

# FITNESS LEVEL ANALYSIS OF PHYSICAL STUDENTS OF SAMARINDA CITY STATE VOCATIONAL HIGH SCHOOL

**Didik Cahyono<sup>1</sup>, Muhammad Sukron Fauzi<sup>2</sup>, Naheria<sup>3</sup>**

Physical Education Study Program, Faculty of Teacher Training and Education,  
Mulawaran University  
didikcahyono86@gmail.com, sukron.fauzi@fkip.unmul.ac.id,  
naheria@fkip.unmul.ac.id

---

## ARTICLE INFO

## ABSTRACT

### *Keywords:*

Physical fitness level,  
Student, Physical  
Fitness, Vocational High  
School

The subject of Physical Education, Sports, and Health is an integral part of national education which aims to develop the physical fitness abilities of students through physical activity. physical education is held as part of the educational process and is carried out both on formal and non-formal education pathways, through extracurricular and extracurricular activities. However, Physical education learning, for Vocational high school is not included in the curriculum, because it is following the contents of PERDIRJEN Number 07 / D.D5 / KK / 2018 concerning teaching hours, and Number 464 / D.D5 / KK / 2018 concerning, the number of basic competencies which was previously 12 basic competencies to 9 basic competencies. The purpose of this study was to determine the level of physical fitness of class XII students of Vocational high school Samarinda City. This type of research is a survey, the subject of this study is students of the state vocational high school Samarinda City, cluster random sampling technique. Where there are 2 selected classes with 70 students. Data was collected using the Nusantara Student Fitness Test instrument in 2022 and analyzed through IBM SPSS statistics. The results of this study showed that the fitness of Vocational high school Samarinda City students with a good category of 2 students or 2.9%, a sufficient category of 25 students or 35.7%, and categorized less as much as 43 or 61.4%. The conclusion of the study for physical fitness of students was more dominantly included in the less category, namely 43 students or 61.4% of the total 70 students who took the Indonesian student fitness test.

---

\*corresponding author

E-mail address : emailauthor@gmail.com (Didik Cahyono)

<https://doi.org/10.xxxxx>

Received 01 October 2022; Received in revised 20 October 2022; Accepted 05 November 2022; Available online 30 November 2022

0000-0000/© 2022 The Authors. Published by Ridwan Institute. This is an open access article under the CC BY SA license (<https://creativecommons.org/licenses/by-sa/4.0/>)

## Introduction

Fitness is defined in two groups namely fitness related to health and fitness related to skills (Sukanti, Zein, & Budiarti, 2016). Health-related physical fitness components include Endurance, endurance, muscle strength, flexibility, and body position. While the components of physical fitness related to skills are: speed, dexterity, balance, reaction speed, coordination, and body composition (Anggitasari, Dieny, & Candra, 2019). Coaching physical condition in sports, an athlete who wants to excel must have physical conditions such as Strength, endurance, muscular power, speed, coordination, flexibility, agility, balance, accuracy, accuracy (accuracy), and reaction (Hammi, 2018).

The focus of attention of physical education, sports and health is the improvement of movement, more specifically physical education, sports, and health-related to the relationship between human movement and other education, for example, the relationship of physical development to the area of growth and development of other aspects, this is what makes the reviewer unique, (Irawan, Shandi, & Salahudin, 2020). according to (Prianto, Utomo, Abi Permana, & Mutohir, 2022), Students should do sports activities a week need 3-5 times to maintain their level of physical freshness. Because fitness will decrease by 50% after stopping exercise or training for 4-12 weeks and will continue to decrease by 100% for 10-30 weeks.

The observations made by researchers at SMK Negeri Kota Samarinda subject to health assessment for vocational schools are very lacking so the physical activity of students is also reduced and results in the level of physical infertility of students in vocational high schools so that many students quickly experience fatigue when participating in practicums and learning in class. With the description of the level of physical fitness above, especially those in schools, this research was held at the State Vocational High School in Samarinda City, this research was carried out at students of Vocational high school Samarinda City because the author wanted to know the developments in students of Vocational high school Samarinda City, especially the level of physical fitness of students (Aulan, 2020). Improvement and maintenance, especially for students, must be sought so that they are always ready to carry out their activities without feeling exhausted (Govir, 2021). For students, physical fitness can improve learning achievement because, with good physical fitness, they can be better prepared to receive lessons and will become healthy and fit generations (Akbar, 2015).

