Original Article

Analysis of Physical Fitness of Elementary School Students in Tempe and Sajoanging Districts, Wajo Regency During the Covid-19 Pandemic

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ABSTRACT

This study presents a comparative analysis of the physical fitness levels of elementary school students aged 10-12 in the Tempe and Sajoanging Districts of Wajo Regency. Utilizing a descriptive research approach, the research employed the Indonesian Physical Fitness Test (TKJI) instrument from the Ministry of National Education for data collection. The sample comprised 120 students selected through cluster sampling techniques. The data analysis involved t-test analysis, preceded by normality and homogeneity tests. The results indicated that the majority of students at SDN Kec. In Tempe exhibited physical fitness levels in the moderate and poor categories, with percentages of 6.6%, 75.0%, and 18.4%, respectively, for moderate, poor, and very poor categories. Conversely, at SDN Kec. In Sajoanging, the majority fell into the moderate (15.0%), poor (80.0%), and very poor (5.0%) categories. Overall, the general physical fitness level of students in both sub-districts was deemed poor. Comparing these findings with prior research by Ashadi Faqih and Sasminta Christina Yuli Hartati (2017), which focused on South Gugus Elementary School in Tuban Regency, it is evident that the physical fitness levels of students in Tempe and Sajoanging Districts are notably lower. Furthermore, the statistical analysis revealed a significant difference in the physical fitness levels between the two districts. Notably, students at SDN Sajoanging District demonstrated better physical fitness levels than their counterparts at SDN Tempe District. Specifically, a higher percentage of students in Sajoanging District fell into the poor category, while Tempe District had a greater proportion in the very poor category. In conclusion, the research underscores the importance of addressing the poor physical fitness levels among elementary school students in Tempe and Sajoanging Districts. The findings provide valuable insights for educational policymakers and practitioners to develop targeted interventions aimed at improving the overall health and well-being of students in the region.

Keywords: Physical Fitness, Elementary School, Covid-19

INTRODUCTION

Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious, spiritual strength, self-control, personality, intelligence, noble morals, and the skills needed by themselves and society. Education is an effort to develop all the potential. That students naturally possess[1]. Physical education means education that uses physical activity to produce an overall improvement in the physical, mental and emotional quality of students with the aim of maintaining health and strengthening body muscles[2]. Physical education is a learning process designed to improve physical fitness, develop motor skills, knowledge and active living behavior, and sportsmanship through physical activities [3].

Coronaviruses are a family of viruses that usually attack the respiratory organs. This name comes from the Latin word "Corona", which means crown, because the outside of this virus is pointed like the crown that surrounds this virus. Of the many variants, only seven are known to infect humans, such as Covid-19, SARS and MERS. SARS is believed to have developed in Gina from bats to civets and infected humans [4]. One of the laboratory examinations that can be used as initial screening to support the diagnosis of COVID-19 and rule out other infections is a complete blood examination [5].

"Online learning during the pandemic is part of efforts to increase awareness of the spread of the COVID-19 virus"[6]. The COVID-19 pandemic has forced the government to implement social distancing policies to slow the spread of COVID-19 in society. The Ministry of Education and Culture (Kemendikbud) responded with a learning-from-home (BDR) policy through online learning. This all limits children from doing physical activities or movement activities so that it can have an impact on the level of physical fitness of children. Physical fitness is physical fitness which is a description of the functional capabilities of the body's organs. This is based on the results achieved. For example: An athlete who has less ability but has a healthy body (static) by training his physique will be able to become a more skilled athlete in his field (dynamic) according to the concept of physical fitness that has been explained previously[7]. Physical fitness was then interpreted as a degree of dynamic health, so that therefore physical fitness became graded according to the degree of dynamic health one had at that time.

