Profile of Physical Fitness Level of Students Aged 10-12 Years in the Beach Area of Tomini Indonesia

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ABSTRACT: Physical fitness is the goal of physical education in elementary schools which is charged by physical education teachers. The task of physical education teachers in educating students is mostly in the field so that they can motivate students to move. This study aims to determine the level of physical fitness of students aged 10-12 years in one of the coastal areas of Tomini Bay, Gorontalo Province, Indonesia, namely in Kabila Bone District, Bone Bolango Regency. This research is a non-experimental quantitative descriptive study with a survey method. The population in this study were all students aged 10-12 years who were in 11 public elementary schools, Kabila Bone District, Bone Bolango Regency, Gorontalo Province, amounting to 236 students. The sample in this study used purposive sampling technique, so the number of samples obtained was 67 students from 5 schools. The research instrument uses the Indonesian Physical Fitness Test (TKJI) standard instrument with a validity level of 0.92 and a reliability of 0.89, which in its implementation includes several test items, namely: 1) sprint to measure students' running speed; 2) pull ups to measure the strength and endurance of the arm and shoulder muscles; 3) sit ups to measure the strength and endurance of the abdominal muscles; 4) vertical jump to measure explosive power or explosive power of leg muscles; and 5) Running a moderate distance to measure students' cardiovascular. The results of this quantitative descriptive study are profiles of the physical fitness level of students aged 10-12 years in the coastal area of Tomini Bay, Gorontalo Province, Indonesia. The result, there is 1 student in the poor category, 44 students in the medium category, 22 students in the good category. The findings in this study are expected to be a future consideration for physical education teachers, especially the Tomini Bay area to be able to improve the quality of physical education in accordance with its objectives, namely physical fitness.

KEYWORD: physical fitness, 10-12 year old students, Teluk Tomini.

INTRODUCTION

The development of the phenomenon of healthy living is closely related to a person's self-concept in respecting himself and also the desire to be respected by society. The formation of an ideal body through healthy lifestyle behavior and exercise can be said to be an information notification that is trying to be conveyed to the public about the importance of healthy living (Hidayat, 2019). The shift in the self-concept is seen in how they present themselves both face-to-face and through social media (Daniel Rubén et al., 2020; Melguizo-Ibáñez et al., 2022).

Achieving the physical fitness status of students is one of the responsibilities of Physical Education teachers in schools. This is in line with the objectives of national education as enshrined in the National Education System Law no. 20 of 2003 article 3 (Budi R et al., 2022; Maulana, 2022). In the law, it is mandated that the purpose and function of national education are to develop capabilities and shape the character and civilization of a dignified nation in the context of educating the nation's life, which aims to develop the potential of students to become human beings who believe and fear God. God Almighty, who has a noble character, is healthy, knowledgeable, capable, creative, independent, and becomes a democratic and responsible citizen, illustrates that its implementation involves educators in the field of sports, especially to produce the best generation.

Improvement and maintenance of physical fitness need to be done continuously (de Loureiro et al., 2022; Henriksson et al., 2022). Efforts to improve and maintain regular and directed physical fitness are part of a lifestyle that develops due to the process of education and culture (da Silva et al., 2022; Pavlovic et al., 2021). Therefore, the importance of efforts to improve and maintain physical fitness as an integral part of efforts to improve the quality of life of Indonesian people can be done through a process of education and civilizing for all Indonesian people. Through the process of education and culture, it is hoped that the attitude and awareness of each individual will arise to improve and maintain their physical fitness, which in turn becomes their habits and necessities of life (Migchelbrink & Van de Walle, 2022; Pavlovic et al., 2021).

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At the age above (10-12 years) children begin to mature in mastering special skills, ranging from advanced manipulative skills to rhythmic activities and games, gymnastics, water activities, and activities for physical fitness development (Bayu et al., 2021; Rahmawati et al., 2017). In several sports, the phasing of the achievement of high-level skills can also be started in the final grades of elementary schools, such as gymnastics, diving, and swimming.