The physical fitness level of learners needs to be measured as data on the fitness condition of learners (Bangun, 2019). Based on the description of fitness levels, targeted and effective improvement efforts can be made. Measurement of students' physical fitness can be done with the Indonesian Physical Fitness Test test kit, the results of observations and interviews with health sports physical education teachers at students of Vocational high school Samarinda City are known that the school has never held an Indonesian Physical Fitness Test. To find out the level of physical fitness of students and whether they have met what standards have not been met, it is necessary to hold a test to find out the level of physical fitness of students, namely by using the Indonesian Physical Fitness Test method.

## Methodology

### Stages of Research Implementation

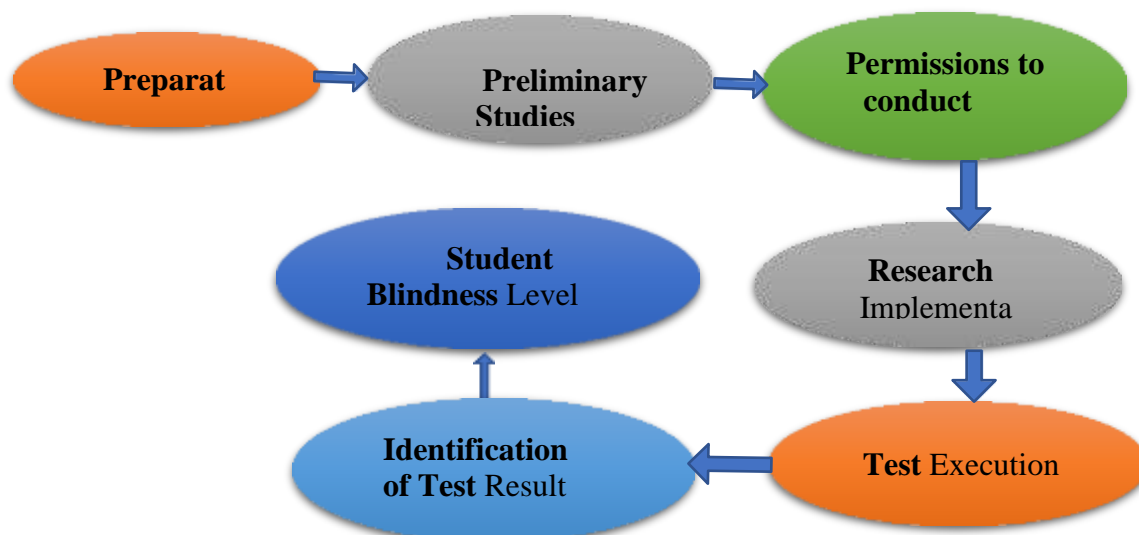


Figure 1. Stages of research implementation

The researcher administers the permission of the head of the school to carry out the research. researchers look for data on the number of students through TU, the stage of research implementation begins with collecting samples at the test site and providing direction on the measurement methods or techniques used. Furthermore, researchers conduct physical fitness tests and measurements on samples and identify according to the criteria for the results of the physical fitness test, this research will be carried out at students of Vocational high school Samarinda City

This type of research is a survey research with a Quantitative approach (Musianto, 2002) and the presentation of research results based on the results of the Physical Fitness Test test and measurement, descriptively in the form of statistical and qualitative analysis figures, qualitative and quantitative approaches are used to obtain a comprehensive interpretation related to the level of physical fitness of students of Vocational high school Samarinda City

To obtain data in this study, data collection techniques were used by conducting a Physical Fitness test, the form of the test used was a 60-meter run, Hanging Body lift (*Pull Up*) for 60 seconds, bed sitting (*sit-up*) for 60 seconds, jumping upright (*Vertical jump*) and running 1200 meters, The data analysis used in this study was a descriptive statistical analysis of percentages.

## Results and Discussion

This chapter presents data on research findings and their discussion. The findings of this study are presented according to the formulation of the existing problem. Thus, the results of the study can be in the form of a description of statistical research data for the analysis of the fitness level of physical students of the state vocational school of Samarinda

City and a description of research data on a statistical analysis of the fitness level of physical students of the state vocational school of Samarinda City.

