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AEROBIC FITNESS LEVEL OF CLASS VIII STUDENTS REVIEWED FROM VO2MAX

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Abstract

This research aims to determine the level of aerobic fitness of students at SMP Negeri 3 Karangdowo, especially class VIII students, in this study the researcher used a quantitative research type, the method used in this study was a survey and used a data collection technique in the form of an aerobic endurance test using a bleep test run. This study sample consisted of 20 students, 10 male students and 10 female students. The sampling technique in this study used purposive sampling. There are several categories of girls or boys in this study, including very low, low, sufficient, good, very good. The results of this study In the results of this study it can be seen that the level of aerobic fitness of male students who have a very low VO2 Max category is 0 students if presented 0%, students who have a low category are 3 if presented 30%, students who have a sufficient category are 4 if presented 60%, students who have a good category are 1 if presented 10%. Meanwhile, the results of the study on the level of aerobic fitness of female students who have a very low category are 1 if presented at 10%, students who have a low category are 5 if presented at 50%, students who have a sufficient category are 4 if presented at 40%, students who have a good category are 0 if presented at 0%, students who have a very good category are 0 if presented at 0%.

Keywords: Physical Education, VO2 Max, Bleep Test

INTRODUCTION

Sports are now a significant aspect of everyone's life, both in urban and rural settings. Students play sports in an effort to maintain their physical well-being. Aerobic exercise allows them to operate efficiently and carry out their regular tasks without experiencing fatigue. Ten minutes or more of exercise each day will enhance brain clarity, lower stress levels, and promote mental wellness. (Zalukhu et al., 2023).

A healthy lifestyle is promoted by physical education, and children's awareness of the need of physical activity in daily life shapes their attitude toward it. Human life follows elements of life in one activity in increasingly sophisticated advancements, both mentally and physically (Nurhidayat, 2024). To accomplish the intended goals, education as an organization needs to be properly managed in order for the execution of educational activities to proceed smoothly, successfully, and productively (Rizqi Syaifuddin et al., 2023).

Exercise and physical activity ¹ have a big impact on physical fitness. A person's ¹ degree of physical fitness increases with the amount of training and exercise they perform. This is because exercise and physical activity will improve the body's capacity to use oxygen to its fullest (Beno et al., 2022). According to (Wahyuni & Mistar, 2022) The most common athletic activity is running. Because it is the original capital of all sports, this sport is much sought after worldwide. In sports, there are three different running numbers: short, middle, and long distance.

Speed is a decisive factor in explosive sports including sprints, leaps, and the majority of field sports (Anto & Rajkumar, 2022). Aerobic physical activities and other forms of physical exercise help to prevent and counteract the degenerative effects, promoting health (Balasekhar, 2023). Compared to people with lower levels of aerobic fitness, those who are more aerobically fit exhibit better endurance and the capacity to repeat high-intensity exercise sessions with less exhaustion (Reppa et al., 2023). The role that aerobic fitness the body's ability to efficiently take in oxygen during exercise plays in promoting overall health, especially in younger children (Keating et al., 2019).

Children learn that physical education promotes a healthy lifestyle when they become more conscious of the importance of physical activity in daily life. Human life is still evolving in terms of mental and physical activity. Elementary and secondary educational institutions include physical education and sports in their regular curricula.

When properly administered, its impact on pupils' physical, spiritual, and social development is undeniable. Sports and physical education at educational institutions, regrettably, have not been able to establish a strategic position in the field of education and are frequently disregarded, for instance, in the run-up to an education level's final exam. Sports and physical education are therefore mandated in order to ensure that pupils are "not disturbed" throughout their studies so they can take the final exam (Bangun, 2016).

Since SMP Negeri 3 Karangdowo is the only school that offers sports instruction and physical education in a systematic manner to preserve students' health, this study was carried out there. Students between the ages of 12 and 15 at

SMP Negeri 3 Karangdowo, on the other hand, have a strong love of movement and are more likely to engage in sports like sprinting, throwing, jumping, and catching during this time. However, kids hardly ever exercise these days. They favor playing with electrical equipment. He can therefore engage in less physical activity. Additionally, some eighth-grade pupils don't give a damn about fitness classes. Students might not be as fit as a result. Thus, the goal of this study was to use the bleep test run method to assess the aerobic fitness level of SMP Negeri 3 Karangdowo students, particularly those in grade VIII.

Physical fitness serves a unique purpose that aligns with each individual's specialty, which is separated into three groups based on their line of work, such as sports, students, or college students. In the meantime, maintaining aerobic fitness and reaping the rewards of reaching an educational objective are the roles of physical fitness for both individuals and pupils (Putra & Syamsuar, 2023).

As this article's introduction states, aerobic physical education combines elements of sport and play. On the other hand, these two terms alone are not interchangeable. Physical education combines instruction with physical activity. Nonetheless, play and physical activity (like sports) can both benefit schooling, and nearly always, sports experiences can assist children recognize their needs.

Everyone aspires to be in a state of aerobic fitness. People who are aerobically healthy will look more animated and energetic and be more productive at work (Irianto, 2016). The growth of exercise facilities and the popularity of sports, which are all predicated on the pursuit of aerobic fitness, demonstrate how the public has come to understand the advantages of aerobic fitness (Jariono, 2022). The highest amount of oxygen that the entire body can consume during a maximal exertion is known as VO₂ Max (Faozi & Rahmawati, 2019). In addition to enhancing the function of the lungs and circulatory system and enhancing physical fitness, the primary goal of VO₂ Max is to raise the heart's working capacity (Anggraini & Widodo, 2021).

