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The Effect of Circuit Training on Increasing Physical Fitness of Class VIII Students of SMPN 1 Metro

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Abstrak. In this research, the writer wanted to know the effect of circuit training on increasing physical fitness of class VIII students at SMPN 1 Metro, with a population of 140 students. The sample taken as much as 20% of the population is 30 students. The sampling method is a simple random sample. Exercise activities were carried out for 1.5 months with a frequency of exercise 3 times a week. The circuit training program that was tried was running back and forth with a distance of 4 m with 3 repetitions, putting the ball into the ring trying 5 times the ball entered the ring, running back and forth by observing the sound of the whistle, push ups 15 ", sprinting 30 m , 15" squat jumps. Retrieval of information using the Indonesian physical fitness test which consists of 5 test items, namely the 60 m sprint test, the hanging lift test for male students and the elbow bending test for female students, the 60 second lying down test, the upright jump test, and the distance running test. another 1200 meters for male students and another 1000 meter distance running test for female students. The results of the research show that circuit training activities affect the increase in physical fitness of class VIII students at SMPN 1 Metro. In the test criteria, if the t-count value is greater than the t-table value, then there is a significant effect. In this research, the t-count value is 16.93 and the t-table value is 2.756. Based on the results of the Indonesian Physical Fitness Test that has been carried out and it is known that there is an increase in physical fitness, it can be concluded that circuit training activities affect the increase in physical fitness of class VIII students at SMPN 1 Metro.

Key words: Circuit Exercise, TKJI, Students

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INTRODUCTION

A vital aspect of daily life is physical fitness. Everyone, especially students, needs to be in excellent physical shape. Students who are physically fit can perform daily tasks for a longer period of time than those who are less physically fit. Children of school age benefit from physical fitness in a variety of ways, including improved organ function, social-emotional development, sportsmanship, and competitive spirit. A variety of human body parts and muscle tissue have an impact on physical fitness and health. consists of enhancing heart and lung function as well as leg and arm muscle strength and other aspects of physical fitness (Ahdan et al., 2021).

Permana (2016) Physical fitness is a condition that affects one's capacity to operate effectively and efficiently. Physical health and the need to move about and do daily tasks are intimately intertwined. Physical fitness is the body's capacity to adapt to the physical liberation provided to it without suffering from severe tiredness (Wiarto, 2015). This level of physical fitness refers to the child's ability to participate in learning activities from morning until lunch or from noon until evening in daily life. The child is then still able to engage in other physical activities including sports, walks, and other leisure pursuits. Tests of physical fitness increasingly recognize the significance of maintaining physical fitness, which is crucial for supporting any activity (Haeril et al., 2022).

Physical education is a component of a general education program that primarily promotes children's overall growth and development via the experience of movement. Physical education must be taught in ways that adhere to these concepts of movement education and education via movement. Pratama et al (2018) study found a need for physical education instruction that can maximize students' daily physical activity and athletic participation. The concept given above refers to the physiological requirement for educational learning that can maximize pupils' daily physical and sporting activity. Considering that a fit body is physically capable of carrying out all everyday tasks without experiencing excessive weariness, Nursena & Hamdani (2019) contend that a fit body condition is a physical condition that should be a fundamental necessity for every human.

Given some of the aforementioned viewpoints regarding the value of physical

fitness, the researchers were interested in finding out how physically fit class VIII pupils at SMPN 1 Metro were. In order to better understand and appreciate the significance of physical fitness in maintaining the continuity of life processes, it is hoped that this research will yield data that can be used as a reference by both individual researchers and subject teachers, schools, the general public, especially for students.

METHODS

Sugiyono (2018:2) asserts that the study methodology is essentially a scientific means to gather data for certain purposes. Finding the appropriate research method that is in line with the issues being investigated and the author's anticipated aims is one of the variables that must be taken into account in a study to acquire the best results. An experimental research method was employed for this investigation. Experimental research methods are those that are used to investigate how different treatments affect people in carefully supervised settings (Sugiyono, 2018:72).

Pre-Experimental Design will be the type of experimental research method employed in this study because this design is not yet an actual experiment. because the dependent variable's creation is still influenced by external factors. Therefore, the independent variables are not the only factors that affect the experimental findings, which are the dependent variable. Due to the lack of a control variable and the non-random selection of the sample, this is possible (Sugiyono, 2018:74). The purpose of this study was to determine how the circuit training technique affected students' physical fitness levels. The two primary research factors that will be examined are the students' level of physical fitness and the circuit training method's use of warm-up exercises (variable X) (variable Y).

Making a study design and meticulously carrying it out are crucial aspects in doing quantitative research. In accordance with this, Sujarweni (2019) asserts that a researcher would not be able to conduct research effectively without the appropriate design since they will not have a clear direction. According to Sugiyono (2014:23), the study design needs to be precise, understandable, and detailed. It should also be established steadily from the start and used as a step-by-step guide. This study's one-group pretest-posttest design was used. The following table shows the research design:

Table 1. Research Design One-Group Pretest-Posttest Design

O1	X	O2

Source: (Sugiyono, 2018:74)

Information:
O1 : Pretest score (Before treatment)
X : Treatment
O2 : Posttest score (After being treated)

The class that will be employed in the experiment is the only group or class in this design. A pre-test will then be provided to the experimental class, and following that, the experimental class will receive a treatment circuit training approach. To compare the initial state to the final state following therapy, a second post-test was administered.