### 1. Descriptive Statistics

**Table 1. Descriptive test statistics analysis of fitness levels of physical students of Samarinda city state vocational school**

Descriptive Statistics						
	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Fitness Test for Students of SMK Class XII	70	.59	2.31	75.23	1.0747	.447
Valid N (listwise)	70					

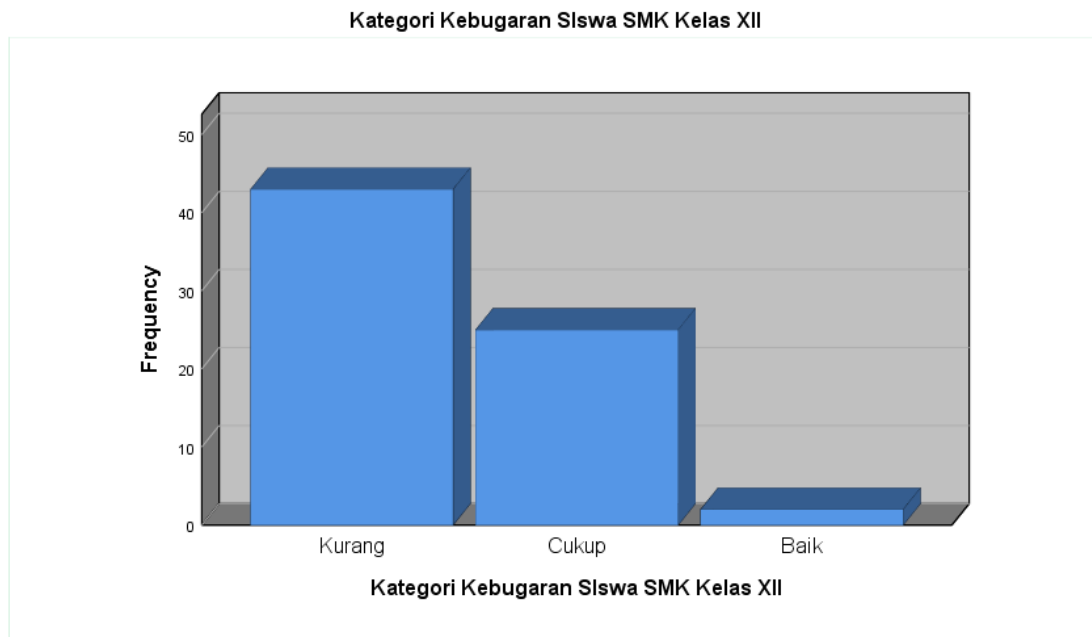
Data from the results of research on the interest of students in participating in futsal extracurricular activities were found in the results of the analysis with a minimum score = 0.59, maximum score = 2.31 *mean* = 1.0747, and *standard deviation* = 0.447.

### 2. Results of Research on Fitness Level of Students of SMK Class XII

The fitness level of students of Vocational high school Samarinda City class XII is based on the results of the Nusantara Student Fitness Test (KPN) aged 16-19 years which includes: Body Mass Index (BMI), V Sit and *Reach, Sit-Up, Squat Thrust, and Pacer*. Furthermore, the frequency distribution according to KPN norms is arranged into 5 categories, namely the categories of Very good, good, cut once up, less, and very good. The following is a table of the frequency distribution of the level of physical freshness obtained:

**Table 2. Variable Frequency Distribution of Fitness of Students of SMK Class XII**

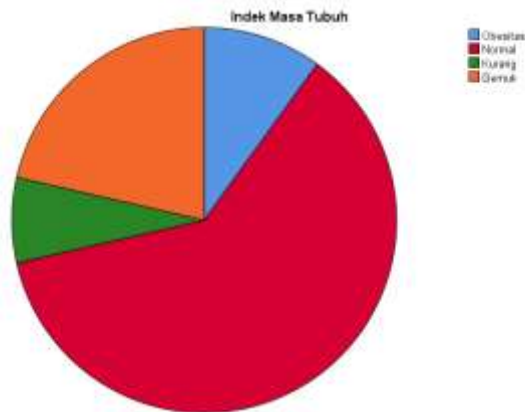
Fitness Level of SMK Class XII Students			
Category	Interval	Student	Percentage
Very Good	>4	0	0%
Good	3 - 3,9	2	2,9%
Enough	2 - 2,9	25	35,7%
Less	1 - 1,9	43	61,4%
Less Than Once	<1	0	0%
<b>Total</b>		70	100%



The results of the fitness test research for students of Vocational high school Samarinda City showed that students had a very good category of 0 students or 0%, a good category of 2 students or 2.9%, a sufficient category of 25 students or 35.7%, a sufficient category of 43 students or 61.4%, and a very less category of 0 students or 0%. The conclusion for the physical fitness of class XII students of Vocational high school Samarinda City is more dominant in the **category** of less, namely 43 students or 61.4%, out of a total of 70 students who took the Nusantara student fitness test.