Characteristics of Coastal Communities have distinctive characteristics. Coastal communities are a group of people who live together inhabiting coastal areas to form and have a distinctive culture related to their dependence on the use of coastal resources (Ari Atu Dewi, 2018; Rahman et al., 2021). Of course, coastal communities are not only fishermen but also fish cultivators, fish processors, and even fish traders.

Characteristics of coastal communities are different from those of agrarian or farmer communities. In terms of income, farmers have controllable income because of controlled harvest patterns so that the food or livestock they have can be determined to achieve the income they want (Ari Atu Dewi, 2018; Solana, 2021). Unlike the case with coastal communities whose livelihoods are dominated by servants (Nur et al., 2020). Servants wrestle with the sea for income, so the income they want cannot be controlled.

Judging from the biophysical aspect of the area, coastal and marine space and the resources contained therein are unique so human intervention in the area can result in significant changes, such as landscapes that are difficult to change, the process of meeting fresh water and sea water which produces several unique ecosystems. and others (Ginanjar, 2021). Viewed from the aspect of ownership, coastal and marine areas and the resources contained therein often have an open nature.

This condition is different from the nature of joint ownership as found in several regions in Indonesia such as Ambon with Sasi institutions, West Nusa Tenggara with traditional Awig-Awig and Sangihe institutions, and Talaud with Maneeh institutions where resource management is regulated communally (Sumarmi et al., 2020). With the characteristics of open access, ownership is not regulated, everyone is free to use it so in regional development and resource utilization, it often creates conflicts of interest in the use of space and resources as well as opportunities for environmental degradation and greater externality problems due to limited resource management arrangements.

METHOD

This study uses a descriptive method with a quantitative approach, where the results of the study related to the level of physical fitness of students aged 10-12 years obtained, will be described based on the standard TKJI norms used. The population in this study were all State Elementary School (SD) students aged 10-12 years in Kabila Bone District, Bone Bolango Regency, Gorontalo Province, Indonesia, totaling 236 students. The sampling used in this research is using purposive sampling or sampling based on certain criteria. The criteria in question are schools that have physical fitness test facilities and infrastructure. Furthermore, based on the sampling technique used, the number of samples in this study was obtained as many as 67 students from 5 State Elementary Schools (SD) in Kabila Bone District, Bone Bolango Regency. The instrument used to obtain research data related to the physical fitness of the research sample is using the Indonesian Physical Fitness Test (TKJI) instrument from the physical fitness and recreation center in 2010 for children aged 10-12 years. The choice of this test is because this test is commonly used and applies to all regions of Indonesia. In addition, this test is relatively easy to do with instruments that have been tested for validity and reliability so that they are feasible to use for research data collection (Suharjana, 2013). This Indonesian physical fitness test issued by the Ministry of National Education has been agreed upon and designated as an instrument applicable throughout Indonesia, because it has been tested for reliability and validity, namely:

1. The series of tests for children aged 10-12 years has a reliability value:
   a. For the son, the reliability is 0.911.
   b. For daughters, the reliability is 0.942.
2. The series of tests for children aged 10-12 years have validity values:
   a. For sons, the validity is 0.884
   b. For the daughter the validity is 0.897.

The series of tests as the instrument chosen in this study include:
1. Sprint 40 meters, which aims to measure the speed.
2. Pull Up test, aims to measure the strength and endurance of the arm and shoulder muscles.
3. Sit Up 30 seconds, which aims to measure the strength and endurance of the abdominal muscles.
4. Vertical Jump, aims to measure muscle explosive power and explosive power
5. Run 600 meters, which aims to measure the endurance of the heart, blood circulation, and respiration.

