



Comparison of the Quality of Physical Fitness of Elementary School Students in Cities and Villages based on Geographical Location

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Abstract

This study aims to investigate differences in the quality of physical fitness of students in cities and villages, which are influenced by geographical location and different daily activities. The research method used was quantitative descriptive with a population and sample of 160 people. The data analysis technique applied is the Mann-Whitney Test. The results showed quantitatively significant differences between the two groups, with the average difference showing that fitness in villages reached 5.42 compared to students in cities. This indicates that the group of students in the village has a higher level of fitness than the group of students in the city. The fitness assessment using the Indonesian Physical Fitness Test (TKJI) category shows that students in the city are in the Medium fitness category, while students in the village are in the Good fitness category. The findings illustrate that more active physical activity in villages may be the cause of the difference. Students in villages tend to have a more active lifestyle, engaging in physical activities such as walking, running, and jumping, while students in cities tend to spend their free time playing with gadgets. In conclusion, the results of this study support the view that geographical factors and daily activities affect students' fitness levels, with implications for TKJI categories that indicate better fitness levels in villages than cities.



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INTRODUCTION

Nowadays education is very necessary and very important for children and adults. Everyone in modern times like today can have it, both men and women can feel the widest education bench (Subakti and Prasetya, 2022). Physical education is a tool to achieve educational goals, or education through the process of adaptation of physical activities such as organs, neuromuscular, intellectual, social, culture, emotional, and ethical (Iyakrus 2019). (Subakti and Prasetya, 2022), Education in PJOK it is to promote motor skills competence and knowledge growth that can be maintained, if integrating knowledge with physical activity and contribution to the educational mission in schools so as to provide a balanced approach in educating children as a whole (Mustafa and Dwiwogo, 2020).

The process of physical education is multifaceted. The process of physical education is aimed at developing and improving the motor abilities of students. At the same time, students' physical development is well developed. (Kholmirzaevich, 2022). In physical education, students not only learn about the importance of health and fitness, but also form positive attitudes towards physical activities and practice healthy behaviors in their daily lives. (Wang et al, 2022). Physical fitness is the ability of a person's body to carry out daily activities vigorously and vigilantly without experiencing significant fatigue, and still have energy reserves to fill free time. Physical fitness has an important role in students' daily learning activities, good physical fitness is needed by students to achieve achievements in school and outside school (Sari, 2020). Physical fitness is closely related to humans in doing work and moving. A person will be able to think optimally and have good performance if he has good physical

fitness, because with good physical fitness a person will not get tired easily during activities (Abdurrahim and Hariadi, 2018). (Rocliffe et al, 2023) Data shows that most of Indonesia's population, around 76%, fall into the unfit category, with more than half of them (53.63%) experiencing significant levels of infitness. Only about 5.86% of people can be categorized as having a very fit or prime physical condition. Thus, efforts to improve fitness levels and encourage physical activity are very important to improve the welfare of the Indonesian people. Decreased physical fitness is also influenced by other factors, such as the influence of television, video games, internet access, and the use of remote controls. Automated tools such as electronic escalators and remote controls make individuals less likely to participate in physical activity. (Prianto et al. 2022).

Therefore, sport and physical health are considered very important and integrated as compulsory areas of study in the curriculum, with Physical Education teachers responsible for teaching them to students. The importance of physical fitness for school children, among others, can improve the ability of organs, social emotional, sportsmanship, and the spirit of competition. Physical fitness has a positive correlation with academic performance. (Faqih and Hartati, 2017). Elementary School (SD) is one of the government's efforts through formal education in order to realize the improvement of early childhood physical fitness. Based on this, physical education in the elementary school environment must really receive intensive attention. This is done because good physical fitness status in elementary school students is the initial capital for achieving the next physical fitness status, besides that elementary school students are also still in the period of growth and development. Elementary schools are currently found in various regions in Indonesia, the construction of

elementary schools continues to be carried out by the government to remote areas and even areas that are difficult to reach such as rural areas. This is done so that the education process can run smoothly and elementary school-age students no longer feel exhausted in following the learning process because of the distance of the school from where they live (Eni, 2020).

Elementary school students in urban areas pay more attention to their diet and nutritional content by parents and teachers, and also schools in urban areas have complete facilities to support learning activities. But the rapid progress of science and technology also has a bad impact on children in urban areas. They are more familiar with advanced technology, and various modern games have replaced traditional games that actually involve more physical activity. This is different from the situation of children in rural areas. They are more free to move with the breadth of space and supportive natural conditions, in playing they still often play traditional games. Reduced physical activity will cause decreased physical fitness (Gunarsa and Wibowo 2021). The same thing happened in the education sector. Today, technological and industrial progress has reached the realm of education. As a result, children tend to interact more with the help of technology and industry rather than using their physique to go about daily activities. (Ferdian, Hardiansyah, and Maifitri 2022). The impact of lack of physical activity can result in students being more susceptible to fatigue during participating in sports activities, weight gain or obesity can result in physical imbalance, and lack of stamina when facing demanding physical activities. (Gunarsa and Wibowo 2021).

