

**The Influence Of Aerobic Endurance, Hand Eye Coordination And Student Learning Discipline On The Basic Volleyball Technique Skills Of Students Of Smp Negeri 2 Lintau Buo Utara, Tanah Datar Regency**

**Yona Evasari<sup>1</sup>, Kamal Firdaus<sup>2</sup>, Syafruddin<sup>3</sup>, Hastria Efendi<sup>4</sup>**

<sup>1</sup>Master of Sports Education, FIK, Padang State University

<sup>2,3,4</sup>Postgraduate Lecturer in Sports Education, FIK, Padang State University

E-mail: [evasariy882@gmail.com](mailto:evasariy882@gmail.com)

**ABSTRAK**

The purpose of this study was to see the effect of aerobic endurance, hand eye coordination, and learning discipline on basic volleyball skill items for SMP N 2 North Lintau Buo. This type of research is path analysis (fat analysis) with the variables of aerobic endurance, eye-hand coordination and learning discipline. The population of this study were 20 grade VIII students of SMP N 2 Lintau Buo Utara. The sampling technique in this study was a purposive sampling technique, so that 20 students were randomly selected as the sample at SMP N 2 Lintau Buo Utara. The grouping of samples is random. Data collection was carried out by testing basic volleyball skills, namely passing over, under, serve and serve over. The data was then analyzed by t-test. The results obtained in this study were: 1) There was an effect of aerobic endurance on basic volleyball skill items for students at SMP N 2 Lintau Buo Utara, as evidenced by the average increase in each item of basic skills, namely: upper passing skills (1.5), passing skills underhand pass (1.7), overhand skill (-1.02), and underhand skill (1.9); 2) There is an effect of hand eye coordination on the basic volleyball technique skills of SMP N 2 Lintau Buo Utara, as evidenced by the average results of an increase in each item of basic skills, namely: bag passing skills (2.2), bottom pass skills (2.3), service skills under (-1.47), and over serve skills (3.2); 3) There is an influence of learning discipline on the basic volleyball skills of students of SMP N 2 Lintau Buo Utara, as evidenced by the results of the tcount for each item of basic skills, namely: upper passing skills (1.94), lower passing skills (1.82), lower serving skills (2.5), and top serve skill (2.5) is greater than ttable (1.73).

**Keywords:** aerobic endurance, hand eye coordination, study discipline, volleyball skills

**I. INTRODUCTION**

The spread of Covid-19 has had a very significant impact on the world of education (Herlina & Suherman, 2020; Ekin, 2022; Ressa, 2021; Razak et al., 2021). Education during the Covid-19 era had an impact on people's behavior patterns (Atak et al., 2022). Community life is limited to interaction outside the home (Niemczyk, 2021; Putri et al., 2019). This includes sports activities that must be temporarily stopped (Pratomo & Gumantan, 2021), so that makes people feel objection. Therefore, the government issued social restrictions to overcome the spread of the Covid-19 virus (Yulianingsih & Parlindungan, 2020; Oktarina et al., 2021). According to (Arief et al., 2020) stated that the Covid-19 virus was the largest epidemic in Indonesia which had killed 1,437 people.

Furthermore, the spread of the Covid-19 virus has limited humans in doing sports. Sport is the most important thing for humans to maintain a healthy body (Anggara, 2021). Health is a very valuable need for humans (Sunardi & Kriswanto, 2020; Firdaus, 2015), so that with a healthy human body can carry out any activity. Furthermore, to maintain a healthy body, you can adopt a healthy lifestyle. A healthy lifestyle is studied in sports and health physical education subjects (Komarudin & Prabowo, 2020; Mendrofa, 2021). Physical sports and health education is a subject that develops physical fitness, movement skills and a healthy living environment (Tumaloto, 2022; Kilic et al., 2021; Firdaus, 2016).

