



# The impact of playing method for shooting ability: A study on female basketball athletes

## *Dampak metode bermain untuk kemampuan shooting : Studi pada atlet basket perempuan*

Original Article

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INDONESIA**Abstract.****Background**

The effectiveness of teaching methods in sports education has always been a key area of interest for improving athlete performance. One such method, the play method, is gaining attention for its potential to enhance physical skills while maintaining engagement and enjoyment.

**Objectives**

This study explores the impact of the play method on improving shooting ability among female basketball athletes.

**Methods**

This study was conducted on 37 female participants from a local basketball team, using a pretest-posttest design to assess changes in shooting performance. The tools in this study collected data directly from tests and measurements conducted on the basketball court. Students in this study practiced the basic technique (shooting at the basketball hoop) for 1 minute, which was repeated three times to achieve the best results. SPSS Version 26 was used to help analyze the data in this study.

**Results**

The results revealed a significant improvement, with the mean pretest shooting score of 72.81 rising to 81.64 in the posttest, representing an 8.83-point increase. Statistical analysis confirmed that the data followed a normal distribution, and the play method had a statistically significant effect on shooting ability ( $p < 0.05$ ). The findings highlight the value of integrating play-based techniques into sports training, particularly in youth and amateur sports settings.

**Conclusion**

This study contributes to the existing body of research by demonstrating that the play method is not only effective in enhancing fundamental skills, such as shooting, but also provides an enjoyable and interactive approach to learning. By offering an alternative to traditional drills, the play method fosters motivation, improves skill acquisition, and can make sports education more accessible and enjoyable for athletes.

**Keywords:** play method, shooting ability, basketball

**Abstrak.****Latar belakang**

Efektivitas metode pengajaran dalam pendidikan olahraga selalu menjadi bidang utama yang menarik untuk meningkatkan performa atlet. Salah satu metode tersebut, metode bermain, mendapatkan perhatian karena potensinya untuk meningkatkan keterampilan fisik sambil mempertahankan keterlibatan dan kesenangan.

**Tujuan**

Penelitian ini mengeksplorasi dampak dari metode bermain dalam meningkatkan kemampuan menembak di kalangan atlet bola basket wanita.

**Metode**

Penelitian ini dilakukan terhadap 37 peserta perempuan dari tim bola basket lokal, dengan menggunakan desain pretest-posttest untuk menilai perubahan dalam performa shooting. Alat-alat dalam penelitian ini mengumpulkan data secara langsung dari tes dan pengukuran yang dilakukan di lapangan basket. Para siswa dalam penelitian ini mempraktikkan teknik dasar (menembak ke ring basket) selama 1 menit, yang diulang sebanyak tiga kali untuk mencapai hasil terbaik. SPSS Versi 26 digunakan untuk membantu menganalisa data dalam penelitian ini.

**Hasil**

Hasilnya menunjukkan peningkatan yang signifikan, dengan skor rata-rata pretest shooting sebesar 72,81 meningkat menjadi 81,64 pada posttest, yang mewakili peningkatan sebesar 8,83 poin. Analisis statistik mengkonfirmasi bahwa data mengikuti distribusi normal, dan metode bermain memiliki pengaruh yang signifikan secara statistik terhadap kemampuan menembak ( $p < 0,05$ ). Temuan ini menyoroti nilai dari mengintegrasikan teknik berbasis permainan ke dalam pelatihan olahraga, terutama di lingkungan olahraga remaja dan amatir.

**Kesimpulan**

Penelitian ini berkontribusi pada penelitian yang sudah ada dengan menunjukkan bahwa metode bermain tidak hanya efektif dalam meningkatkan keterampilan dasar, seperti menembak, tetapi juga memberikan pendekatan yang menyenangkan dan interaktif dalam pembelajaran. Dengan menawarkan alternatif dari latihan tradisional, metode bermain menumbuhkan motivasi, meningkatkan perolehan keterampilan, dan dapat membuat pendidikan olahraga lebih mudah diakses dan menyenangkan bagi para atlet.