RESULTS AND DISCUSSION

From the data from the results of the Indonesian Physical Fitness Test that has been conducted on 30 students of SMPN I Metro, it shows that there are different levels of physical fitness, as can be seen from table 7 below:

Table 2. Recapitulation of Tes Kebugaran jasmani Indonesia

No	Classification	Pre-test results	Post-test results
1	Very well	-	-
2	Well	3	11
3	Currently	16	13
4	Not enough	9	5
5	Less	2	1

After obtaining data from both tests, then the data will be processed and analyzed. This must be done to obtain or find out the results of the research that has been done. After all data has been collected from the two tests carried out, then the data will be analyzed using the statistical formula t, with the following steps:

Find Md (the average of the gain between the final test and the initial test) with the formula:

$$Md = \frac{\sum d}{n}$$

After knowing Md, then it will be entered into the statistical formula t, namely:

$$t = \frac{Md}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{n}}{n(n-1)}}}$$

To find out the value of gain (d) it can be seen from the table of scores for the initial and final tests below:

Table 3. Pre-Test and Post-Test Scores

NO	SKOR		GAIN (d) y-x	d^2
	Pre-Test (x)	Post-Test (y)		
	T.1	T.2		
1	13	15	2	4
2	17	18	1	1
3	18	20	2	4
4	13	15	2	4
5	15	17	2	4
6	14	15	1	1
7	14	15	1	1
8	10	13	3	9
9	14	16	2	4
10	14	15	1	1
11	13	15	2	4
12	11	12	1	1
13	19	20	1	1
14	17	18	1	1
15	16	18	2	4
16	16	18	2	4
17	13	15	2	4
18	14	15	1	1
19	18	20	2	4
20	17	19	2	4
21	6	8	2	4
22	16	18	2	4
23	14	16	2	4
24	13	15	2	4
25	15	17	2	4
26	10	13	3	9
27	17	19	2	4
28	9	10	1	1
29	16	18	2	4
30	10	12	2	4
Jumlah			53	103

After the Gain value is known, it can then be entered into the formula:

$$Md = \frac{\sum d}{n}$$

$$Md = \frac{53}{30}$$

$$Md = 1{,}76$$

After Md is known, then the number is entered into the t formula, namely:

$$t = \frac{Md}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{n}}{n(n-1)}}}$$

Formula description:

Md = the average of the gain between the final test and the initial test

d = gain (difference) of the final test score against the initial test of each subject

n = number of samples

So:

$$t = \frac{1{,}76}{\sqrt{\frac{103 - \frac{(53)^2}{30}}{30(30-1)}}}$$

$$t = \frac{1{,}76}{\sqrt{\frac{103 - 93{,}6}{870}}}$$

$$t = 16{,}93$$

With the test criteria if t count is greater than t table then there is a significant effect. For degrees of freedom (db) = n-1, then 30-1 = 29. Significant level (α) = 0.01 will then be consulted with table t, then table value = 2.756, for T count = 16.93 and t table 2.756, then t count is greater than t table. The hypothesis test criteria is to reject Ho if t count is greater than t table with alternative Ha accepted, the significant analysis obtained is t count 16.93, while the t table value is 2.756. This means that t arithmetic is greater than t table (16.93 > 2.756), thus Ho is rejected and Ha is accepted, which states “circuit training has an effect on increasing the physical fitness of class VIII students at SMPN 1 Metro.

The primary factor influencing each person's health status is their level of physical fitness. Physical fitness can be described as a person's capacity to carry out a specific movement task correctly and effectively without being overly exhausted or running the danger of developing health issues (Bile & Tapo, 2021). According to research Supriady (2021), "cross-country

exercises and post-circuit training have a substantial influence on enhancing pupils' physical fitness during the epidemic".

Students who are physically active will not become fatigued easily, enabling them to encourage children in engaging in movement activities. Students will continue to be passionate about engaging in class while they are in good physical shape, which will tremendously help learning activities. Students who are physically active will be prepared to carry out everyday responsibilities and always present themselves in the best light. The greater the state of a person's physical fitness, the better preserved their health is. The ability to perform daily tasks will be aided by physical health. Exercise and regular activities can help one become more physically fit (Sinuraya & Barus, 2020).

The findings of the physical fitness test that was administered in Indonesia show that students' physical fitness has increased as a result of 1.5 months of circuit training. Although the increase did not change the classification or category of the student's physical fitness, by looking at the increase in the number of scores obtained by students, it can be said that there was an increase in the student's physical fitness. This increase occurred in all students who became the research sample, which amounted to 30 people. In the initial test, the good category had 3 individuals, which was expanded to 11, the medium category had 16 people, which was reduced to 13, the less category had 9 people, which was reduced to 5, and the less category had 2 people, which was reduced to 1. This is because the training approach used has an effectiveness that is pertinent to the physical requirements for physical fitness. This training approach has the benefit of enhancing pupils' physical fitness.

A type of exercise known as "circuit training" involves a series of exercises that include a variety of motion tasks for training purposes. From a physiological perspective, many circuit training techniques have benefits for enhancing the body's overall functional capabilities, including cardiovascular and body muscular capabilities as well as an increase in physical capabilities (Fahmi1 & Muhammad Suhdy2, 2021). In order to improve physical fitness, this type of circuit training is beneficial, especially for kids in junior high school.

CONCLUSION

From the conversation that has been presented, it is known that there has been an improvement in physical fitness and that the results of the Indonesian Physical Fitness Test have been conducted.

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