Sports and health physical education is much liked by students (Syafruddin & Hasanah, 2020). This is because in the Physical and Health Sports Education (PJOK) subject students get to know techniques and how to play big and small balls. (Ariantesa et al., 2022; Gumara & Wahyuri, 2022). One of the big ball games is volleyball. In volleyball games students have not been able to do the basic movements of volleyball games correctly (Candra Dewi et al., 2020), especially doing underhand passing with frequent mistakes, namely

---

*Received Desember 22, 2022; Revised Januari 2, 2023; Accepted Februari 2, 2023*

students doing underhand passing with bent arms because the elbows are bent and errors in the starting position, namely an upright body position with the feet together or astride too wide so that the initial position of the feet is not stance (front behind). Mastery of the basic movement abilities of volleyball underhand passing that is not yet good will affect the results of the match (Smadi, 2022). Because passing is the start of an attack, it is hoped that with good passing, it will be easier for a passer to vary attacks to other players or smashes.

The basic technique of playing volleyball is not the only element that must be mastered in playing volleyball, but there are still other important elements, namely the physical abilities of the players. (Soytürk, 2019). Physical abilities consisting of strength, endurance, explosive power, speed, flexibility, coordination, agility, and balance make a big contribution to playing volleyball. Each individual has different characteristics and levels of technical ability in volleyball games. Outwardly there are those who have the talent to play volleyball well, but there are also those who have less ability. Students must be trained intensively and efficiently to be able to improve skills and achievements in playing volleyball (Kastrena et al., 2020 ;Supriyadi & Dupri, 2020). Therefore, a good training program is needed in accordance with the proper procedures by taking into account the elements that affect skill in playing volleyball.

Based on observations made at SMPN 2 Lintau Buo Utara, especially in Class VIII, it was found that the level of students' basic skills in volleyball was still standard and low. In the author's observation, it was found that the basic volleyball techniques had not been mastered to the fullest. Sports teacher Mr. Arif Kurnia said that due to limited teaching hours and sports practice, and not only volleyball is being taught, the mastery of basic techniques and supporting factors is not optimal. Of the 175 students in class VIII, not all of them have mastered the basic techniques of playing volleyball. In playing volleyball students must master the correct motion techniques and muscle endurance, so that they can produce large muscle movements in playing.

Research by (Surya et al., 2022) states that there is a relationship between hand eye coordination in the ability to serve in volleyball games. Research by (Oktariana & Hardiyono, 2020) stated that there was an influence of hand muscle power on students' smash abilities in playing volleyball. (Broto, 2015) states that in volleyball game muscle strength has a big role to do the smash. Study (Isabella & Bakti, 2021) in playing volleyball the muscle power of the arms and legs has a relationship in doing the smash. Based on this, this study aims to determine the effect of aerobic endurance, hand eye coordination, and learning discipline on basic volleyball skill items for students of SMP N 2 North Lintau Buo.

## **II. IMPLEMENTATION METHOD**

This research is a type of path analysis (fat analysis) with the variables of aerobic endurance, eye-hand coordination and learning discipline. The population of this study were 20 grade VIII students of SMP N 2 Lintau Buo Utara. The sampling technique in this study was a purposive sampling technique, so that 20 students were randomly selected as the sample at SMP N 2 Lintau Buo Utara. The grouping of samples is random. Data collection was carried out by testing basic volleyball skills, namely passing over, under, serve and serve over. The data were then analyzed by t-test with SPSS version 16.

## **III. RESULTS AND DISCUSSION**

From the results of the research that has been done about the effect of aerobic endurance, hand-eye coordination, and learning discipline on the basic volleyball skills of SMP N 2 North Lintau Buo. The data described are the independent variables consisting of aerobic endurance (X1), eye-hand coordination (X2), learning discipline (X3), and as the dependent variable namely volleyball basic technique (Y), after obtaining data for each variable, then the data is processed using a descriptive statistical formula, so that the average value (mean), standard deviation (SD), median, maximum value (max), and minimum value (min) are obtained. for more clarity the researcher explains each research variable data for more clarity can be table 1-3.