The collected data is converted into a table of values in each category of the Indonesian Physical Fitness Test for children aged 10-12 years, to assess achievement and each test item is then analyzed using a percentage descriptive norm table to determine the classification of their physical fitness level. The table of values and the table of norms used is the table of values and the table of norms for the Indonesian physical fitness test. The table image is as follows::

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Nilai	Lari 40 meter	Gantung siku tekuk	Baring duduk 30 detik	Loncat tegak	Lari 600 meter	Nilai
5	s.d-6.3"	51" ke atas	23 ke atas	46 ke atas	S.d-2`19"	5
4	6.4"-6.9"	31"-50"	18-22	38-45	2'20" -2'30"	4
3	7.0"-7.7"	15"-30"	12-17	31-37	2'31"-2'45"	3
2	7.8"-8.8"	5"-14"	4-11	24-30	2'46-3.44"	2
1	8.9"-dst	4" dst	0-3	23 dst	3.45"dst	1

Figure 1. Table of Indonesian Physical Fitness Values for Children Age 10-12 Years Boys

Nilai	Lari 40 meter	Gantung siku tekuk	Baring duduk 30 detik	Loncat tegak	Lari 600 meter	Nilai
5	s.d-6.7"	40" ke atas	20 ke atas	42 ke atas	S.d-2`32"	5
4	6.8"-7.5"	20"-39"	14-19	34-41	2'33"-2'54"	4
3	7.6"-8.3"	8"-19"	7 -13	28-33	2'55"-3'28"	3
2	8.4"- 9.6"	2"-7"	2-6	21-27	3'29-4.22"	2
1	9.7"-dst	0"-1"	0-1	20 dst	4.23"dst	1

Figure 2. Table of Indonesian Physical Fitness Values for Children aged 10-12 Years Girls

After all the research data have been collected, then further processing is carried out on the research data. The test data and measurements of each test item in the study were then added together and the results were converted into the Indonesian Physical Fitness Test (TKJI) standard norms in the table below:

Table 1. Indonesian Physical Fitness Test Norms (TKJI)

No	Total Classification	Value
1	22 – 25	Very well
2	18 – 21	Well
3	14 – 17	Currently
4	10 – 13	Not enough
5	5 – 9	Less once

The achievements of each item achieved by children aged 10-12 years who have taken the test are rough data, the level of physical fitness of children cannot be assessed directly based on the achievements that have been achieved, because the units of measure used for each test item are not the same, namely:

1. The test measures are 40 m run, 600 m run and bend elbows using time units (minutes and seconds).
2. For the lying down test item, the unit for the number of motion repetitions is used (how many times).
3. For the vertical jump test item, use the unit of measurement for height (centimeter).

The sum is the basis for determining the category of students' physical fitness levels by using the Indonesian physical fitness test norm table for children aged 10-12 years published by the Ministry of National Education, Physical Fitness and Recreation Center, Jakarta 2010.

Furthermore, in order to give meaning to the data collected in the study, it is necessary to carry out an analysis step of the data in question. The data analysis techniques used in this study are as follows:

1. Mean

$$M = \frac{\sum X}{N}$$

Information:

M = Average
$\sum X$ = Sum of values X
N = Number of samples

2. Category percentage

$$\frac{n}{N} \; X \; 100\%$$

Information:

n = Target achieved

N = Total number

RESULTS

The results of the Indonesian physical fitness test data for students aged 10-12 years at State Elementary Schools in Kabila Bone District, Bone Bolango Regency, resulted in a mean of 16.80, median = 17.00, mode = 17.00, and standard deviation = 1.46. The smallest value is 13.00 and the largest value is 20.00. The full results are as follows:

Table 2. Statistical Description of TKJI

Statistics	Boy/Girl Student
n	67
Mean	16.8060
Median	17.0000
Mode	17.00
Std. Deviation	1.46927
Minimum	13.00
Maximum	20.00

The distribution table of Indonesian physical fitness tests for students aged 10-12 years at State Elementary Schools in Kabila Bone District, Bone Bolango Regency, is then classified based on Indonesian physical fitness test norms, as follows:

Table 3. Distribution of TKJI Frequency

No	Total Value	Classification	Frequency	%
1	22-25	Very well	0	0%
2	18-21	Well	22	32.9%
3	14-17	Currently	44	65.7%
4	10-13	Not enough	1	1.5%
5	5-9	Less once	0	0%
Total			67	100%

Based on the table shows that the physical fitness data of students aged 10-12 years are in the very poor category with a percentage of 0% (no students), the less percentage category is 1.5% (no students), the medium category is 65.7% (44 students), good category with a percentage of 32.9% (22 students), and very good category with a percentage of 0% (3 no students). Meanwhile, based on the average value of 16.80, the level of physical fitness of male students is in the Medium category.

The results of the Indonesian physical fitness test data for male students aged 10-12 years produced a mean of 17.46, median = 17.00, mode = 17.00, and standard deviation = 1.20. The smallest value is 15.0 and the largest value is 20.00. The full results are as follows:

Table 4. Description of TKJI Statistics for Male Students

Statistic	
n	43
Mean	17.4651
Median	17.0000
Mode	17.00[a]
Std. Deviation	1.20216
Minimum	15.00
Maximum	20.00

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The distribution table of Indonesian physical fitness tests for male students aged 10-12 years is then classified based on the norms of Indonesian physical fitness tests, as follows:

Table 5. Frequency Distribution of Indonesian Physical Fitness Tests for Male Students

No	Total Value	Classification	Frequency	%
1	22-25	Very well	0	0%
2	18-21	Well	20	46.5%
3	14-17	Currently	23	53.6%
4	10-13	Not enough	0	0%
5	5-9	Less once	0	0%
Total			43	100%

Based on the table shows that the physical fitness data of male students aged 10-12 years are in the very poor category with a percentage of 0% (no students), the category of less percentage is 0% (no students), the medium category is 53.6% (23). Students), good category with a percentage of 46.4% (20 students), and very good category with a percentage of 0% (No students). Meanwhile, based on the average value of 17.46, the level of physical fitness of male students is in the Medium category.

The results of the Indonesian physical fitness test data for female students aged 10-12 years produced a mean of 15.62, median = 15.50, mode = 15.00, and standard deviation = 1.13. The smallest value is 13.0 and the largest value is 18.0. The full results are as follows:

Table 6. Description of TKJI Statistics for Female Students

Statistic	
n	24
Mean	15.6250
Median	15.5000
Mode	15.00
Std. Deviation	1,13492
Minimum	13.00
Maximum	18.00

The distribution table of the Indonesian physical fitness test for female students aged 10-12 years is then classified based on the norms of the Indonesian physical fitness test, as follows:

Table 7. Frequency Distribution of Indonesian Physical Fitness Tests for Female Students

No	Total Value	Classification	Frequency	%
1	22-25	Very well	0	0%
2	18-21	Well	2	8.3%
3	14-17	Currently	21	87.5%
4	10-13	Not enough	1	4.2%
5	5-9	Less once	0	0%
Total			43	100%

Based on the tables and graphs above, it shows that the physical fitness data of female students aged 10-12 years are in the very poor category with a percentage of 0% (no students), the category of less percentage is 4.2% (1 student), the medium category is the percentage of 87.5 % (21 students), good category with a percentage of 8.3% (2 students), and very good category with a percentage of 0% (no students). Meanwhile, based on the average value of 15.62, the level of physical fitness of female students is in the Medium category.

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DISCUSSION

This study aims to determine the level of physical fitness of male and female students aged 10-12 years in the coastal area of Tomini Bay, Gorontalo Province, Indonesia, namely in Kabila Bone District, Bone Bolango Regency. Based on the analysis results show that:

The level of physical fitness of students aged 10-12 years in the very poor category with a percentage of 0% (no students), the less percentage category of 1.5% (1 student), the medium category the percentage of 65.7% (44 students), the good category the percentage of 32.9% (22 students), and very good category with a percentage of 0% (no students). Meanwhile, based on the average value of 16.80, the level of physical fitness of male students is in the medium category.

