

**Indonesian Student Fitness Test to Measure Students Physical Fitness Levels****Riska Lestari<sup>1✉</sup>, Destriana<sup>2✉</sup>, Destriani<sup>3✉</sup>**Universitas Sriwijaya, Palembang, Indonesia, Indonesia<sup>123</sup>**Article History**

Received November 2023  
Accepted February 2024  
Published Vol.13 No.(1) 2024

**Keywords:**

Students; Physical  
Fitness; Student Fitness  
Test (TKPN).

**Abstract**

The aim of this research is to determine the level of physical fitness of students at SENIOR HIGH SCHOOL Negeri 8 Palembang. To achieve the best results, it is required to exercise. This quantitative research was designed with a descriptive design. A total of 316 class X students at SENIOR HIGH SCHOOL Negeri 8 Palembang were research subjects. The Indonesian Student Fitness Test (TKPN) was used in this research to measure students physical fitness levels. The data analysis method is descriptive presentation. The tests carried out are v sit and reach, endurance, abdominal muscle strength, body control, balance, coordination and agility. The results of the research show that the Indonesian Student Fitness Test (TKPN) of SENIOR HIGH SCHOOL Negeri 8 Palembang students is in the good category 0 people (0%), good 0 people (0%), fair 38 people (12,0%), less than 278 people (87,9%), and less than 0 people (0%). The research results show that students at SENIOR HIGH SCHOOL Negeri 8 Palembang have a low level of physical fitness. The research results show that the Indonesian Student Fitness Test (TKPN) can be useful for teachers to measure how well students learn at school, especially regarding physical education, sports and health. The results show that students' physical fitness is related to academic and non-academic learning outcomes.

**How to Cite**

Lestari, R., Destriana., & Destriani. (2024). Indonesian Student Fitness Test to Measure Students Physical Fitness Levels. *Journal of Physical Education, Sport, Health and Recreation*, 13 (1), 50-55.

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p-ISSN 2460-724X  
e-ISSN 2252-6773

## INTRODUCTION

Physical Education Health and Recreation (PJOK) are an integral part of education in Indonesia. Therefore, physical education health and recreation (PJOK) play an important role in forming students character. Education is everyone's right, including Indonesia, and the government must implement it to advance human resources and fulfill national education goals (Mustafa, 2022). Physical education is closely related to the level of physical fitness. Physical fitness is a very healthy physical condition so that a person can and freely carry out daily tasks or work independently, actively and productively without getting tired (Destriana et al., 2022). There are many factors that also play a role in improving the quality of education in general, some of these factors are educational objectives, educators, students, educational tools, environment. So, education is a system that cannot be run if one of the subsystems has problems and results in the role of each subsystem not being optimal in achieving the stated goals (Lengkana & Sofa, 2017). Physical education, health and recreation are also incentives students motor development, physical activity, and science. Physical education must be taught at the education unit level starting from the lowest to the top which includes school levels starting from, School Elementary (SD), Middle School (SMP), High School (SENIOR HIGH SCHOOL) even at the tertiary level (PT) (Kapti & Winarno, 2022). In Indonesia, one of the subjects taught is sports physical education and health.

Physical education or sports physical education and health is learning that cannot be separated within the scope of the world of education as a whole (Mulya, 2018). Physical education has a different place from other learning in education, because sports physical education and health includes the psychomotor domain as its core goal. But, it does not ignoring the cognitive and affective domains (Fajaryanto et al., 2022). In law no. 20 of 2003, Permendikas no. 23 of 2006, and Permendikbud no. 64 of 2013, with no. 21 of 2016, all explain that sports physical education and health is an inseparable part of education overall aim of developing physical fitness, movement skills, critical thinking, social and reasoning abilities and can maintaining emotional actions in implementing a healthy and caring lifestyle a clean environment. Through selected and planned sports physical education and health activities coherently to achieve national goals, in sports

physical education and health learning physical fitness has a big influence on the learning process at school (Prastyawan & Pulungan, 2022).