**Kata kunci:** metode bermain, kemampuan menembak, bola basket.

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## INTRODUCTION

Physical education is a mandatory subject in schools, encompassing elementary, junior high, and senior high school levels (Hardinata et al., 2023; Perdana et al., 2023; Rubiyatno & Suryadi, 2022). Through physical education, students are expected to develop and maintain a healthy and fit body by engaging in various physical activities. Additionally, physical education plays a crucial role in stimulating children's motor skills, particularly through traditional games (Gustian, 2021). Within physical education, sports can be classified into two categories: big ball games and small ball games. Game-based sports, in general, involve competitive play to achieve victory (Suryadi, 2022b). Examples of big ball games include soccer, volleyball, and basketball, whereas small ball games include badminton, field tennis, table tennis, softball, and takraw (Yuliandra & Fahrizqi, 2019). Among these, basketball is one of the key sports taught in physical education (Suryadi et al., 2022).

Basketball was introduced to Indonesia by Chinese immigrants (Gunawan, 2019). It is a sport that demands high levels of athletic skill and physical fitness (Yuan et al., 2021). The game is complex as it requires a combination of coordinated movements to handle the ball effectively (Apifa et al., 2020). Speed is another essential aspect (Daulatabad et al., 2020), given that basketball is a dynamic, fast-paced, and high-tempo sport (Setia & Winarno, 2021). Previous research highlights that basketball involves a variety of intricate movements (Aditya Dwitama, 2018). Therefore, achieving success in basketball requires excellent physical conditioning.

Moreover, basketball players must possess strength, agility, endurance, flexibility, and vertical jumping ability to reach their optimal performance levels (Sukhiyaji & Patel, 2020). Physical attributes, posture, and mastery of fundamental techniques are crucial for scoring points effectively (Suryadi et al., 2022). Studies indicate that engaging in physical activities enhances fitness levels [15,16,17,18,19] and reduces the risk of disease (Meo et al., 2021). In basketball, fundamental techniques such as passing, catching, dribbling, shooting, pivoting, layups, and rebounding significantly influence overall gameplay success (Suryadi et al., 2022).

According to Haidara, mastering fundamental basketball techniques is essential for every player (Haïdara et al., 2023). Specialized techniques like passing, dribbling, shooting, and layups are critical to optimizing performance (Aris & Mu'arifuddin, 2020). Among these, shooting is particularly significant as it directly contributes to scoring points. Shooting involves propelling the ball into the hoop, making it one of the most frequently utilized techniques in basketball (Sungkawa & Harwanto, 2020). Research supports the notion that technical proficiency, especially in shooting, is crucial for achieving success in basketball.

Several studies have explored methods to enhance shooting accuracy in basketball. Dai et al. (2021) demonstrated that the reciprocal style method effectively improves shooting skills. Hartanti et al. (2020) found that a circuit learning model based on a scientific approach enhances both shooting and dribbling abilities. Additionally, modified basketball games positively influence gross motor skill development (Reswari, 2021), an essential factor for athletic performance (Samodra et al., 2023). Sampurno & Qohhar (2020) suggested that discovery-based teaching methods enhance shooting quality by actively engaging students in movement and critical thinking. Similarly, Munir et al. (2021) emphasized the effectiveness of discovery learning in refining shooting skills.

Given the significance of shooting in basketball, mastering this technique is crucial for every player. Shooting, as a fundamental skill, directly impacts a team's ability to score points (Mahyuddin & Sudirman, 2021) and must be developed to enhance overall performance (Syafutra, 2020). Building on existing research, this study aims to investigate the effectiveness of the play method in improving basketball shooting skills. Unlike previous studies that focused on structured training approaches, this research explores how incorporating game-based learning strategies can enhance shooting proficiency. The novelty of this study lies in its emphasis on interactive and engaging learning environments, which

may provide an alternative approach to traditional basketball training methods. By examining the impact of play-based techniques, this study seeks to contribute valuable insights into innovative training models for basketball skill development.

