakan dalam penelitian ini adalah metode survei dengan teknik pengumpulan data melalui Tes Kebugaran Siswa Indonesia (TKSI). Hasil tes TKSI Tahap B mencakup lima item penilaian utama, yaitu V Sit and Reach Test, Half Up Test, Hand-Eye Coordination Test, T-Test, dan Around the World Test. Hasil dari lima tes kebugaran ini memberikan gambaran menyeluruh tentang berbagai aspek kebugaran fisik siswa SDN 5 Sungai Ulin, termasuk fleksibilitas, kekuatan otot perut, koordinasi mata-tangan, kelincahan, dan ketahanan kardiovaskular. Secara umum, mayoritas siswa berada pada kategori "Sedang" hingga "Kurang." Fleksibilitas dan koordinasi mata-tangan menunjukkan hasil yang cukup baik, terutama di kalangan siswa perempuan. Namun, kelincahan dan ketahanan aerobik masih memerlukan peningkatan signifikan, dengan sebagian besar siswa berada dalam kategori "Kurang".

Kata kunci: kebugaran fisik; deskriptif kuantitatif; sekolah dasar

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INTRODUCTION

Education has an important role in developing students' potential, both spiritually and intellectually. An effective educational process is not only limited to the transfer of knowledge from teacher to student but also includes the development of essential character and life skills. Education should be a vehicle that forms individuals who are balanced, able to think critically, and have empathy and a sense of social responsibility (Shavkidinova et al., 2023). One of the main goals of education is to prepare students to adapt to the ever-evolving changes of the times (Green et al., 2020).

With the rapid development of technology and information, the ability to adapt is very crucial. Students are not only required to master theoretical knowledge but must also be able to apply it in contexts relevant to future challenges. In addition to the academic aspect, education must also pay attention to another equally important aspect, namely physical fitness, which plays a crucial role in supporting students' physical and mental health. Physical fitness is the foundation that supports students' health and vitality, which in turn affects their ability to learn and develop optimally (Yaroshevich, 2023). A comprehensive education should include efforts to build healthy living habits that begin at an early age Reynolds et al. (2021), Because good physical health is the main capital to achieve achievements in various areas of life.

Physical fitness refers to a person's physical ability to perform daily activities without feeling tired and with enough energy (Irmawan et al., 2022). With optimal physical fitness, our bodies can function properly, we can enjoy our free time, and be ready for emergency situations (Mashud et al., 2024). Parents hope that their children have good fitness to live their daily lives efficiently and healthily. Teachers and school staff hope that students have adequate fitness so that they can actively participate in learning and school activities. The government and educational institutions also expect that students have sufficient fitness to support physical growth and overall well-being. In addition, society as a whole wants a healthy and active young generation, who can contribute positively to society in the future. Optimal physical fitness not only supports physical health, but also plays a role in improving students' focus, memory, and motivation in learning, thereby supporting better academic achievement (Du et al., 2023).

The reality on the ground shows that the physical fitness of students in Indonesia faces serious challenges. Lack of physical activity and unhealthy diet are the main factors causing the low level of physical fitness of school students. The 2023 Sports Development Index Report reveals that the physical fitness condition of Indonesia's children and youth is very worrying, with only 6.79% of the 10–15-year age group having physical fitness in the good or better category, while 77.12% are in the category of Poor and Very Poor. Research in various

regions also supports these findings. For example, research by Nugroho et al. (2022) A physical fitness survey on grade IV, V, and VI students at SD Negeri 02 Celep, Nguter District, Sukoharjo Regency in 2022 showed that 56.3% (40 students) were in the "Lacking" category. On the other hand, research by Risaldi et al. (2023) On 25 students of SD Negeri 1 Siwalan, Sawahan District, showed that 60% of students were in the "Moderate" category, while only 4% were in the "Very Good" category.