**Table 3. Body Mass Index**

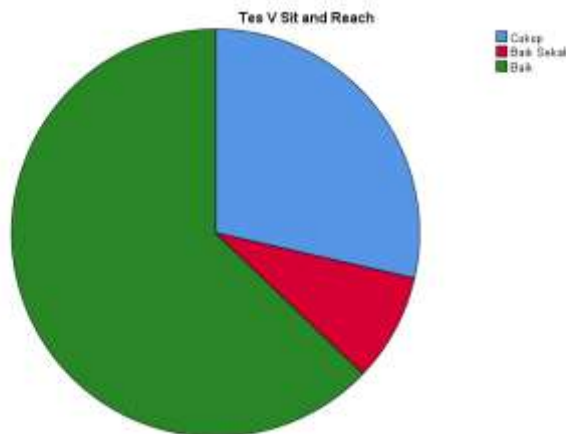
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Obesity	7	10.0	10.0	10.0
	Usual	43	61.4	61.4	71.4
	Less	5	7.1	7.1	78.6
	Fat	15	21.4	21.4	100.0
	Total	70	100.0	100.0	



From the results of research by vocational high school students in Samarinda city, it shows that the student body mass index is 10% in the obesity category, 61.4% in the normal category, 7.1% in the thin or less category, and 21.4% in the fat category, so that in the period index component of junior high school students in the normal category as much as 61.4%

**Table 4. V Sit and Reach Test**

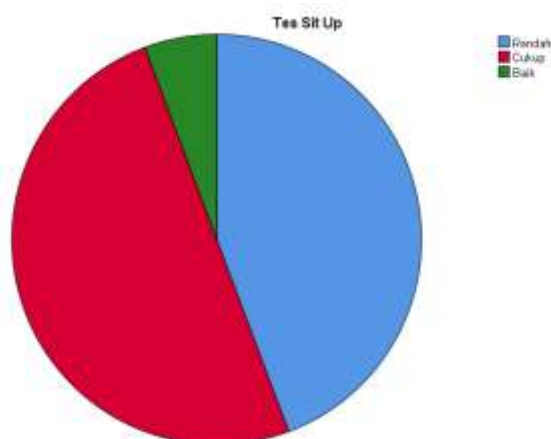
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Enough	20	28.6	28.6	28.6
	Very Good	6	8.6	8.6	37.1
	Good	44	62.9	62.9	100.0
	Total	70	100.0	100.0	



In this study, the ability of students to conduct the V Sit And Reach test was 28.6% of students in sufficient categories, then 8.6 percent in the very good category, and 62.9 percent of students in the good category,

**Table 5. Sit Up Test**

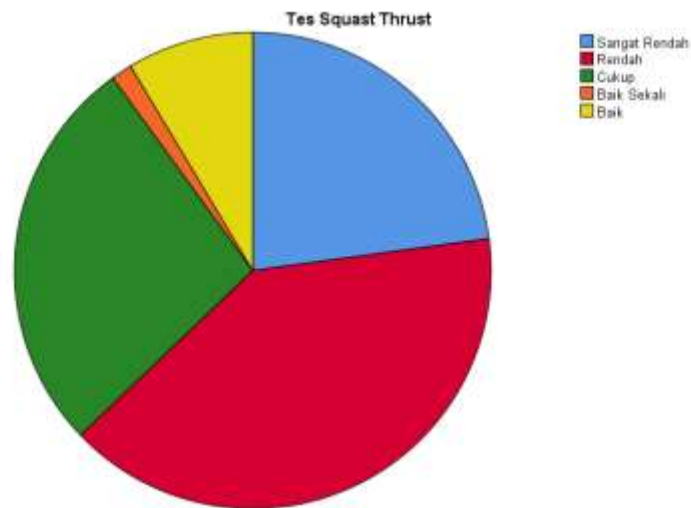
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	31	44.3	44.3	44.3
	Enough	35	50.0	50.0	94.3
	Good	4	5.7	5.7	100.0
	Total	70	100.0	100.0	



The results of the research on the ability to conduct the Sit Up test, vocational high school students in Samarinda city, as much as 44.3% in the low category, then as many as 50% in the sufficient category, and as much as 5.7% in the good category,