Table .1 Data Description of Aerobic Endurance

Total Value	Classification	F	%
22 – 25	Very well	1	5,00
18 – 21	Well	1	5,00
14 – 17	Currently	4	20,00
10 -13	Not enough	10	50,00
5 – 9	Les once	4	20,00
<b>Total</b>		20	100,00

Based on table.1 above, it can be explained that the Aerobic Endurance of the 20 students who were selected as the research sample were in the very good category (1 person 5%), then in the good category (1 person 5%). in the moderate category (4 people 20%) and in the less category (10 people 50%). As well as in the very less category (4 people 20%). Furthermore, eye-hand coordination at SMPN 2 Lintau Buo Utara with a ball-catching game test which aims to measure children's hand-eye coordination. The measurement results of the 20 samples obtained the highest score of 8 and the lowest score of 4. The score distribution produces an average (mean) of 5.80 and a standard deviation of 1.32. Complete distribution of data in table 2.

Table 2. Hand Eye Coordination Distribution Data

Frequency Distribution of Hand Eye Coordination Pre-test			
Interval	Frekuensi	Frekuensi	Category
	Absolute	Relative (%)	
> 7	2	10	Very well
7 - 6	9	45	Well
6 - 5	5	25	Currently
4 - 3	4	20	Not enough
< 3	0	0	Les Once
<b>Total</b>	20	100	

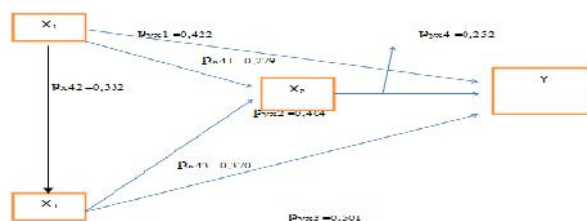
Based on table 2. Shows data on the distribution of eye-hand coordination of 20 samples, included in the interval less than < 3, no person (0%) belongs to the very poor category, 4 people (20%) fall into the interval 3 - 4, classified in the less category, 5 people (25%) are included in the 5-6 interval belonging to the sufficient category, then 9 people (45%) are included in the 6-7 interval in the good category and 2 people (10%) are in the very good category. Not only that, this study also looked at the level of discipline of students in carrying out basic exercises in volleyball games for students of SMP N 2 North Lintau Buo. Complete student discipline frequency data can be seen in table.3

Table 3. Student Discipline Frequency Distribution Data

Classification	Criteria	F	%
86% -100%	Very well	1	5,00
76% - 85%	Well	1	5,00
60% - 75%	Enough	8	40,00
55% - 59%	Not enough	7	35,00
<54%	Les once	3	15,00
<b>Total</b>		20	100,00

Based on table 3, the distribution of the frequency of student discipline in carrying out basic volleyball exercises from the 20 students selected as the research sample, is in the 86% - 100% classification (1 person 5.00%) in the very good category, is in the classification 76% - 85% (1 person 5.00%) in the good category.

in the classification of 60% - 75% (8 people 40.00%) in the sufficient category. In the classification of 55% - 59% (7 people 35.00%) in the less category. at a value of <54% (3 people 15.00%) with very less category. So, it can be said that the training discipline of junior students is in the Enough category. Therefore, that there is an effect of aerobic endurance, hand eye coordination, and learning discipline on the basic volleyball skills of SMP N 2 North Lintau Buo. This can be seen from the path analysis test in Figure 1.