This low level of physical fitness not only affects students' physical health, but also negatively affects learning ability, and active participation in school activities, and increases the risk of health problems in adulthood (Warni et al., 2019; Zainudin et al., 2019). Research by Redondo-Flórez et al. (2022) and Suárez-Cano et al. (2023) showed that there was a significant correlation between physical fitness and academic performance, with factors such as aerobic endurance, VO2 max, blood pressure, and sleep habits associated with higher academic achievement, highlighting the importance of physical activity and overall fitness levels in improving learning outcomes. Physical fitness, especially cardiorespiratory fitness, has been identified as a key mediator in reducing the negative impact of obesity indicators on academic achievement, emphasizing the important role of fitness in academic success (Gajardo-Araya et al., 2022). The data confirms that serious efforts are needed to improve students' physical fitness, given its far-reaching implications for academic achievement and long-term health.

Despite the expectation that students have adequate physical fitness to support their learning and development, the reality is that there is still a significant gap between these expectations and the facts on the ground. The Sports Development Index report shows that the majority of students are in the fitness category with little or very little. This shows that the efforts made so far have not been able to answer the challenge of low levels of physical fitness of students. This gap also raises a problem for researchers, namely the difficulty of increasing student participation in physical activities at school. Researchers observed that students' lack of motivation to actively move and engage in sports, coupled with lifestyle habits that tend to be sedentary, worsens their fitness condition. In addition, many students consider physical activity not a priority, so they prefer other activities that are passive. This problem needs special attention to comprehensively overcome the low physical fitness of students.

Factors that affect students' physical fitness include Physical Activity (PA), Body Mass Index (BMI), Socioeconomic Status (SES), exercise frequency, physical injury, sedentary behavior, obesity, muscle strength, endurance, energy potential, completeness of movement, and state of the musculoskeletal, functional, and endocrine systems (Zenina et al., 2022; Zhang, 2022; Nowreen et al., 2023). Physical fitness is an important aspect of children's physical

development and health. Health-related physical fitness (HRPF), which includes cardiorespiratory endurance, muscle strength, and flexibility, is a key marker of health in children (Redondo-Gutiérrez et al., 2022). Monitoring and ensuring physical fitness in childhood is essential for long-term health promotion and disease prevention in adulthood, highlighting the importance of an active lifestyle from an early age (Badicu et al., 2023).

To improve fitness, it is essential to understand its influencing factors. The researcher's first step is monitoring students' fitness using the Indonesia Student Fitness Test (TKSI), a standard tool in Indonesia for assessing fitness at elementary, junior high, and high school levels. TKSI evaluates elements such as explosiveness, endurance, strength, flexibility, agility, balance, coordination, and reaction time. Given the rise in sedentary habits and health issues, this study aims to assess the fitness levels of students at SDN 5 Sungai Ulin as a foundation for developing an effective and sustainable improvement strategy.

METHOD

This study uses a quantitative descriptive approach. The research location is located in the Field of Elementary School 5 Sungai Ulin, Banjarbaru. The study subjects are third and fourth-grade students from the 5 Sungai Ulin State Elementary School, consisting of 104 students (52 boys and 52 girls) with an age range of 8-10 years in the 2024/2025 school year. The method used in this study is a survey method with data collection techniques through the Indonesia Student Fitness Test (TKSI) developed by the Ministry of Education, Culture, Research, and Technology (2021). In the implementation of TKSI, the health condition of students must be ensured to be good. TKSI Phase B includes five test items, namely V Sit and Reach Test, Half Up Test, Hand-Eye Coordination Test, T-test, and Around the World Test.

1) V Sit and Reach Test

It is a test that is carried out by pushing both hands forward from a sitting position all the way. This test aims to measure the flexibility of the muscles of the lower back and back thighs. Here is Table 1. which presents the Assessment Norms V Sit and Reach Test.

Table 1. Assessment norm v sit and reach test

Male students	Female students	Skor	Category
≥ 5.5	≥ 5.52	5	Very good
1.5 - 5.4	1.52 - 5.51	4	Good
-2.42 - 1.51	-1.97 - 1.51	3	Moderate
(-10.2) - (-2.4)	(-8.91) - (-1.98)	2	Poor
≤ -10.3	≤ -8.91	1	Very Poor

2) Half Up Test

It is a test that is carried out by bending the abdomen from a supine position, following the rhythm of the pacer. The test aims to measure the endurance of the abdominal muscles. Here is Table 2. which presents the Half Up Test Assessment Norms.