**Tabel 6. Squash Thrust Test**

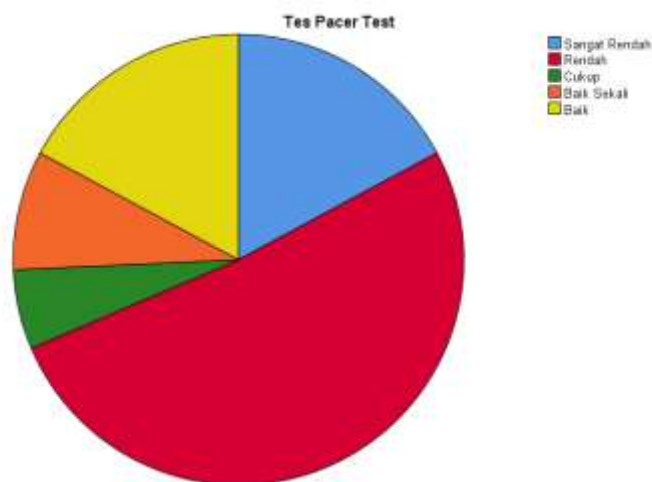
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Low	16	22.9	22.9	22.9
	Low	28	40.0	40.0	62.9
	Enough	19	27.1	27.1	90.0
	Very Good	1	1.4	1.4	91.4
	Good	6	8.6	8.6	100.0
	Total	70	100.0	100.0	



In the studies already conducted, the results of the Squash Thrust test in vocational high school students in Samarinda city, showed that as many as 22.9% were in the very low category, 27.1 % in the sufficient category, then 1.4 % in the very good category and 8.6 % in the good category.

**Table 7. Tes Pacer Test**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Low	12	17.1	17.1	17.1
	Low	36	51.4	51.4	68.6
	Enough	4	5.7	5.7	74.3
	Very Good	6	8.6	8.6	82.9
	Good	12	17.1	17.1	100.0
Total		70	100.0	100.0	



In the studies that have been carried out, the results of the Pacer Test test on vocational high school students in Samarinda city showed as many as 17.1% of students in



the very low category, 51.4% in the low category, 5.7% in the sufficient category, 8.6% in the very good category and 17.1% in the good category.

### **Discussion**

The fitness level of class XII students is predominantly in the less category. This is seen because in class XII vocational high school for Physical education learning hours are eliminated so that class XII students for their physical activity obtained during Physical education class hours are reduced. This shows that there is a unidirectional relationship between the level of physical activity and the level of physical fitness, so if the physical activity increases, the level of physical fitness will also increase. Study (Suryadi, 2022) in his research stated that there is a relationship between physical activity and the level of physical fitness of students which is shown by the significance value. This is strengthened by research on the effect of PJOK learning time on the level of physical fitness of students Based on the results of the findings that have been studied by (Trujillo Huber, Pereira Despaigne, Jacas García, & García Díaz, 2016) it can be concluded that the learning time of Physical Education, Sports and Health affects the improvement of students' physical fitness because the very dominant learning time is applied to improve students' physical fitness.

Industrial/company would always want to have qualified employees. What is certain is that they will select first. Each stage of selection carried out by the company is almost average in the form of psychological tests, skills, and fitness/health tests. Likewise, for SMK students who want to continue their level of education to the next stage such as entering college, a Police Academy, a Military Academy, STAN, and other service bond schools, this requires fitness tests, psychological tests, and others. This proves the importance of Physical education class hours in class XII for SMK, if the PJOK class hours in physical education class XII are lost, it means that their future and their ideals will be in danger of being lost.

Pete McCall, a physiological exercise expert at the American Council on Exercise states over time the muscle realizes that it no longer needs to store too much energy. As a result, glycogen stored in the muscles decreases which can cause muscle mass to shrink (muscle atrophy) due to not being used for a long time due to lack of physical activity. Therefore, the muscles will look smaller, not completely lost, after stopping exercising. A 2011 study published in the *Journal of Strength and Conditioning* showed that those who regularly lift weights and exercise have good physical abilities (Storer et al., 2014). If you stop exercising after three months your strength lifts the barbell or your running stamina will be reduced by 20 percent. It is conceivable if the students of physical education class XII for 1 year stop doing sports activities. In addition to the impact as described above, this can also have an impact on the Physical education teacher himself because the teacher lacks focus in terms of teaching and has to look for teaching hours elsewhere.