Picture. 1 Structure of Path Analysis

Based on the Rsquare calculation table, Rsquare = 0.616, while in the Anova table,  $F = 6.019$  with probability (sig.) = 0.004, because the sig value < 0.05, then  $H_0$  is rejected and  $H_a$  is accepted. From the explanation above, it can be said that aerobic endurance, eye-hand coordination and learning discipline simultaneously influence the basic technical skills of volleyball. The equation for each variable of aerobic endurance, hand-eye coordination and learning discipline Basic volleyball technique skills ( $X_1, X_2, X_3$ , to  $Y$ ) uses the formula:

$$Y = \text{pyx1 } X_1 + \text{pyx2 } X_2 + \text{pyx3 } X_3 + \text{py}\epsilon_1$$

(Ridian & Engkos 2012: 292)

$$\text{Where } \text{py}\epsilon_1 = 1 - R^2_{yx1234} = 1 - 0.616 = 0.384$$

From the explanation above, the path equation  $X_1, X_2, X_3$  to  $Y$

$$Y = 0.422 + 0.404 + 0.501 + 0.384$$

The acquisition value at Rsquare = 0.616, this value indicates that the influence of aerobic endurance, hand-eye coordination, learning discipline on the basic technical skills of volleyball is:

$$\begin{aligned} \text{KD} &= r^2 \times 100\% \\ &= 0.616 \times 100\% \\ &= 61.6\% \end{aligned}$$

Based on the explanation above, it can be seen that the influence of aerobic endurance, hand-eye coordination and learning discipline on basic volleyball technical skills is 61.6%. For the remaining 38.4% again influenced by other factors.

## Discussion

### 1. The direct effect of aerobic endurance (X1) on basic volleyball technical skills (Y)

From the research results that have been obtained from the variables of aerobic endurance and basic volleyball technical skills, it was found that there is a direct effect of aerobic endurance ( $X_1$ ) on basic volleyball technical skills ( $Y$ ). These results can be seen in the coefficient table which shows an effect of  $\text{pyx1} = 0.422$ . The aerobic endurance possessed by students also influences the technical skills of the basic volleyball techniques they achieve. According to Bafirman & Wahyuri (2019) Aerobic Endurance is part of a person's body's ability to perform daily work tasks without causing significant fatigue. Whereas Sepriadi (2017), also explained that Aerobic Endurance shows the quality of a person to carry out activities according to his work optimally without causing health problems and excessive fatigue.

Based on the opinion above, it is clear that every physical activity gets a load, a level of Aerobic Endurance is needed which is supported by body physiology which will further change physical fitness. Aerobic Endurance gives a person the ability to lead a productive life and can adapt to any physical activity. It can be seen that in order to be able to do a job, a condition of body and soul is required according to the level of work.

Based on the results of research that has been carried out by researchers in the field, it appears that in accordance with the theoretical opinions and explanations of the opinions of the experts above that students' Aerobic Endurance can directly influence the basic volleyball technical skills achieved by students. This is explained in the theoretical study that the authors describe that Aerobic Endurance is a person's ability to carry out daily activities without feeling tired, and have extra energy for the purpose of further activities, thus Aerobic Endurance is a form of a person's functional loyalty to do a job in a certain way with good or satisfactory results.

## **2. The direct effect of hand eye coordination (X2) on basic volleyball technical skills (Y)**

From the research results that have been obtained from the variables of student hand eye coordination and basic volleyball technical skills, it was found that there was a direct effect of hand eye coordination (X2) on basic volleyball technical skills (Y). These results can be seen in the coefficient table which shows an effect of  $\beta_{x2} = 0.404$ . The eye-hand coordination that students have also influences the basic volleyball technical skills they achieve.

Coordination is a determining indicator of whether or not a student's technique is good. This agrees with Hanum et al., (2014), said that eye-hand coordination is a state of the body based on certain variables such as the eyes and hands and also objects that can show the body's ability to display skills aimed at forming techniques. In addition, according to Fikawati et al., (2017), eye-hand coordination is defined as a state of balance in the form of certain variables as a determinant of whether or not daily food provision is good. Furthermore Supariasa, et al. (2010), interpret eye-hand coordination as the body's balance in manifesting nutrition in a variable form.