Based on the results of observations and teaching experience in physical education in elementary schools in the city, several times encountered

students who experienced fatigue during learning, even though sports facilities were quite complete in supporting learning activities. Meanwhile, from the results of observations in physical education learning in schools in villages, the average student is able to carry out learning well and does not experience significant fatigue even though they have sports facilities that are not so slow to support learning activities.

METHOD

This research uses a descriptive method, the type of descriptive research is very important, especially in the early stages of the development of sciences. Descriptive research presents a detailed picture of a particular situation, social setting, or relationship. (Zellatifanny & Mudjiyanto, 2018), the research method used in this study is a quantitative method with descriptive statistics. The instruments used in this study are Indonesian Physical Fitness Test and Measurement Age 10-12 Years, The population in this study was elementary school students in Situraja District, Sumedang Regency as sem and Surade District, Sukabumi Regency by taking samples of 4 schools from each sub-district.

Data collection is carried out through test and measurement stages, especially the Indonesian Physical Fitness Test (TKJI), the components contained in the Test in the study are:

1. 40 M Running Test to find out or measure students' running speed. In this test, the mileage of each age group is differentiated according to the level of development of students.
2. Pull Up test to determine or measure the strength and endurance of arm and shoulder muscles.
3. Sit up test to determine or measure the strength and endurance of

abdominal muscles. The target of this test is students in the age group of 10-12 years.

4. Vertical jump test to determine or measure explosive power and explosive power of leg muscles. The target of this test is the entire age group of school students ranging from 10-12 years
5. 600-meter running test. This test aims to determine or measure the endurance of the lungs (cardiovascular) students

Data analysis in a study is a stage that must be done after collecting data from the field. Data are obtained from respondents using instruments, which in quantitative research are usually in the form of questionnaires or tests. Once the data is collected from the field, the next step is to organize the data based on the relevant variables. The purpose of this stage is to facilitate the process of data analysis. (Sutisna 2020)

Participants

Population refers to the generalization of objects or subjects that have specific qualities and characteristics determined by the researcher to be the focus of study and deduction (Firmansyah, 2022). So the population is elementary school students in urban and rural areas who will be the least subject of research having the same nature. The above opinion is the author's reference in determining the study population, thus the population of this study is Grade 5 Students because it has relatively the same age characteristics of 10-12 years, population consists of elementary schools in Situraja District and Surade District.

Sampling Procedure

The sampling method in this study is simple random sampling, used because samples are taken randomly from members of the population without considering the

strata in that population. This approach was chosen because it was assumed that members of the population were considered homogeneous (Setiawan, 2015). Thus, the population in this study is elementary schools in Situraja District representing the City and Surade District representing the Village. So the Sempel used is 80 students representing the City and 80 students representing the Village.

Materials and Equipment

Research instrument is a tool used to measure natural and social phenomena observed (Risbon Sianturi, Aini Loita 2022) In a study, measuring instruments called instruments and data collection techniques are needed. The instrument used in this study is a test with data collection techniques. The test or a measuring instrument must be able to meet two main requirements, the test must be Valid (valid) and Reliable (trustworthy). In this study the data collection used is Observation, Test and Documentation. The instruments in this study used the Indonesian Physical Fitness Test for the age category of 10-12 years. Physical fitness test is a battery of tests used by a teacher to determine the level of physical fitness of his students at school (Narlan & Juniar, 2020). The measuring tool in this study was to determine whether there were differences in physical fitness of elementary school students in cities and villages.

Procedure

In the research process there are several stages and efforts of researchers to get the best results. The stages or procedures of research carried out include; a) Determine the research subjects, namely 80 students representing the city and 80 students representing the village b) Provide licensing documents for the implementation of research to the

Principal and teachers in elementary schools located in Situraja sub-district and Surade sub-district c) Determine research instruments that are relevant in the process of collecting data d) Carry out research with sample observations that the researcher will use then carry out fitness tests on students who have been determined using the Indonesian physical fitness test instrument. e) Processing of data that has been obtained to determine the comparison of physical fitness of students in cities and villages f) Interpretation of the results of research data calculations.

Data Design or Analysis

Research design is a design about concluding data analysis so that it can be carried out in accordance with the research objectives. Regarding the research design. Taib et al. (2013) said that "research design is a plan on how to collect and analyze data in accordance with research objectives. The importance of choosing a research design lies in its impact on the validity and reliability of research results. The design in this study uses quantitative design with descriptive methods. In accordance with the research objectives to be achieved, the research method used in this study is a quantitative method with descriptive statistics. This quantitative method is called the traditional method, because it has been used for quite a long time in Sugiyono's research (2011) The quantitative method is in the form of numbers and analysis using statistics ". Data analysis in a study is a stage that must be done after collecting data from the field. Data is obtained from respondents using instruments, which are collected through tests. Once the data is collected from the field, the next step is to organize the data based on the relevant variables. The purpose of this stage is to facilitate the process of data analysis. (Sutisna 2020). Descriptive statistics is

data analysis by describing or describing data in making conclusions.(Sutisna 2020)

RESULT

Statistical analysis that researchers do in data processing using the Mann-Whitney Test. The results of the Mann-Whitney Test indicate that the state of fitness of students in rural areas is statistically significantly better than that of students in cities. Higher fitness averages in villages can be the result of a variety of factors, including lifestyle, large sports fields, or differences in approaches to physical activity between the two locations.