Physical fitness is where the individuals physical ability as well as groups in various daily physical activities optimally and still have strength reserves to do the next activity without the slightest feeling of fatigue (Kamaluddin, 2019). However according to research Febrianti & Hakim, (2022), the current condition, the level of physical fitness of people in Indonesia not good, in the context of education in schools there is a decrease in activity motion which results in students experiencing obesity and not having enthusiasm in carrying out physical activities that result in students lazy so do not have the energy to do heavy physical tasks. This is supported by the opinion of Nurfajri et al., (2019), that student discipline and motivation are related to the level of physical fitness of students at Mujahidin Middle School Pontianak. The higher a student is level of awareness, the more his physical fitness will increase. In other words, showing physical fitness that occurs at school cannot be said to be good. Therefore, motivation is needed from teachers so that they can encourage the level of physical fitness in schools, especially among students. According to research by Paryanto & Wati (2013), the fitness of each person at the school unit level cannot be said to be good or bad, due to the lack of optimal implementation of physical education learning at school so that students become less active when participating in the physical education learning process. This causes many students to easily experience fatigue when participating in the physical education learning process. Therefore, to improve students physical fitness, they need encouragement in the form of motivation, so that they want to do physical activities that make their bodies healthy and fit, and avoid feeling lazy.

Another thing according to research results Suandiana et al., (2021), shows that there is still a lack of awareness among students at school in carrying out physical activities, caused by learning factors carried out during the covid 19 pandemic, such as internal factors, while external factors are outdoor activities home, food, nutrition, habits, and environment. As a result, most students experience fatigue before physical education lessons begin after covid 19. Apart from motivation from teachers, it is hoped that students can take part in extracurricular sports activities outside of physical education learning hours which are only studied every Friday.

**METHODS**

In this research, the type of research that researchers use is descriptive research. Descriptive is a type of research that provides an overview or description of the actual situation that might occur without any different treatment of the object being studied (Rusandi & Muhammad Rusli, 2021). As is in line with the research of Sukmadinata, (2013), which explains that descriptive research is the collection of research data by means of measurements and tests, the research results are presented in the form of a description of a particular event. Meanwhile, quantitative data is obtained through the Indonesian Student Fitness Test (TKPN) process, which is a test that is used in the form of an instrument to measure the level of physical fitness as in line with Handayani's research (2022), the form of the test in question is height, weight and structure or body shape for data collection. The method used is the survey research method, which is a method where data collection can use questionnaires and interviews obtained from a sample of people, which from the data will be able to represent a certain population in accordance with research interests, both to find out who the students are, what students think, feel, or tend to act. The sample population in this study was taken from class VII students at SENIOR HIGH SCHOOL Negeri 8 Palembang with a total of 316 students, divided into 181 women and 135 men. So the sample used uses a total sampling technique, namely a method of taking samples from all members of the population to be used as samples (Yunitasari et al., 2020). The data analysis technique in this research uses the descriptive percentage analysis method, namely data processing as stated by Maksun (in Putranto 2018:21-22) by dividing the frequency by the total number of respondents multiplied by 100 percent.

**RESULTS AND DISCUSSION**

The results of this research are presented in the form of a percentage of data processing results by taking the test results at the time of the research. This research involved 316 students. The data results were obtained from the initial test by looking at the students physical fitness using the Indonesian Student Fitness Test (TKPN) instrument **Table 1 Table 2 Table 3 Table 4**. Then, test measurements are carried out for 1 month to take student test results in turn. Furthermore, after data collection is carried out, the test results will

be calculated according to the test norms so that the condition of the physical fitness level of students at SENIOR HIGH SCHOOL 8 Palembang can be known.

**Table 1.** V Sit and Reach Test Results Data

Category	Time	Frequency	Percentage
Very well	>13	48	15,1%
Good	8-13	54	17,0%
Enough	3-7,9	58	18,3%
Not enough	-3-2,9	54	17,0%
Very less	<-3	102	32,2%
Amount		316	100%

**Table 2.** Sit Up Test Results Data

Category	Time	Frequency	Percentage
Very well	>56	0	0%
Good	44-55	0	0%
Enough	33-43	18	5,6%
Not enough	21-32	142	44,9%
Very less	<20	156	49,3%
Amount		316	100%

**Table 3.** Squad Thrust Test Results Data

Category	Time	Frequency	Percentage
Very well	>15	4	1,2%
Good	11-14	10	3,1%
Enough	8-10	90	28,4%
Not enough	3-7	200	63,2%
Very less	<2	12	3,7%
Amount		316	100%

**Table 4.** Pacer Test Results Data

Category	Time	Frequency	Percentage
Very well	>51	0	0%
Good	46-50	0	0%
Enough	40-45	6	1,8%
Not enough	33-39	26	8,2%
Very less	<32	284	89,8%
Amount		316	100%

These results are the overall results of students from the Indonesian Student Fitness Test (TKPN) **Table 1 Table 2 Table 3 Table 4**, which is dominated by poor criteria. This is proven by four test items taken from data from 316 Palembang

bang 8 Public High School students. These results show the very well category 0 students (0%), good 0 students (0%), fair 38 students (12,0%), poor 278 students (87,9%), very poor 0 students (0%) . So, from taking the four test items, it was concluded that the physical fitness level of students at SENIOR HIGH SCHOOL Negeri 8 Palembang was still in the poor category.