## METHOD

### *Participant.*

The subjects of this study were 11th-grade students from Budi Utama High School in Yogyakarta during the 2022–2023 academic year. Using a purposive sampling technique, a total of 37 female students were selected.

### *Research Design.*

This study employed a pre-experimental research design with a one-group pretest-posttest approach. The intervention involved the play method to enhance performance. Before administering the treatment, an initial test (pretest) was conducted, followed by the final test (posttest) after the treatment. The research instrument consisted of tests and measurements conducted on a basketball court to collect direct data. Students performed the basic basketball shooting technique for one minute, repeated three times to obtain the best result. The assessment was carried out by the physical education teacher, who acted as both observer and scorekeeper.

### *Data Analysis.*

This study utilized an effect test. Prior to that, a normality test was conducted to determine the appropriate statistical method. If the data were normally distributed, a t-test was performed; otherwise, a non-parametric test was used. Data analysis was conducted with the assistance of SPSS version 26.

## RESULTS AND DISCUSSION

### Results

Based on the research findings, the data provides a description of the pretest and posttest scores related to basketball shooting skills. These results offer insight into the impact of the play method on the students' shooting abilities, highlighting the differences observed between the pretest and posttest scores. A detailed breakdown of the scores can be seen in Table 1 below:

The data in Table 1 reveals that the average pretest shooting score was 72.81, whereas the average posttest score increased to 81.64. This indicates that the posttest average shooting score is higher than the pretest average, suggesting an improvement in shooting ability after the intervention. Prior to conducting the effect test, a normality test was performed using the One-Sample Kolmogorov-Smirnov test. The results showed a significance value of 0.200, which is greater than the 0.05 threshold, indicating that the data follows a normal distribution. The findings of this test are presented in Table 2.

Once the normality test was completed, the next step involved performing a paired sample t-test to assess the effect of the intervention. The t-test results yielded a significance value of 0.000, which is less than 0.05. This indicates that the play method had a statistically significant impact on the students' shooting skills. These results are detailed in Table 3. In summary, the data indicates that the play method effectively improved shooting skills among the students, as evidenced by the significant increase in posttest scores and the statistical analysis.

**Table 1.** Descriptive Value of Pretest and Posttest

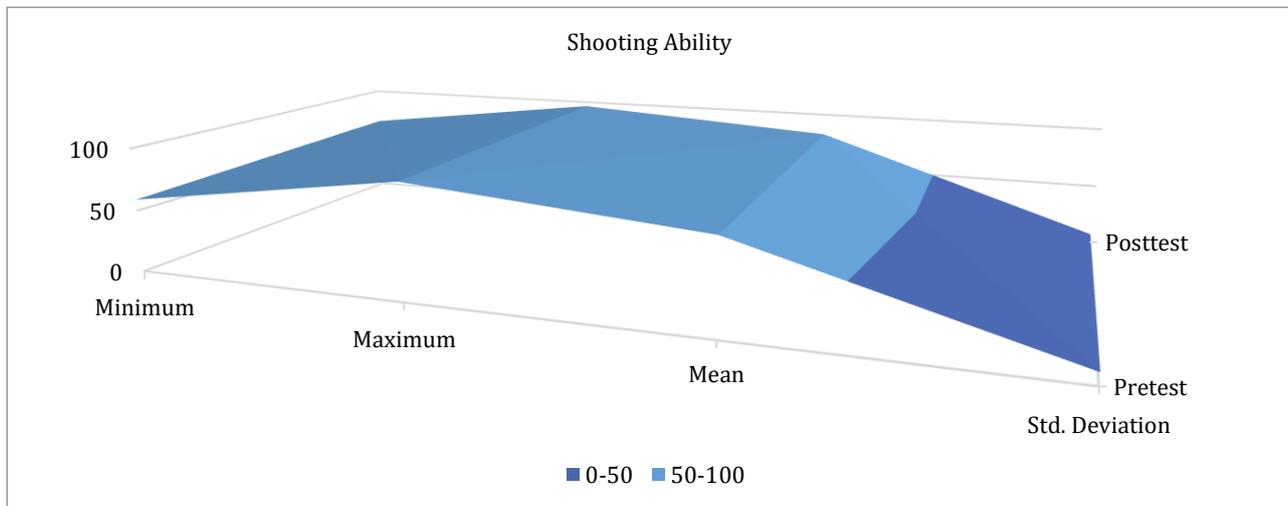
Result	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	37	59.00	91.00	72.81	8.98
Posttest	37	68.00	96.00	81.64	6.76