Elementary school children in cities and villages have different activities in filling their spare time, students in villages fill their free time by playing in plantations, rice fields, and also the coast. Children in the village are more active in physical activities such as walking, running, and jumping. While elementary school children in the city, in filling their spare time, prefer to play with gadgets compared to playing outside which involves physical activity.

Table 1. Degree of Validity and Reliability of TKJI

School level	Validity	Reliability
Primary School (Age 6-12)	0,92	0,89

With a validity value of 0.92 and reliability of 0.89, it can be concluded that the measurement instruments used at the elementary school level have a high level of validity and reliability. That is, the instrument is reliable and provides consistent results in measuring the construct in question, as well as having a good ability to measure what should be measured at the elementary school level.

Table 2. Mann-Whitney Test. Rank

Group	N	Mean Rank	Sum of Ranks
City	80	43.53	3482.00
Village	80	117.48	9398.00
Total	160		

The ranking results from the Mann-Whitney test showed significant differences in the distribution of fitness scores between groups of students in the City and Village. With a sample of 160, the group of students in the village has a significantly higher mean rank (117.48) than the group of students in the city (43.53). This is indicated by the higher total sum of ranks for the Village group (9398.00) than for the City group (3482.00). The difference indicates that students in the Village tend to have higher fitness scores than students in the City.

Table 3. Test Statistics

	Value
Mann-Whitney U	242.000
Wilcoxon W	3482.000
Z	-10.141
Asymp. Sig. (2-tailed)	.000

The results of the Mann-Whitney test between groups of students in the City and Village showed significant differences in the distribution of fitness scores. A Mann-Whitney U of 242,000 indicates that the student group in the Village ranked significantly higher than the student group in the City.

DISCUSSION

Physical fitness is a mirror of the ability to function systems in the body that can improve the quality of life in every physical activity and physical abilities that can be in the form of aerobic and anaerobic abilities. These physical abilities can be trained through training programs and also sports learning at school. Aerobic ability can be known from the ability of the

cardiorespiratory system to provide oxygen needs into the mitochondria, while anaerobic ability can be measured by the ability of the anaerobic threshold and the strength of muscle contraction (Cocca et al., 2020). Physical fitness is closely related to the child's ability to be motivated to do daily tasks because indirectly the child will have learning motivation if the child has good physical fitness.(Sastro Desmianto Ginting, 2022). Good child fitness will affect the quality of children's learning and it is not impossible that children who have good physical fitness will have achievements because student learning achievement is influenced by several factors, one of which is physical fitness (Prastyawan & Pulungan, 2022).

The current condition of physical fitness levels in the educational environment at school is a decrease in movement activity which results in students being prone to obesity and not having enthusiasm in carrying out learning activities because they do not have the energy to do heavy physical activity. (Kapti and Winarno 2022). Data shows that most of Indonesia's population, around 76%, fall into the unfit category, with more than half of them (53.63%) experiencing significant levels of infitness. Only about 5.86% of people are categorized as having a very fit or prime physical condition (Rocliffe et al, 2023). Lack of physical activity can result in students being more prone to fatigue during participating in sports activities, weight gain or obesity can result in physical imbalance, and lack of stamina when facing demanding physical activities. (Gunarsa and Wibowo 2021). Based on the above explanation The physical fitness of primary school children is very important because it contributes to the development of their physical, mental and social health. Through regular physical activity, children can develop motor skills, improve concentration, reduce stress, and form healthy living habits. Prioritizing physical fitness at primary school age plays a key role in ensuring children's future well-being and success.

Therefore, from this research, it is hoped that teachers and parents can better know the fitness level of their children and

can improve fitness and more frequent physical activity so that children stay in shape. With rapid technological advances, it will affect students' fitness levels if there are no restrictions on playing technology from teachers and parents (Pardede & Watini, 2021)

CONCLUSION

From the results of research conducted with descriptive statistical analysis, it was found that there were differences in fitness levels in the two locations. Based on the results of data analysis using the Mann-Whitney Test, significant differences were found in the distribution of student fitness scores between the City and Village groups. A Mann-Whitney U of 242,000 indicates that the group of students in the Village ranked statistically higher than the group of students in the City. A negative Z value (-10.141) indicates that the distribution of fitness scores in the City group tends to be lower than that of the Village group. A very small (0.000) significance result (Asymp. Sig. 2-tailed) confirms that this difference is not the result of mere chance. Therefore, it can be concluded that students in the Village have significantly higher fitness levels than students in the City based on the observed distribution of fitness scores. The results of this study prove that students in villages who have more physical activity activities have a better level of physical fitness with the TKJI category, namely Good, compared to students in cities who do less physical movement activities with the TKJI category, namely Medium.

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