Table 2. Assessment norm half-up test

Male students	Female students	Skor	Category
≥ 24	≥ 24	5	Very good
12 - 23	12 – 23	4	Good
7 - 11	7 – 11	3	Moderate
2 - 6	2 – 6	2	Poor
≤ 1	≤ 1	1	Very Poor

3) Hand-Eye Coordination Test

It is a test that is carried out by throwing the ball towards the wall with one hand and catching the ball again using the same hand. This test aims to measure hand-eye coordination. Here is Table 3. which presents the Hand-Eye Coordination Test Assessment Norms.

Table 3. Assessment norm hand-eye coordination test

Male students	Female students	Skor	Category
≥ 8	≥ 8	5	Very good
5 - 7	5 – 7	4	Good
3 - 4	3 – 4	3	Moderate
1 - 2	1 – 2	2	Poor
≤ 0	≤ 0	1	Very Poor

4) T-Test

It is a test that is carried out by running forward, galloping or congealing to the side, and running backward (Multidirectional). This test aims to measure agility. Here is Table 4. which presents the T-test Assessment Norms.

Table 4. Assessment norm t-test

Male students	Female students	Skor	Category
≤ 00.11.84	≤ 00.13.97	5	Very good
00.18.82 - 00.11.83	00.20.95 - 00.13.96	4	Good
00.24.83 - 00.18.83	00.26.96 - 00.20.96	3	Moderate
00.30.84 - 00.24.84	00.32.95 - 00.26.95	2	Poor
≥ 00.30.83	≥ 00.32.96	1	Very Poor

5) Around the World Test

It is a test that is carried out by running to move the ball from one seat to another. The distance between the seats is 15 meters. This test aims to measure

cardiopulmonary endurance. Here is Table 5. which presents the Assessment Norms Around the World Test.

Table 5. Assessment norm around the world test

Male Students	Female Students	Skor	Category
≥ 29	≥ 29	5	Very good
23 - 28	23 – 28	4	Good
16 - 22	16 – 22	3	Moderate
9 - 15	9 – 15	2	Poor
≤ 8	≤ 8	1	Very Poor

Before conducting the five tests, students were first measured by their date of birth, height, and weight, as well as calculated Body Mass Index (BMI). The data from this measurement is directly entered into the TKSI calculator available on the website (TKSI Ministry of Education and Culture, 2021), so that researchers do not need to do manual calculations to obtain conclusions for the test category.

FINDINGS AND DISCUSSIONS

Findings

This research is quantitative descriptive research that aims to obtain information about students' level of physical fitness. The results of the data analysis are presented in the form of percentages of the student's physical fitness category. The TKSI Phase B measurement provided descriptive statistical results for 104 students taken from four classes (grades 3 and 4) at State Elementary School 5 Sungai Ulin. The following is Table 6 showing the gender frequency distribution of TKSI Phase B.

Tabel 6. Distribusi frekuensi gender tksi fase b

Gender	Frequency	Persentase (%)
Male students	52	50%
Female students	52	50%
Total	**104**	**100%**

The following are the results of the students' physical fitness tests presented in Tables 7, 8, 9, 10, 11, and 12. These results have been converted into grades and percentages, providing a detailed picture of the student's physical performance for each test item.

Here is Table 7. which presents the results of the V Sit and Reach Test. This table provides a detailed overview of the results of the student flexibility test, with scores and percentages indicating the level of physical ability on this test.

Table 7. Result v sit and reach test

No	Value	Frekuensi		Persentase (%)	
		Male Students	Female Students	Male Students	Female Students
1	Very good	9	28	17.30%	53.84%
2	Good	16	12	30.77%	23.08
3	Moderate	12	10	23.08%	19.23%
4	Poor	10	2	19.23%	3.85%
5	Very Poor	5	-	9.62%	-
	Total	52	52	100%	100%

Here is Table 8, which presents the results of the Half Up Test. This table provides detailed information regarding students' performance in strength tests and measures abdominal muscle endurance, complete with scores and percentages that reflect their abilities.