**Table 2.** Kolmogorov Smirnov One Sample Normality Test

Normality Test	Result	Unstandardized Residual
N		37
	Std. Deviation	4.73319740
	Positive	0.091
	Negative	-0.072
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

**Table 3.** Test Paired Sample Test

Pair	Result	t	df	Sig. (2-tailed)
Pair 1	Pretest - Posttest	-8.544	36	0.000



**Figure 1.** Results of Shooting Ability

## Discussion

This study investigates the impact of the play method on improving shooting skills in basketball, and the results reveal a significant positive effect. The data shows a clear improvement in the students' shooting ability, with the mean pretest score being 72.81 and the mean posttest score rising to 81.64, reflecting an increase of 8.83 points. This improvement highlights the effectiveness of the play method in enhancing basketball shooting skills, aligning with similar research findings that support the positive influence of play on skill development.

The play method, as described by Amiran (2016), is not just a form of entertainment but a purposeful activity designed to achieve specific learning goals while ensuring enjoyment. This method makes learning more engaging, which leads to greater effectiveness in the learning process, as noted by Minasari et al. (2021). By introducing play-based learning, particularly through modified games, students experience a more enjoyable atmosphere, which helps them stay motivated and engaged in their learning. In early childhood education, this approach also supports the development of manipulative skills, as seen in the work of Mirawati & Rahmawati (2017), who highlighted how game modifications can enhance motor skills in young children.

Rizky et al. (2019) further confirm that the modified game method is highly effective for children under 13 years of age, an age group that naturally gravitates towards play. The playful nature of these games fosters a positive learning environment, making the coaching process not only more enjoyable but also more impactful, increasing children's enthusiasm for sports and physical activities.

Moreover, modifications in games are essential for achieving specific educational objectives without losing the essence of the game itself (Pradaya et al., 2020). It's also worth noting that traditional games, alongside modified ones, play a vital role in early childhood development, particularly in shaping character (Adi et al., 2020). Research by Kumbara et al. (2022) further affirms that exercise modifications can significantly influence the outcomes of physical activities.

The use of play as a method to improve shooting skills has been supported by previous studies, including one by Islah Tri Kartiko (2021), which demonstrated that game-based learning could effectively enhance shooting abilities in basketball. Furthermore, play-based methods are shown to improve both fine and gross motor skills (Amiran, 2016), and are widely recognized for their benefits in cognitive development during early childhood (Syukron Al Mubarak & Amini, 2019). Additionally, using traditional games has been linked to increased student interest in learning, as highlighted by Atika et al. (2020).

The versatility of the play method extends beyond sports. For instance, it has been proven effective in boosting students' interest in subjects like mathematics (Atika et al., 2020). Musthofa (2016) also found that play methods positively influenced physical education learning outcomes. Similarly, a

study on problem-based learning in badminton showed an improvement in long serve abilities (Suryadi, Samodra, et al., 2023). These diverse findings underscore the play method as an excellent approach for enhancing student learning outcomes across various domains.

In conclusion, this study and the broader body of research strongly suggest that the play method is an effective and enjoyable way to improve learning outcomes. Its application in basketball shooting skills, as well as in other areas of learning, demonstrates its versatility and positive impact on student engagement and performance.