Thus, the degree of physical fitness is essentially the degree of dynamic health that is necessary (which corresponds) to the need to perform a physical task. Sport during this pandemic has become a primary need. Exercise can also relieve boredom at home, increase immunity, fill free time, and increase energy in carrying out routines daily.

reduced physical activity during the pandemic can increase the risk of several diseases and obesity and increased food supply accompanied by reduced physical activity will increase obesity[8]. From this latest explanation it becomes clearer that Physical Fitness is more focused on physiological fitness[9]. Physical fitness tends to be associated with cardiorespiratory endurance, namely the ability of the heart, lungs and blood vessels to function optimally in a state of rest and exercise to take up oxygen and distribute it to tissues that are active for body metabolism, influenced by various physiological factors[10]. Physical fitness is classified into 2, namely . a) Physical fitness related to health, including: cardiovascular endurance, muscle endurance, flexibility and body composition. b) Physical fitness related to movement skills, namely: speed, agility, reaction speed, resistance, balance, accuracy, coordination[11]. The level of physical fitness is very important and is in accordance with the needs of students who are always faced with busy study schedules. Increased physical fitness can provide significant impact on physical resilience. A person who has a high level of physical fitness will have the strength and endurance to carry out life activities without experiencing significant fatigue[12].Physical fitness is the suitability of the physical condition for the tasks that must be carried out physically or physically based on physical requirements that are anatomical, physiological, anatomical suitability and physiological suitability. Physical fitness focuses more on physiological fitness, so that it can be defined as the level of suitability of the dynamic health level possessed by the performer to the severity of the physical tasks that must be carried out.

Good physical fitness will guarantee that someone in carrying out their duties is better prepared and always displays an optimal appearance, as well as having a high spirit of life. Physical fitness is also basic capital for a person [13]. However, another side that can be considered is the advantages of children in rural areas, especially in freedom of movement. Natural movements, such as running, jumping, climbing, are more likely for them to do during Covid-19, compared to children in the city. The possibilities for movement of children in villages are wider than those of children in cities. Cities with increasingly dense populations, where many children have lost their places to play, houses do not have yards, cause their movement space to become increasingly narrow, which has the possibility of affecting their movement skills.

Based on this explanation, namely the importance of developing physical fitness for national development and differentiating conditions in the elementary school education environment rural and urban areas, then the idea arose to investigate the issue of physical fitness of children or students in rural and urban areas. The results of

this investigation are useful as a diagnosis of the physical fitness condition of elementary school students. Also to improve the conditions for sports development in these schools.

From the results of observations and cursory observations, the researchers chose 2 sub-districts which would be the locations for future research, namely Tempe Sub-district and Sajoanging Sub-district. From these 2 sub-districts, 3 schools will be selected representing the sub-districts as research samples.

METHODS

Comparative study (Comparative study) is a descriptive research methodology carried out by comparing similarities and differences as phenomena to find what factors, or what kind of situation, gave rise to a particular event. Comparative studies begin by collecting facts about the factors that cause a particular symptom to occur, then comparing it with other situations, or simultaneously comparing a symptom or event and the factors that influence it from two or several sample groups or research subjects[14].

The population for this research is the students of SD Negeri Kec. Tempe and District Elementary School Students. Sajoanging. The total population in this research was 806 students consisting of: SDN 135 Akkajeng with 115 students, SDN 155 Assorajang with 89 students, SDN 2 Maddukelleng with 310 students, and SDN 4 Maddukelleng with 292. The samples for this research were students from SD Negeri Kec. Tempe and District Elementary School Students. Sajoanging, 60 people each consisting of 30 male students and 30 female students who were selected using cluster random sampling or randomly.

To obtain research data, an Indonesian Physical Fitness Test was carried out for teenagers aged 10 – 12 years. This test aims to determine the level of physical fitness of children aged 10 - 12 years. The data collected needs to be analyzed statistically, descriptively and analytically for the purposes of testing research hypotheses.
The images used in this research are as follows:
1. Descriptive data analysis is intended to obtain a general picture of the data which includes total value, range, average, standard deviation, minimum value and maximum value.
2. Inferential data analysis is used to test the research hypothesis using the t-test. However, before the inferential analysis, a homogeneity analysis requirement test is first carried out.