Table 8. Result half up test

No	Value	Frekuensi		Persentase (%)	
		Male Students	Female Students	Male Students	Female Students
1	Very good	14	15	26.92%	28.84%
2	Good	18	18	34.62%	34.62%
3	Moderate	20	18	38.46%	34.62%
4	Poor	-	1	-	1.92%
5	Very Poor	-	-	-	-
	Total	52	52	100%	100%

The following is Table 9. which presents the results of the Hand-Eye Coordination Test. This table provides a detailed overview of the student's eye-hand coordination ability, with scores and percentages indicating the skill level on this test.

Tabel 9. Result hand-eye coordination test

No	Value	Frekuensi		Persentase (%)	
		Male Students	Female Student	Male Student	Female Students
1	Very good	32	28	61.54%	53.85%
2	Good	20	24	38.46%	46.15%
3	Moderate	-	-	-	-
4	Poor	-	-	-	-
5	Very Poor	-	-	-	-
	Total	52	52	100%	100%

Here is Table 10. which presents the results of the T-Test. This table provides a detailed overview of how students perform on the agility test, with scores and percentages indicating their level of proficiency in these aspects.

Tabel 10. Result t-test

No	Value	Frekuensi		Persentase (%)	
		Male Students	Female Students	Male Students	Female Students
1	Very good	-	2	-	3.85%
2	Good	5	8	9.62%	15.38%
3	Moderate	21	16	40.38%	30.77%
4	Poor	26	26	50.00%	50.00%
5	Very Poor	-	-	-	-
	Total	52	52	100%	100%

Here is Table 11 which presents the results of the Around the World Test. This table provides a detailed overview of how students perform on the agility test, with scores and percentages indicating the level of ability in these aspects.

Tabel 11. Results around the world test

No	Value	Frekuensi		Persentase (%)	
		Male Students	Female Students	Male Students	Female Students
1	Very good	-	2	-	3.85%
2	Good	4	4	7.69%	7.69%
3	Moderate	12	8	23.08%	15.38%
4	Poor	36	38	69.23%	73.08%
5	Very Poor	-	-	-	-
	Total	52	52	100%	100%

Discussion

Physical fitness and health aspects are two closely related states. Physical fitness can be defined as the body's ability to perform daily activities efficiently without experiencing excessive fatigue and still having energy reserves for other activities (Mashud et al., 2024). Physical fitness includes a wide array of components that are essential for overall health and performance, including cardiorespiratory fitness, body composition, muscle strength, muscle endurance, and flexibility. In addition, physical fitness related skills include agility, speed, strength, balance, coordination, and reaction time (Hanvoravongchai et al., 2024). Meanwhile, health includes a prosperous physical, mental, and social condition. The relationship between physical fitness and health creates a paradigm where a person's fitness condition can affect their overall health level.

This study aims to describe the level of physical fitness of students at SDN 5 Sungai Ulin based on the results of the TKSI Phase B test on an item-by-item basis. The results of the TKSI Phase B test include five main assessment items, namely V Sit and Reach Test, Half Up Test, Hand-Eye Coordination Test, T-Test, and Around the World Test. Each of these assessment items will be discussed in

detail to provide a comprehensive picture of the student's physical fitness, as well as to identify areas that need improvement.

1) V Sit and Reach Test

Data obtained from the V Sit and Reach Test shows that in the Very Good category, there are 9 male students (17.30%) and 28 female students (53.84%) who achieved this category. In the Good category, there were 16 male students (30.77%) and 12 female students (23.08%) who achieved this category. A total of 12 male students (23.08%) and 10 female students (19.23%) are in the Moderate category. In the Poor category, there were 10 male students (19.23%) and 2 female students (3.85%) who were in this category. No female students reached the Very Poor category, while there were 5 male students (9.62%) in this category.