## CONCLUSION

This study demonstrates that the play method has a significant positive impact on improving shooting ability in female basketball athletes. The pretest-posttest results revealed a notable improvement in shooting performance, with an increase of 8.83 points in the mean score. The statistical analysis confirmed that the play method contributed effectively to enhancing shooting skills, providing evidence that this method is not only engaging but also an effective teaching strategy in sports education. The findings highlight the potential of the play method to transform traditional basketball training by making skill development more enjoyable and motivating. By incorporating fun and interactive elements into training, athletes are more likely to stay engaged and improve their skills in a supportive and dynamic learning environment. This study contributes to the growing body of evidence supporting the use of play-based learning in sports and encourages further exploration into its application across different sports and age groups. Ultimately, the play method presents a promising approach to improving fundamental basketball skills while fostering a love for the game.

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## AUTHOR CONTRIBUTION STATEMENT

MS was responsible for developing the research concept and design, conducting data collection, and preparing the initial draft of the manuscript. ZDPC played a key role in interpreting the findings, and provided critical revisions to the manuscript. RA In addition, she served as the correspondence author, managing all communications and revisions throughout the publication process.

## REFERENCES

- Adi, B. S., Sudaryanti, S., & Muthmainah, M. (2020). Implementasi permainan tradisional dalam pembelajaran anak usia dini sebagai pembentuk karakter bangsa. *Jurnal Pendidikan Anak*, 9(1), 33–39. <https://doi.org/10.21831/jpa.v9i1.31375>
- Aditya Dwitama. (2018). Pengaruh metode praktek terhadap belajar lay up shoot dalam pembelajaran bola basket (Peserta ekstrakurikuler siswa SMK Pasundan Subang). *Biormatika : Jurnal Ilmiah Fakultas Keguruan Dan Ilmu Pendidikan*, 4(1).
- Amiran, S. (2016). Efektifitas penggunaan metode bermain di paud nazareth oesapa. *Jurnal Pendidikan Anak*. <https://doi.org/10.21831/jpa.v5i1.12367>
- Apifa, W. A. P., Ilham, I., & Iqroni, D. (2020). Profil keterampilan shooting free throw atlet bola basket. *Jurnal Olahraga Dan Kesehatan Indonesia*. <https://doi.org/10.55081/joki.v1i1.296>
- Aris, T., & Mu'arifuddin, M. A. (2020). Pengembangan Buku Ajar Bola Basket Untuk Mahasiswa. *Jendela Olahraga*. <https://doi.org/10.26877/jo.v5i2.6131>
- Atika, D. N., Rasni, H., Susumaningrum, L. A., Susanto, T., & Siswoyo, S. (2020). Hubungan Obesitas dengan Kejadian Hipertensi pada Petani di Wilayah Kerja Puskesmas Panti Kabupaten Jember. *JURNAL CITRA KEPERAWATAN*, 8(1), 22–29. <https://doi.org/10.31964/jck.v8i1.131>
- Dai, A., Hadjarati, H., & Haryanto, A. I. (2021). Gaya resiprokal untuk meningkatkan keterampilan shooting bola basket. *Altius: Jurnal Ilmu Olahraga Dan Kesehatan*. <https://doi.org/10.36706/altius.v10i1.14056>
- Daulatabad, V., Kamble, P., & Berad, A. (2020). Comparative study of physical fitness parameters