Based on the research results, it was found that in Senior High School 8 Palembang the physical fitness of students is in the poor category. Because of the results the fitness test shows that the dominant criterion is lacking such as the results of the v sit and reach test of students in the very good category, 48 people (15,1%), good 54 people (17,0%), fair 58 people (18,3%), less 54 people (17,0%), and very low 102 people (32,2%). So the results of the v sit and reach test are obtained 32,2% of the 316 research samples were in the very low category. Tests are tools used to measure some performance and to collect data tests (Faiz et al., 2022). A test must be valid, which means it measures what it is supposed to measure and must be reliable, which means it can be repeated many times. Measurements are quantitative scores that come from tests (Gumantan et al., 2020).

Referring to previous research Nur Rahman et al., (2022), there is a tendency to differ in the flexibility of the sit and reach test based on age, sex, joint disease and waist circumference ratio and normal and abnormal sit and reach test, flexibility abilities. Flexibility ability according to Satyantoni, (2014), found a gradual decline in ability levels flexibility in children aged 6 to 12 years. This is one of the causes v sit and reach results on students in the low category, where at age experienced a gradual decline in ability levels flexibility. So it is better for students to carry out various activities need to improve good flexibility to protect the body from various kind of injury. Flexibility is an important component of physical activity in each individual in creating various inflexible movements and stiff (Hariyanti et al., 2019). So that someone will experience a physical condition that can developed into more efficient and effective movements. One component what everyone has is flexibility, where flexibility has movements that are less stiff, flexible and fluid. This is done by having movements that support your abilities skills and mastery in the field of sports. Flexibility is very useful for a person's life, this is because flexibility has a very important role in helping someone become more skilled in processing the body which trains to develop flexibility abdominal, back and waist muscles at the same time. So, someone which has optimal fle-

xibility and is good at processing movement on the body easily. In mastering skills in the field of sports is better than those who have movement flexibility that is not yet optimal and good (Wicaksono, 2022).

Own Body flexibility will make the muscles looser and less tense good (Ego Tedda Pamungkas, 2021). With such muscle conditions, students can perform many movements exercise well. Apart from that, when doing difficult sports movements students will also not easily feel pain due to muscle cramps. Then on when learning sports physical education and health students should warm up thoroughly maximally like the knee kissing exercise in a sitting position during the movement floor exercise, this exercise is aimed at training the flexibility of the back muscles.

Kayang exercises aim to train the flexibility of the abdominal muscles, back, and waist, and then the splits exercise, this exercise stretches both legs so as to form a straight line good (Serin et al., 2017). Splits can train the flexibility of the groin muscles (Azandi et al., 2021). He next test results are the results of the sit up test where the sit up test is obtained students in the very good category 0 people (0%), good 0 people (0%), sufficient 18 people (5,6%), less 142 people (44,9%), and very low 156 people (49,3%). So the results of the sit up test were obtained (49,3%) from 316 samples 58 research is in the very low category.

Sit-ups are a physical exercise aerobics. Sit-ups are not only for abdominal muscle strength training but can also be done to reduce body fat and increase lean muscle mass. Doing sit-ups can reduce fat in the stomach area. Sit ups are a type of exercise that trains you various muscles. Not only abdominal muscles, but also chest, pelvic and waist muscles bottom and neck. This sit up exercise helps train muscle strength so that it becomes firmer. But, there are still many obstacles found in doing sit-ups at the time of carrying out the test refers to the results questionnaires that have been distributed there are students who still have difficulty in did a sit up test. Where the results showed that there were 103 people (32,5%), from a total of 316 students still had difficulty doing the sit up test because they did not get used to doing these movements. It would be better if there is socialization or deeper introduction to good and correct sit up movements, media in the form of videos in sports physical education and health learning at the school. This research was continued by performing squat thrust, based on the results the squat thrust test of students in the very good category was 4 people (1,2%), good 10 people (3,1%), quite 90 people (28,4%), less

than 200 people (63,2%), and very low 12 people (3,7%). So the results of the squat thrust test were obtained (63,2%) from the 316 research samples were in the very low category. However based on the results of the questionnaire that was distributed, there were (89,8%) students who had do your best during the test and be serious about taking the test and also the results of the questionnaire showed that as many as (89,8%) of the students were enthusiastic about participating this test. The results of the next test are the results of the pacer test.