A student who has good (normal) eye-hand coordination will certainly have good physical health to support students to carry out physical activities every day (Hidayat Taufiq & Kurniawan Deddy, 2015). Hand eye coordination in this study was measured based on the height and weight of the students. Students who have ideal height and weight will have agile movements and be more active than others. students who have fat hand-eye coordination tend to get tired easily, due to the fat body condition students become heavy to move agilely. Then reinforced by research conducted by Nurcahyo (2015), namely the link between obesity and physical activity, the results show that physical activity provides benefits to prevent obesity. Therefore, it can be concluded that eye-hand coordination has a positive and good relationship to basic volleyball technical skills, which means that the better one's hand-eye coordination will have a good effect on basic technical skills in playing tennis.

Students who have good eye-hand coordination are students who have good views and catches. This is the rationale and foundation of the author in formulating and submitting hypotheses in research to obtain empirical evidence. From the explanation above, it can be said that students who have a proportional body and height will affect the output of basic volleyball technical skills..

## **3. The direct effect of learning discipline (X3) on the technical skills of basic volleyball techniques (Y)**

From the research results that have been obtained from the student learning discipline variables, it is found that there is a direct influence of learning discipline (X3) on the technical skills of basic volleyball techniques (Y). These results can be seen in the coefficient table which shows an effect of  $\beta_{x3} = 0.501$ . The learning discipline that students have also influences the technical skills of the basic volleyball techniques they achieve.

Learning Discipline is the main capital for all human life (Syukri et al., 2020). Athletes need a good level of Learning Discipline to be able to help achieve high sports achievements, workers, even students at school also need to improve Learning Discipline so that in the learning process students at school are more active in carrying out learning at school. Thus a good Discipline of Study is expected to be able to function the body effectively and efficiently (Rusdi et al., 2019).

This is in accordance with Yani's opinion (2017), Learning Discipline is important because through Learning Discipline students will be able to organize themselves to achieve the achievement goals they expect. Seeing this description it is important for students to have good self-discipline, because it will affect the course of the training and competition process. A student who has self-discipline can not only respect himself, but also all the elements that can improve his achievement.

Based on the results of research that has been carried out by researchers in the field, it appears that there is conformity with the theoretical opinions and explanations of the opinions of the experts described above that Learning Discipline can directly influence the technical skills of basic volleyball techniques achieved by students. This is explained in the theoretical study that the author describes that Learning Discipline is very much needed in every student, because this Learning Discipline is the key to the success of these students in forming a good and orderly life order so that students have superior personalities.

This is the rationale and foundation of the author in formulating and submitting hypotheses in research to obtain empirical evidence. From the explanation above, it can be said that students need to have good Learning Discipline because students must be able to complete daily tasks (exercise) easily, without significant fatigue and can still enjoy their free time and in an emergency still be able to do work that is not expected.

#### **4. The Influence of Aerobic Endurance, Hand Eye Coordination and Discipline, Against Basic Volleyball Technical Skills**

From the results of research that has been carried out on the variables of aerobic endurance, eye-hand coordination and student learning discipline, and students' basic technical skills, it was found that there was a simultaneous effect of aerobic endurance (X1), eye-hand coordination (X2), learning discipline (X3), and basic technical skills (Y) obtained  $R^2 = 0.616$  or an effect of 61.6% so that  $H_0$  is rejected and  $H_a$  is accepted, because there is a stimulant effect between training discipline, eye-hand coordination, physical fitness, and basic technical skills.

The influence obtained from these three exogenous variables is aerobic endurance (X1), hand-eye coordination (X2), learning discipline (X4) and basic technical skills (Y) to obtain a score of 0.616 which is equal to 61.6%. The results of these findings after conducting statistical research show that basic technical skills are supported by four variables in this research. The remaining 38.4% is caused by other factors that the researchers did not discuss in this study.

Based on the results of this study simultaneously each variable of training discipline, hand eye coordination, Aerobic Endurance significantly has an effect or influence on the Basic Technique Skills variable (Y) can be accepted empirically. Thus the findings in this study mean that at the same time variables with a significant effect on variable Y.