- between basketball players and sprinters. *National Journal of Physiology, Pharmacy and Pharmacology*, 10(10), 829–833. <https://doi.org/10.5455/njppp.2020.10.05117202018062020>
- Gunawan, E. E. (2019). Motivasi bermain bola basket siswa sma negeri 12 makassar. *Jp.Jok (Jurnal Pendidikan Jasmani, Olahraga Dan Kesehatan)*. <https://doi.org/10.33503/jpjok.v2i2.447>
- Gustian, U. (2021). Effectiveness of Traditional Games In Stimulating Elementary School Student Motor Skill Development. *Jurnal Pendidikan Jasmani Dan Olahraga*, 6(1), 75–80. <https://doi.org/10.17509/jpjo.v6i1.27026>
- Haïdara, Y., Okilanda, A., Dewintha, R., & Suryadi, D. (2023). Analysis of students' basic basketball skills: A comparative study of male and female students. *Tanjungpura Journal of Coaching Research*, 1(1), 1–5. <https://doi.org/10.26418/tajor.v1i1.63796>
- Hardinata, R., Yosika, G. F., Haïdara, Y., Perdana, R. P., Gustian, U., Suryadi, D., Sacko, M., & Abidin, M. Z. (2023). Project Based Learning Model: Can It Improve Dribbling Skills In Soccer Games? *Indonesian Journal of Physical Education and Sport Science*, 3(1), 69–80. <https://doi.org/10.52188/ijpess.v3i1.387>
- Hartanti, M. D., Nurhasan, N., & Syam Tuasikal, A. R. (2020). Pengaruh pembelajaran sirkuit berbasis pendekatan saintifik terhadap hasil belajar dribble dan shooting bola basket. *Multilateral Jurnal Pendidikan Jasmani Dan Olahraga*, 19(2). <https://doi.org/10.20527/multilateral.v19i2.8614>
- Islah Tri Kartiko. (2021). Pengaruh permainan modifikasi volkraw dan permainan kelompok passing tong terhadap hasil belajar passing bawah bola voli di smp n 6 petarukan. *STAND : Journal Sports Teaching and Development*. <https://doi.org/10.36456/j-stand.v2i1.2862>
- Kumbara, H., Pratama, P., Riyoko, E., Suganda, M. A., & Suryadi, D. (2022). Modifikasi Variasi Latihan Smash: Studi Pengembangan Latihan Permainan Bola Voli. *Jurnal Performa Olahraga*, 7(2), 65–73. <https://doi.org/10.24036/jpo328019>
- Mahyuddin, R., & Sudirman, A. (2021). Korelasi koordinasi mata tangan dan kekuatan otot lengan dengan shooting bola basket. *Jurnal Olahraga Dan Kesehatan Indonesia*. <https://doi.org/10.55081/joki.v1i2.305>
- Meo, S. A., Abukhalaf, A. A., Alomar, A. A., Alessa, O. M., Sumaya, O. Y., & Meo, A. S. (2021). Prevalence of prediabetes and type 2 diabetes mellitus in football players: A novel multi football clubs cross sectional study. *International Journal of Environmental Research and Public Health*, 18(4), 1763. <https://doi.org/10.3390/ijerph18041763>
- Minasari, A., Indraswati, D., Purwasito, A., & Setiawan, I. A. (2021). Perkenalan Dunia Internasional sebagai Pendidikan Multikultural pada Anak Usia Dini melalui Metode Bermain Puzzle. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*. <https://doi.org/10.31004/obsesi.v5i2.733>
- Mirawati, M., & Rahmawati, E. (2017). Permainan modifikasi untuk stimulasi keterampilan gerak dasar manipulatif anak usia 2-4 tahun. *Early Childhood : Jurnal Pendidikan*, 1(2). <https://doi.org/10.35568/earlychildhood.v1i2.119>
- Munir, A., Arief Nur Wahyudi, & Aba Sandi Prayoga. (2021). Pendekatan Model Discovery Learning dalam Keterampilan Teknik Shooting Permainan Bola Basket. *Jurnal Pendidikan Modern*, 6(2), 68–73. <https://doi.org/10.37471/jpm.v6i2.190>
- Musthofa, B. (2016). Implementasi Pendekatan Bermain Dalam Pembelajaran Aktivitas Berlari. *JURNAL PENDIDIKAN JASMANI DAN OLAHRAGA*. <https://doi.org/10.17509/jpjo.v1i1.3663>
- Perdana, R. P., Supriatna, E., Yanti, N., & Suryadi, D. (2023). Team Game Tournament (TGT)-type cooperative learning model: How does it affect the learning outcomes of football shooting? *Edu Sportivo: Indonesian Journal of Physical Education*, 4(1), 86–96. [https://doi.org/10.25299/es:ijope.2023.vol4\(1\).12130](https://doi.org/10.25299/es:ijope.2023.vol4(1).12130)
- Pradaya, B., Admojo, I. R. W., & Dewi, N. K. (2020). Peningkatan kemampuan motorik kasar melalui permainan modifikasi bola basket pada anak usia 5-6 tahun. *Kumara Cendekia*. <https://doi.org/10.20961/kc.v8i1.32572>
- Reswari, A. (2021). Efektivitas Permainan Bola Basket Modifikasi terhadap Kemampuan Motorik Kasar Anak Usia 5- 6 Tahun. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*. <https://doi.org/10.31004/obsesi.v6i1.1182>
- Rizky, O. B., Samsudin, S., & Siregar, N. M. (2019). Penerapan metode permainan modifikasi untuk meningkatkan keterampilan dribbling sepakbola. *Multilateral Jurnal Pendidikan Jasmani Dan Olahraga*. <https://doi.org/10.20527/multilateral.v18i1.6561>
- Rubiyatno, Perdana, R. P., Fallo, I. S., Arifin, Z., Nusri, A., Suryadi, D., Suganda, M. A., & Fauziah, E. (2023). Analysis of differences in physical fitness levels of extracurricular futsal students: Survey studies