So the entire statistical data analysis used in this research was analysis using the SPSS version 26 program with a significance level of 95% or $\alpha = 0.05$.

RESULTS

General description of the distribution of physical fitness level test results for class V students at SDN 135 Jalang and SDN 155 Assorajang both in Sajoanging District with class V students at SDN 2 Maddukelleng and SDN 4 Maddukelleng, Tempe District, Wajo Regency.

Table 1. The results of the descriptive distribution of physical fitness level

Statistics	Level of Physical Fitness	
	SDN Kec. Tempe	SDN Kec. Sajoanging
Sample	60	60
Range	9	6
Standard Deviation	1.822	1.56
Variance	3.321	2.435
Mean	10.97	11.85
Minimum	6	9
Maximum	15	15

Table 1 show that the description of research data regarding the level of physical fitness of students at SDN Kec. Tempe obtained a value of Range = 9; standard deviation = 1.822; Variance = 3.321; mean = 10.97; minimum = 6; maximum = 15. Distribution of Physical Fitness Level Data for Elementary School Students, Kec. Tempeh.

Table 1 show that the description of research data regarding the level of physical fitness of students at SDN Kec. Sajoanging obtained a value of Range = 6; standard deviation = 1.56; Variance = 2.435; mean = 11.85; minimum = 9; maximum = 15. Distribution of Physical Fitness Level Data for Elementary School Students, Kec. Sajoanging.

Table 2. Description of research data regarding the level of physical fitness of students at SDN Kec. Tempe

TKJI Value	Category	Frequency	Percent
22-25	Very Good	0	0%
18-21	Good	0	0%
14-17	Moderate	4	6,6%
13-Oct	Less	45	75,0%
9-May	Very Less	11	18,4%
Total		60	100,00 %

From the table above it can be explained that the overall level of physical fitness of students at SDN Kec. Tempe has 0 students (0.00%) in the very good category, 0 students (0%) in the good category, 4 students in the moderate category (6.6%), 45 students (75.0%) in the poor category, while 11 students (18.4%) were in the very poor category. The highest frequency is in the less category.

Table 3. Description of research data regarding the level of physical fitness of students at SDN Kec. Sajoanging

TKJI Value	Category	Frequency	Percent
22-25	Very Good	0	0,00%
18-21	Good	0	0,00%
14-17	Moderate	9	15,00%
13-Oct	Less	48	80,00%
9-May	Very Less	3	5,00%
Total		60	100,00 %

From the table above it can be explained that the overall level of physical fitness of students at SDN Kec. Sajoanging has 0 students (0.00%) in the very good category, 0 students (0.00%) in the good category, 9 students in the moderate category (15.00%), 48 students (80%) in the poor category, while 0 students (0.00%) are in the very poor category. To accept or reject the hypothesis by comparing the significant value with the value of 0.05. The criterion is to accept the hypothesis if the significant number is greater than 0.05 (Sig > 0.05).

Table 4. The results of the normality test

Variable	*Sig*	Conclusion
SDN Kec. Tempe	0,444	Normal
SDN Kec. Sajoanging	0, 601	Normal

From the table above, the significant value of the physical fitness level data group at SDN Kec. Tempe is 0.444 with SDN Kec. Sajoanging is 0.601, because the significant value is greater than 0.05 (sig> 0.05), then the hypothesis stating that the sample comes from a normally distributed population is accepted. Thus it can be concluded that the normality of the distribution is fulfilled.

The homogeneity test is carried out to determine the equality of variances, or to test that the data obtained comes from a homogeneous population. Homogeneity testing uses Levene statistics. Decision making criteria are accepted if the significant values are greater than 0.05 (Sig > 0.05).