#### **IV. CONCLUSION**

From the research that has been done, it can be concluded that aerobic endurance strength, hand-eye coordination, and learning discipline affect the basic volleyball skills of SMP N 2 North Lintau Buo. This can be seen from the results of the path analysis with a sig value  $< 0.05$ , then the hypothesis is accepted. Therefore, physical and health sports education teachers are guided to be able to develop endurance abilities, eye-hand coordination and discipline in learning basic volleyball playing techniques.

## REFERENCES

- Anggara, F. (2021). Evaluasi Tingkat Pembelajaran Pendidikan Pandemi Covid-19. *Jurnal Ilmiah Bina Edukasi*, 1(1), 37–45.
- Ariantesa, B., Wahyuri, A. S., & Hb, B. (2022). *International Journal of Education and Literature ( IJEL ) E- ISSN : 2829-6249 P -ISSN : 2829-6656 E-Module Development of Physical Education Subjects for Sports and Health on Physical Fitness Materials for Class VII Junior High School Students Internatio*.
- Arief, N. A., Kuntjoro, B. F. T., & Suroto, S. (2020). Gambaran Aktifitas Fisik Dan Perilaku Pasif Mahasiswa Pendidikan Olahraga Selama Pandemi Covid-19. *Multilateral Jurnal Pendidikan Jasmani Dan Olahraga*, 19(2), 175. <https://doi.org/10.20527/multilateral.v19i2.9564>
- Atak, V., Ya ar, H., & Purzer, S. (2022). Seeing the Invisible: A Retrospective Examination of Education during COVID-19. *International Journal on Social and Education Sciences*, 4(2), 178–189. <https://doi.org/10.46328/ijonses.345>
- Broto, D. P. (2015). Pengaruh Latihan Plyometrics Terhadap Power Otot Tungkai Atlet Remaja Bola Voli. *Motion*, 6(2), 174–185. <https://jurnal.unismabekasi.ac.id/index.php/motion/article/download/506/403>
- Candra Dewi, N. K. A. T., Astra, I. K. B., & Suwiwa, I. G. (2020). Motivasi Mahasiswa Prodi Pendidikan Jasmani Kesehatan Dan Rekreasi Fakultas Olahraga Dan Kesehatan Menjaga Kebugaran Jasmani Pada Masa Pandemi Covid-19. *Jurnal Ilmu Keolahragaan Undiksha*, 8(1). <https://doi.org/10.23887/jiku.v8i1.29573>
- Ekin, C. Ç. (2022). A Mapping Global Research Trends on COVID-19 in Education: A Bibliometric Analysis. *International Journal of Technology in Education and Science*, 6(3), 508–523. <https://doi.org/10.46328/ijtes.405>