- on urban and rural environments. *Pedagogy of Physical Culture and Sports*, 27(3), 208–214. <https://doi.org/10.15561/26649837.2023.0304>
- Rubiyatno, R., & Suryadi, D. (2022). Penerapan Media Audio Visual Dalam Meningkatkan Hasil Belajar Servis Bulutangkis di MTs Mujahidin Pontianak. *Musamus Journal of Physical Education and Sport*, 4(2), 140–149. <https://doi.org/10.35724/mjpes.v4i02.4303>
- Samodra, Y. T. J., Suryadi, D., Wati, I. D. P., Supriatna, E., Santika, I. G. P. N. A., Suganda, M. A., & Dewi, P. C. P. (2023). Analysis of gross motoric analysis of elementary school students: A comparative study of students in hill and coastal areas. *Pedagogy of Physical Culture and Sports*, 27(2), 139–145. <https://doi.org/10.15561/26649837.2023.0206>
- Sampurno, H. W., & Qohhar, W. (2020). Perbandingan Gaya Mengajar Terhadap Hasil Shooting Bola Basket. *Physical Activity Journal*. <https://doi.org/10.20884/1.paju.2020.1.2.2493>
- Setia, D. Y., & Winarno, M. E. (2021). Survei Tingkat Kebugaran Jasmani Tim Bola Basket. *Sport Science and Health*, 3(3), 107–116. <https://doi.org/10.17977/um062v3i32021p107-116>
- Subekti, M. R. (2019). Hubungan antara daya ledak otot lengan dan koordinasi mata-tangan dengan kemampuan shooting bola basket pada siswa sekolah menengah atas. *JURNAL PENDIDIKAN DASAR PERKHASA: Jurnal Penelitian Pendidikan Dasar*. <https://doi.org/10.31932/jpdp.v5i1.382>
- Sukhiyaji, R. B., & Patel, Z. (2020). To Compare the Skilled based Physical Fitness Such as Agility, Power and Speed between the Young College Male Basketball and Football Players. *Indian Journal of Physiotherapy and Occupational Therapy - An International Journal*, 14(1), p190-195. <https://doi.org/10.37506/ijpot.v14i1.3424>
- Sungkawa, A. P. L., & Harwanto, H. (2020). Pengaruh akurasi jump shoot dan lay up shoot terhadap ketepatan hasil shooting bola pada cabang olahraga bola basket. *Literacy: Jurnal Ilmiah Sosial*, 2(1), 1–7. <https://doi.org/10.53489/jis.v2i1.13>
- Suryadi, D. (2022a). Analisis kebugaran jasmani siswa: Studi komparatif antara ekstrakurikuler bolabasket dan futsal. *Edu Sportivo: Indonesian Journal of Physical Education*, 3(2), 100–110. [https://doi.org/10.25299/es:ijope.2022.vol3\(2\).9280](https://doi.org/10.25299/es:ijope.2022.vol3(2).9280)
- Suryadi, D. (2022b). Peningkatan Kemampuan Shooting Permainan Sepak Bola Melalui Latihan Kekuatan Otot Tungkai. *Jurnal Pendidikan Kesehatan Rekreasi*, 8(2), 237–246. <https://doi.org/10.5281/zenodo.6684431>