The capacity to perform tasks consistently and for extended periods of time is known as endurance (Chandra, 2020). Generally speaking, long-term performance that produces aerobic energy will also result in long-term aerobic

endurance (Arisman, 2019). ¹ Aerobic exercise is any type of physical activity ¹ performed at a moderate level for a predetermined period of time. Our systems' stored lipids and carbohydrates provide fuel for this aerobic system, and oxygen acts as a catalyst for energy conversion (Busyairi et al., 2018). In addition to being disease-free, someone in perfect health is also at their peak fitness, meaning they can perform daily tasks without experiencing undue weariness and have backup skills for unexpected situations (Caron & Markusen, 2016). By engaging in aerobic exercise, one can improve blood oxygen transport capacity, enhance oxygen uptake, and decrease resting and active heart rates (Palar et al., 2015).

Trainers and sports coaches utilize the Bleep Testor, also called the Multistage Fitness Test, the ¹³ beep test, the pacer test, the Lager-test, or the 20-meter shuttle run test, to determine an athlete's VO2 Max. The Bleep Test was created to evaluate an individual's cardiovascular reaction to aerobic exercise. This test is a great way to gauge how fit players are for sports like rugby, soccer, handball, hockey, tennis, and so forth. It may also be used to gauge how fit college students are. The majority of international sports teams also use this test to gauge their athletes' cardiovascular fitness, which is one of the most crucial aspects of fitness (Pramata, 2016).

METHOD

This study was conducted by students at SMP Negeri 3 Karangdowo with a quantitative descriptive research type. This study will be conducted at SMP Negeri 3 Karangdowo with a population of 32 students. While the sample to be used ⁷ in this study is 20 students consisting of 10 male students and 10 female students. The data collection method is by using the survey method, for the instrument in this study is using a test. For the test used is the Bleep ⁵ Test using a back and forth run at a distance of 20 meters with a step speed that increases every minute following a predetermined rhythm (Rusdiana, 2023). For the following tests:

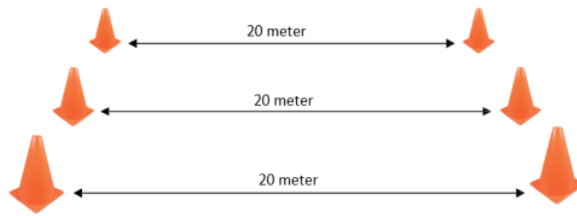


Figure 1. Bleep Test (Rusdiana, 2023)

The following is an estimate of the test assessment norms in this study:

Table 1. Test Assessment Norms (Rusdiana, 2023)

Age	J K	Very Low	Low Enough	Good	Good Very
9 years	L ≤ 13	14-30	31-40	41-50	≥ 51
	P ≤ 6	7-16	17-26	27-35	≥ 36
10 years	L ≤ 23	24-36	37-49	50-60	≥ 61
	P ≤ 7	8-18	19-29	30-40	≥ 41
11 years old	L ≤ 23	24-39	40-55	56-71	≥ 72
	P ≤ 15	16-24	25-32	33-40	≥ 41
12 years old	L ≤ 32	33-47	48-63	64-71	≥ 72
	P ≤ 15	16-24	25-32	33-40	≥ 41
13 years old	L ≤ 41	42-58	59-75	76-81	≥ 83
	P ≤ 23	24-32	33-41	42-50	≥ 51
14 years	L ≤ 41	42-58	59-75	76-81	≥ 83
	P ≤ 23	24-32	33-41	42-50	≥ 51
15 years	L ≤ 51	52-69	70-86	87-93	≥ 94
	P ≤ 32	33-39	40-45	46-50	≥ 51
16 years	L ≤ 61	62-72	73-87	88-93	≥ 94
	P ≤ 32	33-42	43-50	51-60	≥ 61
17 years	L ≤ 61	62-77	78-92	93-105	≥ 106
	P ≤ 32	33-42	43-50	51-60	≥ 61
17+ years	L ≤ 72	73-84	85-95	96-105	≥ 106
	P ≤ 41	42-52	53-62	63-71	≥ 72

¹¹ This study uses quantitative descriptive data analysis techniques, so the data analysis technique used is percentage. The presentation of quantitative data is presented in the form of a numerical presentation.

RESULTS AND DISCUSSION

⁹ The purpose of this study was to determine the VO2Max level of class VIII C students of SMP Negeri 3 Karangdowo. This study used the Bleep Test applied by SMP Negeri 3 Karangdowo consisting of 20 ⁸ students, 10 male students and 10 female students with an age range of 12-14 years. Based on the research results index, it was conducted to determine the level of aerobic endurance (Vo2Max). The following are the results of the Bleep Test percentage on students of SMP Negeri 3 Karangdowo.

Table 2. Frequency of Male Test Results

No	Category	Frequency	Percentage
1.	Very Low	-	-
2.	Low	3	30%
3.	Enough	6	60%
4.	Good	1	10%
5.	Very well	-	-

Table 3. Frequency of Women's Test Results

NO	Category	Frequency	Presentation
1.	Very Low	1	10%
2.	Low	5	50%
3.	Enough	4	40%
4.	Good	-	-
5.	Very well	-	-

CONCLUSION

³ In the results of this study, it can be seen that the level of aerobic fitness of male students who have a very low VO2 Max category is 0 students if presented as 0%, students who have a low category are 3 if presented as 30%, students who have

a sufficient category are 6 if presented as 60%, students who have a good category are 1 if presented as 10%. Meanwhile, the results of the study on the level of aerobic fitness of female students who have a very low category are 1 if presented at 10%, students who have a low category are 5 if presented at 50%, students who have a sufficient category are 4 if presented at 40%, students who have a good category are 0 if presented at 0%, students who have a very good category are 0 if presented at 0%.

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