- Firdaus, K. (2015). THE IMPLEMENTATION OF PHYSICAL AND HEALTH EDUCATION IN SCHOOL Council for Innovative Research. *Peer Review Research Publishing System Journal: International Journal of Research in Education Methodology*, 7(3), 1203–1207. [www.ijrem.com](http://www.ijrem.com)
- Firdaus, K. (2016). the Learning Process of Physical and Health Education Subject in Class Viii of Smp N 4 Kota Payakumbuh. *Journal of Social Science Research*, 10(4), 2173–2177. <https://doi.org/10.24297/jsr.v10i4.4713>
- Gumara, O. H., & Wahyuri, A. S. (2022). Pengembangan E-Modul Mata Pembelajaran Pendidikan Jasmani Olahraga dan Kesehatan pada Materi Pokok Pola Hidup Sehat untuk Siswa Sekolah Menengah Pertama. *Edukatif: Jurnal Ilmu Pendidikan*, 4(4), 6185–6192. <https://doi.org/10.31004/edukatif.v4i4.3066>
- Herlina, H., & Suherman, M. (2020). Potensi Pembelajaran Pendidikan Jasmani Olahraga Dan Kesehatan (Pjok) Di Tengah Pandemi Corona Virus Disease (Covid)-19 Di Sekolah Dasar. *Tadulako Journal Sport Sciences And Physical Education*, 8(1), 1–7. <http://jurnal.untad.ac.id/jurnal/index.php/PJKR/article/view/16186>
- Hidayat Taufiq & Kurniawan Dedy. (2015). PENGARUH MODIFIKASI PERMAINAN BOLAVOLI TERHADAP KERJASAMA SISWA PADA PEMBELAJARAN PENDIDIKAN JASMANI, OLAHRAGA DAN KESEHATAN (Studi Pada Siswa Kelas X Boga 1 SMKN 3 Probolinggo). *Jurnal Pendidikan Olahraga Dan Kesehatan*, 03(1), 20–24.
- Isabella, A. P., & Bakti, A. P. (2021). Hubungan Daya Ledak Otot Tungkai Dan Kekuatan Otot Lengan Terhadap Accuracy Smash Bolavoli. *Jurnal Kesehatan Olahraga*, 151–160. <https://ejournal.unesa.ac.id/index.php/jurnal-kesehatan-olahraga/article/view/40957>
- Kastrena, E., Setiawan, E., Patah, I. A., & Nur, L. (2020). Pembelajaran Peer Teaching Berbasis Zoom Video sebagai Solusi untuk Meningkatkan Hasil Belajar Passing Bawah Bola Voli saat Situasi Covid 19. *Indonesian Journal of Primary Education*, 4(1), 69–75. <https://doi.org/10.17509/ijpe.v4i1.25133>
- Kelentukan, H., & Dan, P. (2022). TANGAN DENGAN KEMAMPUAN SERVIS ATAS PADA PESERTA. 3(2), 122–134.
- Kılıç, T., & Hınçal, S. (2021). The Effects of Pilates Mat Exercises on self-rated health Levels, Body Mass Index and Flexibility in Middle Age Sedentary Women. *Education Quarterly Reviews*, 4(2), 166–179. <https://doi.org/10.31014/aior.1993.04.02.208>