The data shows that more female students are in the Very Good category compared to male students. These results are in line with the findings of Baltaci et al. (2015) that women generally have better flexibility than men, likely due to anatomical and physiological differences, which indicate a higher level of flexibility among women. In contrast, more male students are in the Poor and Very Poor category compared to female students.

2) Half Up Test

Data obtained from the "Half Up" test showed that in the Very Good category, there were 14 male students (26.92%) and 15 female students (28.84%) who achieved this category. In the Good category, there were 18 male students (34.62%) and 18 female students (34.62%) who achieved this category. A total of 20 male students (38.46%) and 18 female students (34.62%) are in the Moderate category. There were no male students in the Poor category, while only 1 female student (1.92%) was in this category. No students, both from the male and female groups, achieved the Poor Than Once category.

The test results showed that the proportion of students in the Very Good and Good categories was quite balanced between men and women. However, there is one female student in the Lacking category, while there are no male students in this category. This shows that the majority of students have good abdominal muscle strength and endurance.

3) Hand-Eye Coordination Test

Data obtained from the “Hand-Eye Coordination” test showed that in the Very Good category, there were 32 male students (61.54%) and 28 female students (53.85%) who achieved this category. In the Good category, there were 20 male students (38.46%) and 24 female students (46.15%) who achieved this category. There were no students in the Moderate, Poor, or Very Poor category.

Most of the male and female students were in the Very Good category, showing excellent eye-hand coordination. None of the students were in the Moderate, Poor, or Very Poor category, demonstrating generally good coordination skills among all students.

4) T-Test

Data obtained from the "T-Test" test showed that in the Very Good category, there were no male students who achieved this category, while there were 2 female students (3.85%) who achieved this category. In the Good category, there were 5 male students (9.62%) and 8 female students (15.38%) who achieved this category. In the Moderate category, there are 21 male students (40.38%) and 16 female students (30.77%) who are in this category. In the Poor category, there were 26 male students (50.00%) and 26 female students (50.00%) in this category. No student reached the Very Poor category.

The majority of male and female students are in the Lacking category, indicating that their agility still needs to be improved. The proportion of students in the Good and Very Good categories is quite low, which indicates that further agility training is needed to improve overall student performance.

5) Around the World Test

Data obtained from the “Around the World” test showed that in the Very Good category, no male students achieved this category, while only 2 female students (3.85%) achieved this category. In the Good category, there were 4 male students (7.69%) and 4 female students (7.69%) who achieved this category. Most of the students were in the Moderate category, with 12 male students (23.08%) and 8 female students (15.38%) in this category. In the Poor category, there were 36 male students (69.23%) and 38 female students (73.08%) who were in this category. No students, both from the male and female groups, achieved the Than Once category.

The majority of students were in the Lacking category, indicating that their cardiovascular ability and aerobic endurance still need to be significantly improved. Very few students are in the Good and Very Good categories, which indicates that a more intensive training program focused on improving aerobic endurance is urgently needed to help students achieve better fitness levels.

The results of this study show that the majority of students are still in the category that needs to improve physical fitness, especially in the aspects of agility and aerobic endurance. A more structured and intensive exercise program is needed to improve students’ physical fitness, with a focus on agility, muscle strength, and cardiovascular endurance training. The findings also point to the importance of paying special attention to students who fall into the “Poor” and “Very Poor” categories, to prevent further declines in their fitness levels.

CONCLUSION

The results of these five fitness tests provide a comprehensive overview of various aspects of physical fitness of SDN 5 Sungai Ulin students, including flexibility, abdominal muscle strength, eye-hand coordination, agility, and cardiovascular endurance. In general, the majority of students are in the "Moderate " to "Poor" category. Flexibility and eye-hand coordination showed quite good results, especially among female students. However, aerobic agility and endurance still require significant improvement, with most students in the "Poor" category. The implications of these findings underscore the need for more specific and targeted interventions to improve aspects of fitness that are still low. A more effective exercise program tailored to students' individual needs can help improve their overall physical fitness, thus supporting more optimal physical development.

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