### **Conclusion**

The conclusion that can be conveyed in the report of the results of this study is that the fitness level of class XII students is dominantly in the category of lacking. This is seen because in class XII vocational high school for Physical education learning hours are eliminated so that class XII students for their physical activity obtained during Physical

Education class hours are reduced. This shows that there is a unidirectional relationship between the level of physical activity and the level of physical fitness, so if the physical activity increases, the level of physical fitness will also increase. According to (Wanjaya, 2019) in his research stated that there is a relationship between physical activity and the level of physical fitness of students which is shown by the significance value. This is strengthened by research on the effect of Physical education learning time on the level of physical fitness of students Based on the results of the findings that have been studied by (Storer et al., 2014) it can be concluded that the learning time of Physical Education, Sports and Health affects the improvement of students' physical fitness because the very dominant learning time is applied to improve students' physical fitness.

## References

- Akbar, Mohammad Haris. (2015). Survei tingkat kebugaran jasmani siswa kelas X, XI dan XII SMAN 3 Nganjuk. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 3(3).
- Anggitasari, Elok Dwi, Dieny, Fillah Fithra, & Candra, Aryu. (2019). Hubungan somatotype dengan kesegaran jasmani atlet sepak bola. *Jurnal Keolahragaan*, 7(1), 11–22.
- Aulan, Febriani. (2020). *Analisis Keterampilan Dasar Mengajar Pendidik IPA Dalam Proses Pembelajaran Kelas IV di SDN 08 Way Lima Pesawaran*. UIN Raden Intan Lampung.
- Bangun, Sabaruddin Yunis. (2019). Tingkat Kebugaran Jasmani Siswa SMP Negeri Kecamatan Bosar Maligas Kabupaten Simalungun Provinsi Sumatera Utara. *JOSSAE (Journal of Sport Science and Education)*, 4(1), 30–35.
- Govir, Muhammad. (2021). *Survei Tingkat Kebugaran Jasmani Siswa Putra Kelas X Di SMK Negeri 5 Merangin*. Universitas Jambi.
- Hammi, Muh. (2018). *Pengaruh Pemberian Core Stability Exercise Untuk Meningkatkan Kelincahan Pada Pemain Futsal Pasca Cidera Sprain Ankle di Atro Citra Bangsa Yogyakarta*. Universitas' Aisyiyah Yogyakarta.
- Irawan, Ewan, Shandi, Shutan Arie, & Salahudin, Salahudin. (2020). Manajemen Pembelajaran Guru Pendidikan Jasmani Sekolah Dasar di Kota Bima. *JISIP (Jurnal Ilmu Sosial Dan Pendidikan)*, 4(3).
- Musianto, Lukas S. (2002). Perbedaan pendekatan kuantitatif dengan pendekatan kualitatif dalam metode penelitian. *Jurnal Manajemen Dan Kewirausahaan (Journal of Management and Entrepreneurship)*, 4(2), 123–136.
- Prianto, David Agus, Utomo, Maris Aka Satriyo, Abi Permana, Dwindi Abi Permana, & Mutohir, Toho Cholik. (2022). Survey Tingkat Kebugaran Jasmani dan Faktor Yang Mempengaruhi Tingkat Kebugaran Jasmani Siswa Sekolah Menengah Pertama di Sidoarjo. *Jurnal Segar*, 10(2), 49–56.
- Storer, Thomas W., Dolezal, Brett A., Abrazado, Marlon L., Smith, Denise L., Batalin, Maxim A., Tseng, Chi Hong, Cooper, Christopher B., & Group, PHASER Study. (2014). Firefighter health and fitness assessment: a call to action. *The Journal of Strength & Conditioning Research*, 28(3), 661–671.
- Sukamti, Endang Rini, Zein, Muhammad Ikhwan, & Budiarti, Ratna. (2016). Profil Kebugaran Jasmani dan Status Kesehatan Instruktur Senam Aerobik di Yogyakarta.

*Jorpres (Jurnal Olahraga Prestasi)*, 12(2).

Suryadi, Didi. (2022). Analisis kebugaran jasmani siswa: Studi komparatif antara ekstrakurikuler bolabasket dan futsal. *Edu Sportivo: Indonesian Journal of Physical Education*, 3(2), 100–110.

Trujillo Huber, José Carlos, Pereira Despaigne, Olga Lidia, Jacas García, Caridad, & García Díaz, Reina de la Caridad. (2016). Amana Tool 1/8Dx1/4Shk Spiral O Plastic-51411 by. *MEDISAN*, 20(10), 2258–2266.

Wanjaya, Visensia Christanti Glorinda. (2019). Hubungan Aktivitas Fisik Dengan Tingkat Kebugaran Jasmani Siswa Kelas XI SMA Negeri 1 Srengat Blitar. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 7(3).