- Komarudin, K., & Prabowo, M. (2020). Persepsi siswa terhadap pembelajaran daring mata pelajaran pendidikan jasmani olahraga dan kesehatan pada masa pandemi Covid-19. *MAJORA: Majalah Ilmiah Olahraga*, 26(2), 56–66. <https://doi.org/10.21831/majora.v26i2.34589>
- Mendrofa, F. (2021). Pendidikan Jasmani, Olahraga dan Kesehatan (PJOK) Masa Pandemi Covid-19 di Indonesia. *Edukatif: Jurnal Ilmu Pendidikan*, 3(4), 2125–2131. <https://doi.org/10.31004/edukatif.v3i4.1124>
- Niemczyk, E. K. (2021). The Impact of COVID-19 on Higher Education Institutions: Focus on Research and Teaching Practice. *New Challenges to Education: Lessons from Around the World*, 19, 253–259.
- Oktariana, D., & Hardiyono, B. (2020). Pengaruh Daya Ledak Otot Lengan , Daya Ledak Otot Tungkai Dan Kekuatan Otot Perut Terhadap Hasil Smash Bola Voli Pada Siswa SMK Negeri 3 Palembang The Influence of Arm Muscles Explosive Power , Limb Muscles Explosive Power and Abdominal Muscle Strength on. *Journal Coaching Education Sports*, 1(1), 13–26. <https://doi.org/10.31599/jces.v1i1.82>
- Oktarina, K., Santosa, T. A., Razak, A., & Ahda, Y. (2021). Meta-Analysis: The Effectiveness of Using Blended Learning on Multiple Intelligences and Student Character Education during the Covid-19 Period. *IJECA International Journal of Education & Curriculum Application*, 4(3), 184–192.
- Pratomo, C., & Gumantan, A. (2021). Analisis Efektifitas Pembelajaran Daring Terhadap Hasil Belajar Pendidikan Olahraga Pada Masa Pandemi Covid-19 SMK SMTI Bandarlampung. *Journal Of Physical Education*, 2(1), 26–31. <https://doi.org/10.33365/joupe.v2i1.964>
- Putri, K. Y. S., Fathurahman, H., Safitri, D., & Sugiyanta, L. (2019). Journal of Social Studies Education Research Sosial Bilgiler E itimi Ara tirmaları Dergisi. *Journal of Social Studies Education Research*, 10(3), 364–386. <https://jsser.org/index.php/jsser/article/view/3043>
- Razak, Abdul, Santosa, Tomi Apra, Lufri., et al. (2021). Meta-Analysis: Pengaruh Soal HOTS (Higher Order Thinking Skill) Terhadap Kemampuan Literasi Sains dan Lesson Study Siswa Pada Materi Ekologi dan Lingkungan Pada Masa Pandemi Covid-19. *Bioedusiana*, 6(1), 79–87.
- Ressa, T. W. (2021). The COVID-19 Pandemic, its Consequences, and the Recovery: Implementation of Disaster Education and Management is Key to the Schooling of Children with Disabilities. *International Journal of Modern Education Studies*, 5(1), 22. <https://doi.org/10.51383/ijonmes.2021.62>
- Rusdi et al. (2019). *hubungan kedisiplinan siswa terhadap hasil belajar bola voli kelas viii smp negeri 2 tasik putri puyu*. 1(1), 51–55.
- Smadi, O. Y. (2022). The Satisfaction Level of Students with Disabilities with Library and Information Services. *International Journal of Education in Mathematics, Science and Technology*, 10(2), 436–457. <https://doi.org/10.46328/IJEMST.2246>
- Soytürk, M. (2019). Analysis of Self and Peer Evaluation in Basic Volleyball Skills of Physical Education Teacher Candidates. *Journal of Education and Learning*, 8(2), 256. <https://doi.org/10.5539/jel.v8n2p256>
- Sunardi, J., & Kriswanto, E. S. (2020). Perilaku hidup bersih dan sehat mahasiswa pendidikan olahraga Universitas Negeri Yogyakarta saat pandemi Covid-19. *Jurnal Pendidikan Jasmani Indonesia*, 16(2), 156–167. <https://doi.org/10.21831/jppi.v16i2.35082>
- Supriyadi, A., & Dupri. (2020). Peningkatan hasil belajar bolavoli dengan menggunakan sistem daring. *Edu Sportivo: Indonesian Journal of Physical Education*, 1(2), 112–119. [https://doi.org/10.25299/es:ijope.2020.vol1\(2\).5609](https://doi.org/10.25299/es:ijope.2020.vol1(2).5609)
- Syafruddin, & Hasanah, U. (2020). *Review on the Implementation of Physical Education Learning*. 460(Icpe 2019), 276–279. <https://doi.org/10.2991/assehr.k.200805.075>
- Syukri et al. (2020). HUBUNGAN MOTIVASI BERPRESTASI DAN EMOSIONAL TERHADAP KETERAMPILAN BERMAIN ATLIT BOLAVOLI. *Jurnal Patriot*, 2(4), 1157–1171.
- Tumaloto, E. H. (2022). Pembelajaran Pendidikan Jasmani, Olahraga Dan Kesehatan Selama Pandemi Covid 19. *Jambura Health and Sport Journal*, 4(1), 60–68. <https://doi.org/10.37311/jhsj.v4i1.13602>



Yulianingsih, I., & Parlindungan, D. P. (2020). Persepsi Mahasiswa Pendidikan Olahraga terhadap Perkuliahan Daring Selama Pandemi Covid-19. *Gelandang Olahraga: Jurnal Pendidikan Jasmani Dan Olahraga (JPJO)*, 4(1), 31–46. <https://doi.org/10.31539/jpjo.v4i1.1467>