Pacer test is a development to test response a person is cardiovascular response to aerobic activity. This test is very useful for measures the fitness level of athletes in game sports such as rugby, football ball, handball, hockey, tennis, and so on, as well as to measure fitness students and students. This test is also used by most teams international sports to measure cardiovascular fitness, this test as one of the most important components of fitness (Pramata, 2016). Where the test results were obtained for students at Senior High School 8 Palembang, in very good category 0 people (0%), good 0 people (0%), enough 6 people (1,8%), lacking 26 people (8,2%), and very low 284 people (89,8%). So from the results pacer test obtained (89,8%) from 316 research samples were in very low category. However, referring to the results of the fitness test questionnaire there are (89,7%) students have done all their energy and are serious really in taking this test. Why are those the results of the pacer test on the participants students are dominated in the very low category there are 284 people with percentage (89,8%). Due to referring to the results of the questionnaires that have been distributed in students there were 180 people with a percentage (56,9%) of the duration students do sports activities only one hour. This has a very significant impact on the results of the pacer test that dominates in very low category. A person is abilities will be affected by genetic factors and environmental factors. Such as  $vo_{2max}$  a person is also influenced by these two factors. Which influenced by environmental factors, among others age, gender and height (Pramata, 2016). Therefore, there is a need for continued sports activities in addition to sports learning hours such as morning exercises to become routine activities students, in order to improve the physical fitness of students in Senior High School 8 Palembang.

Sports physical education and health teachers at Senior High School 8 Palembang, should not only focus on delivery of material through textbooks. But also, pay attention to con-

ditions psychology and physiology of students, for example with current learning videos delivery of material so that students better understand how to make movements such as v sit and reach, sit up, squat thrust, and pacer test so that when doing the test students get maximum results. And can be uplifting students before starting sports physical education and health learning and during field practice students can understand the movement of the test.

Physical fitness is a person is ability to do something certain jobs well without causing Riyanto deep fatigue (Destriana et al., 2022). Fitness is defined as ability body to carry out routine tasks over a long period of time without experiencing significant fatigue and still having reserve energy to carry out sudden activities (Darmawan & Indra Bayu, 2022). Previous research in Destriana et al., (2022), resulted in no correlation between body mass index and eating patterns on students physical activity. With Thus, students will not be able to achieve maximum achievement if have poor physical fitness. It is known that hysical fitness is one of the supporters of student success achieve maximum academic achievement. Although in reality in In the field there are still students who have good physical fitness not necessarily get the maximum learning outcomes as well, and vice versa. It is hoped that with a good level of physical fitness students can improve academic and non-academic achievements while running learning in schools so as to get maximum results. If the physical fitness of the students is lacking, in this case the participants students do not have good physical fitness, it will be difficult to accept learning given by the teacher. If students physical fitness is maintained properly then the learning process will be carried out smoothly so that absorption of knowledge in students in all subjects especially sports physical education and health learning will get better. Therefore, physical fitness is something that needs to be improved when exercising over time or a long time, replacing fluids in the body with water alone is not enough, because water does not replace electrolyte fluids lost with sweat, then as a participant Students must be able to keep their bodies hydrated so that this does not affect them learning performance or achievement (Kusuma, 2018). Then rate good physical fitness is useful for creating body appearance good, gives the impression of being able to carry out the task, improves feelings self-confident. A good level of physical fitness can make a person think Senior High Schoolrt and be ready to carry out the task.

## CONCLUSION

Based on the results described in the research results and discussion above, it can be concluded that, of the 4 test items that were carried out at SENIOR HIGH SCHOOL Negeri 8 Palembang, a total of 316 people were found to be in the excellent category, 0 students (0%), good, 0 students (0%), quite 38 students (12,0%), less than 278 students (87,9%), very less than 0 students (0%). So from taking the 4 item test it was concluded that the level of physical fitness of students at SENIOR HIGH SCHOOL Negeri 8 Palembang was in the poor category, and in several test items the students had less than perfect abilities and some were in the poor category. This is because, when taking the test there were several students who were unfit, so that when taking the test the students had difficulty carrying out these movements.

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