Table 5. The results of the homogeneity test

Group	Levene Statistic	Sig	Information
SDN Kec. Tempe	0,119	0,731	Homogen
SDN Kec. Sajoanging			

The results of the homogeneity test for research variables show that the Levene statistic value is 0.119, while the significance value is 0.731, which is greater than 0.05. Because the Sig value is > 0.05, the hypothesis which states that the data was obtained from a homogeneous population is accepted, so it can be concluded that the data in this study came from a homogeneous population.

Data analysis was carried out using a t-test on data on the physical fitness level of students at SDN Kec. Tempe with SDN Kec. Sajoanging . In this test, we will test the hypothesis: There is a difference in the level of physical fitness between students at SDN Kec. Tempe with SDN Kec. Sajoanging. To accept or reject a hypothesis by comparing the tcount value with the table value. The criterion is to accept the hypothesis if the tcount <ttable is at a significance level of 0.05.

Table 6. The results of the t-test

Variable	Average	t count	Alpha
SDN Kec. Tempe	10.97	2.852	0,005
SDN Kec. Sajoanging	11.85		

The results of the t-test obtained a calculated t value of 2,852 and a t table value of (0.05)(58) of 0.005. Because the calculated t value is greater than the t table (2.852>0.005), it can be concluded that there is a significant difference in the level of physical fitness of students at SDN Kec. Tempe with SDN Kec. Sajoanging.

The mean value obtained from SDN Kec. Tempe 10.97 while the mean value from SDN Kec. Sajoanging 11.85. It turns out that the mean value obtained from TKJI SDN Kec. Sajoanging is higher than SDN Kec. Tempe, so this indicates that the physical fitness level of SDN Kec. Sajoanging is better than SDN Kec. Tempeh.

DISCUSSION

Data analysis shows that there is a significant difference in the level of physical fitness of students at SDN Kec. Tempe with SDN Kec. Sajoanging. Physical fitness level of students at SDN Kec. Sajoanging is better than SDN Kec. Tempeh. Based on the description of research data, it shows that the physical fitness level of students at SDN Kec. In Tempe, the majority of students have physical fitness levels in the moderate and poor categories, and very poor with a percentage of moderate = 6.6%, poor = 75.0% and very poor = 18.4%. Meanwhile at SDN District In Sajoanging, the majority of students have physical fitness levels in the moderate and poor categories, and very poor with a percentage of moderate=15.0%, poor=80.0% and very poor=5.0%. Thus, it can be concluded that in general the physical fitness level of students from both sub-districts is in the poor category. The results of this research are in line with the research results of: Faqih, Hartati, 2017 [15]. The results of the research concluded that: "The results of the statistical analysis showed that the percentage value of the physical fitness level of students in grades IV and V of South Gugus Elementary School, Plumpang District,

Tuban Regency, resulted in a percentage of 45.07% in the poor category[15]."

Based on the description above, it turns out that the physical fitness level of students at SDN Kec. Sajoanging is better than SDN Kec. Tempeh. This can be seen from the categories obtained that at SDN Kec. In Sajoanging, most of the students fall into the poor and very poor categories, while at SDN Kec. Tempe for most of the students falls into the poor or very poor category. Looking at the physical fitness level of students at SDN Kec. Sajoanging with SDN Kec. Tempe as a whole, most of which fall into the poor and very poor categories, shows that during the Covid-19 pandemic that hit Indonesia, it really affected activities, namely there were restrictions on leaving the house and even restrictions on movement and sports activities.