The condition of the coastal area of Tomini Bay, Gorontalo Province, Indonesia, namely in Kabila Bone District, Bone Bolango Regency, which is in a mountainous area, where most of the parents of students work as farmers, so that after school student activities help their parents. Like looking for firewood and looking for grass. Some students are far from home from school with road conditions up and down and these students have to walk, other activities outside of school are the Koran.

Thus, the location and condition of the coastal area of Tomini Bay, Gorontalo Province, Indonesia, namely in Kabila Bone District, Bone Bolango Regency, cannot be separated from the condition of the location of Kabila Bone Village, Bone Bolango Regency in general, is a mountainous and hilly village and is located at an altitude of 700 above sea level. This condition has an impact and has an effect on the livelihood system of the population, where the majority of the population are field farmers, while for wetlands/paddy fields it is relatively small.

The geographical location of the coastal area of Tomini Bay, Gorontalo Province, Indonesia, namely in Kabila Bone District, Bone Bolango Regency, geographically, directly or indirectly affects the behavior patterns and characteristics of students, thus geographical location affects students' physical fitness. This influence can be seen from the distance from home to the relatively far location of the school and the up and down road conditions. For most students, the journey is taken on foot. The journey of students from home to school is a routine activity. These activities may affect the level of health of the students, considering that physically they have been doing sports every day which will also affect their level of physical fitness.

Geographical conditions have also formed patterns of behavior and activities of the population in this case students after returning from school. Where they generally work to help their parents. These activities are very varied, such as looking for firewood, looking for grass, participating in farming in the garden, sometimes even helping their parents to hoe in their gardens. In addition to these activities, activities outside of school such as the Koran, soccer sports activities they often do. This has become their daily routine. On the basis of the above, indirectly the physical fitness of students increases with the activities they often do.

Physical fitness is the ability and ability of a person to do work or carry out daily tasks with sufficient strength and endurance, without causing significant fatigue, so that there is still remaining energy which means it is used to enjoy free time that comes suddenly or suddenly. Which people who lack freshness will not be able to do so. This is what distinguishes fit and unfit people. But it should be noted that each individual has a different background of body and work abilities so that each will have a different physical fitness.

CONCLUSION

Based on the results of data analysis, description, testing of research results, and discussion, conclusions can be drawn, namely:

The level of physical fitness of male students aged 10-12 years at State Elementary Schools in Kabila Bone District, Bone Bolango Regency is in the very poor category with a percentage of 0% (no students), the category of less percentage of 0% (no students), category while the percentage is 53.6% (23 students), the good category is 46.4% (20 students), and the category is very good with a percentage of 0% (No students). Meanwhile, based on the average value of 17.46, the level of physical fitness of male students is in the Medium category.

The level of physical fitness of female students aged 10-12 years at State Elementary Schools in Kabila Bone District, Bone Bolango Regency is in the very poor category with a percentage of 0% (no students), the category of less percentage is 4.2% (1 student), the medium category is the percentage of 87.5% (21 students), good category with a percentage of 8.3% (2 students), and very good category with a percentage of 0% (No students). Meanwhile, based on the average value of 15.62, the level of physical fitness of female students is in the Medium category.

The level of physical fitness of male and female students aged 10-12 years at State Elementary Schools in Kabila Bone District, Bone Bolango Regency is in the very poor category with a percentage of 0% (no students), the less percentage category is 1.5% (1 student), the medium category has a percentage of 65.7% (44 students), a good category has a percentage of 32.9% (22 students), and a very good category with a percentage of 0% (no students). Meanwhile, based on the average value of 16.80, the level of physical fitness of male students is in the medium category.

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