- Suryadi, D., & Rubiyatno. (2022). Kebugaran jasmani pada siswa yang mengikuti ekstrakurikuler futsal. *Jurnal Ilmu Keolahragaan*, 5(1), 1–8. <https://doi.org/10.26418/jilo.v5i1.51718>
- Suryadi, D., Samodra, Y. T. J., Gustian, U., Yosika, G. F., B, P. S., Dewintha, R., & Saputra, E. (2023). Problem-based learning model: Can it improve learning outcomes for long serve in badminton. *Edu Sportivo: Indonesian Journal of Physical Education*, 4(1), 29–36. [https://doi.org/10.25299/es:ijope.2023.vol4\(1\).10987](https://doi.org/10.25299/es:ijope.2023.vol4(1).10987)
- Suryadi, D., Samodra, Y. T. J., & Purnomo, E. (2021). Efektivitas latihan weight training terhadap kebugaran jasmani. *Journal RESPECS*, 3(2), 9–19. <https://doi.org/10.31949/respecs.v3i2.1029>
- Suryadi, D., Saputra, E., & Wahyudi, I. (2022). Tinggi Badan dan Keseimbangan Dinamis dengan Kemampuan Lay Up Permainan Bola Basket : Apakah Saling Berhubungan? *Indonesian Journal of Physical Education and Sport Science*, 2(2), 67–74. <https://doi.org/10.52188/ijpess.v2i2.276>
- Suryadi, D., Suganda, M. A., Sacko, M., Samodra, Y. T. J., Rubiyatno, R., Supriatna, E., Wati, I. D. P., & Okilanda, A. (2023). Comparative Analysis of Soccer and Futsal Extracurriculars: A Survey Study of Physical Fitness Profiles. *Physical Education and Sports: Studies and Research*, 2(1), 59–71. <https://doi.org/10.56003/pessr.v2i1.182>
- Syafutra, W. (2020). koordinasi mata tangan dengan hasil shooting atlit ukm bola basket stkip PGRI Lubuklinggau. *Edumaspul: Jurnal Pendidikan*. <https://doi.org/10.33487/edumaspul.v4i1.342>
- Syukron Al Mubarak, A. A., & Amini, A. (2019). Kemampuan Kognitif dalam Mengurutkan Angka melalui Metode Bermain Puzzle Angka. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*. <https://doi.org/10.31004/obsesi.v4i1.221>
- Yuan, B., Kamruzzaman, M. M., & Shan, S. (2021). Application of Motion Sensor Based on Neural Network in Basketball Technology and Physical Fitness Evaluation System. *Wireless Communications and Mobile Computing*, Article ID 5562954, 11 pages. <https://doi.org/10.1155/2021/5562954>
- Yuliandra, R., & Fahrizqi, E. B. (2019). Pengembangan Model Latihan Jump Shoot Bola Basket. *Journal of SPORT (Sport, Physical Education, Organization, Recreation, and Training)*. <https://doi.org/10.37058/sport.v3i1.750>