DISCUSSION

The physical fitness level of students at the Sajoanging District State Elementary School (schools located in rural areas) is higher than the physical fitness of students at Tempe District State Elementary Schools (schools located in urban areas). This is proven by the average physical fitness results, where the average physical fitness of Sajoanging District State Elementary School students is 11.85, while the average physical fitness result of Tempe District State Elementary School students is 10.97. The results of research by Wirawan and Juanita in 2016 supports the results of this research[16]. The results of their research concluded that: "There is a difference in the level of physical fitness between full day class IV students at The Naff Elementary School and regular class IV students at Balonggabus State Elementary School[16]. A better level of physical fitness is the full day students of The Naff Primary School. This is caused by several factors, including:

1.   Environment
Different environmental conditions can affect the level of physical fitness of each individual. A polluted environment resulting from human activities and natural processes will have a negative impact on fitness and health, enjoyment of life, convenience, efficiency, beauty, as well as the balance of ecosystems and natural resources. In other words, it can be said that environmental management aims to overcome the negative impacts of human activities and improve the quality of the environment[17,18]. Students who go to school in rural areas have a good level of physical fitness compared to students in urban areas. This is influenced by the size of the school land which is used as a place for student activities. Schools in rural areas have quite large areas of land compared to schools in urban areas. The contributing factor is the large number of buildings that crowd the school environment. Apart from that, the number of vehicles in the city also influences students' physical fitness levels. Pollution emitted by vehicles can affect the child's cardiovascular system. Apart from that, the sound emitted by passing vehicles can disturb students' concentration during class.

2.   Nutrition
Physical fitness for children is influenced by inappropriate lifestyle and eating patterns. The food consumed by children also influences physical fitness factors. Nutritional adequacy figures have an influence on the growth and development of adolescents. Adequate nutritional nutrition for adolescents can regulate the body's metabolism, maintain and support the body's mechanical systems. Appropriate nutritional intake becomes energy to carry out various physical activities so that it can be used to form, improve and maintain physical fitness. those in the canteen and those on the side of the road, especially if the school cannot control the types of food sold in the school canteen.

3.   Facilities and infrastructure
School facilities and infrastructure that are less supportive affect the learning process in order to improve students' physical fitness. This is in line with research conducted by Zainuddin, et al., that incomplete facilities and infrastructure will affect the physical fitness of students at school which can be seen from the results of the physical fitness of students[19]. Elementary school students tend to enjoy playing, so providing physical fitness material using the play method will make students feel more comfortable moving. State elementary schools in rural areas have larger yards than state elementary schools in urban areas so carrying out any activity is more possible. Apart from that, the facilities at State Elementary Schools in rural areas are also more extensive, so that State Elementary Schools in rural areas have more enjoyment during the learning process because of the infrastructure.

CONCLUSIONS

Based on the research results, it can be concluded that there is a significant difference in the level of physical fitness of students at SDN Kec. Sajoanging with SDN Kec. Tempe, where is the mean value from SDN Kec. Tempe 10.97 is in the low category, while SDN Kec. Sajoanging 11.85 is in the poor category. However, on average, Kec. Sajoanging is higher than the district average. Tempeh. Therefore, the level of physical fitness of students at SDN Kec. Sajoanging is better than the physical fitness level of students at SDN Kec. Tempeh.

Suggestions based on the conclusions and limitations of research regarding the comparison of physical fitness levels of students at SDN Kec. Sajoanging with SDN Kec. Tempe, the author

proposes the following suggestions: (1) For physical education and sports teachers at SDN Kec. Sajoanging with SDN Kec. Tempe to increase the physical fitness training of its students, because the overall level of physical fitness of students at SDN Kec. Tempe is in the poor category, while SDN Kec. Sajoanging is included in the medium category. Especially for physical education and sports teachers at SDN Kec. Tempe so that it can further improve the physical fitness of its students through more interesting learning or by providing additional training, (2) For parents/guardians of students, it is hoped that they will always provide support and encouragement so that their children's physical fitness is good, so that when carrying out daily work, they are good. that is, when playing or going to school without experiencing excessive fatigue, (3) Future researchers should conduct further research on the level of physical fitness of students by increasing its quantity and quality. In quantity, namely by increasing the number of subjects.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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