

Eye-foot coordination and balance with shooting ability futsal players of SMAN 1 Bungaraya

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ABSTRACT

Problems: The problem of this in-depth study is the assumption that the shooting accuracy of the players is still not ideal. **Purpose:** The purpose of this study was to determine whether there is a relationship between lower leg and instep coordination and shooting skills in Futsal at SMAN 1 Bungaraya Siak Regulation. **Methods:** The review population was 15 students of SMAN 1 Bungaraya Siak Regency whose examination procedure was an all out examination. The test tools used were lower leg coordination tests with the Mitcel Soccer Test and offset tests with standing balance stroke tests, then shooting ability tests. Information investigations were carried out by utilizing the Second Item relationship with SPSS 20. **Results:** The final results of this study showed: (1) There is a critical relationship between lower leg coordination and shooting ability with the SPSS 20 relationship coefficient esteem $t = 0.832$ and p esteem $= 0.010/2 = 0.005 < 0.01$. (2) There is a critical relationship between offset and shooting ability with the SPSS 20 esteem coefficient $t = 0.963$ and p esteem $= 0.010/2 = 0.005 < 0.01$. (3) There is a very large relationship between lower leg coordination and balance together with the instep shooting ability of futsal players at SMAN 1 Bungaraya Siak Regime with the SPSS 20 esteem coefficient $t = 0.961$ and p esteem $= 0.010/2 = 0.005 < 0.01$. **Conclusion:** physical condition of eye-foot coordination and balance can be used by coaches as a solution and variation to improve abilities. *Shooting* on goal is based on these findings, taking into account the benefits of physical condition, eye-foot coordination, and balance.

Keywords: eye foot coordination, balance, futsal shooting ability.

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Introduction

Exercise is a way to improve one's quality of life, leading to better outcomes for individuals, groups, and society (Okilanda, 2023). Advances in science and technology have led to rapid changes in various aspects of human life, leading to globalization and a free market (Irawadi, 2020). Exercise is an activity that impacts a person's physical health in carrying out daily activities (Finlay et al., 2022). Exercise is a real activity that can prevent degenerative diseases such as diabetes, osteoporosis, and hypertension (Kanaley et al., 2022). The most popular physical activity for everyone's daily needs is exercise (Marpaung & Manihuruk, 2022). Goodyear et al., (2023), define exercise as "physical activity performed regularly to improve cardiovascular fitness." According to this definition, "exercise" refers to "physical activity performed regularly to improve cardiovascular fitness." Exercise is a physical activity that improves physical health; however, exercise can also improve performance (Lochbaum et al., 2022). Sport is a rapidly growing field in all levels of Indonesian society and also in other countries in the world, regardless of religion, age, country, or political orientation (Arifin, 2019).

According to Mendez-Dominguez, (2019) futsal has its own specific dynamics due to the different rules, number of players, field dimensions, and the ball used. Sarmento, (2015) futsal is a game with a random intermittent nature, where important elements of the game are sometimes determined by chance. Ramos-Campo (2016), the technical skills of futsal players are influenced by the size of the field and the smaller size of the ball. All parts adjusted in preparation will affect the results of activities carried out to

achieve good playing skills (Indra, 2020). (Naser, 2016) a point-by-point understanding of the actual prerequisites will definitely help in futsal games, the final winner of this game is the group that scores more goals before the opponent's goal. To work on the nature of the procedure in a game, it will be expanded if supported by elements of knowledge to suit the use of ideal preparation strategies, Naldi (2020).

In futsal, according to Adhi (2021), shooting is kicking the ball hard to score a goal. As shown by Saleh and Martiani (2020), shooting is a procedure generally used by competitors to score any number of goals expected in situations contrary to the opponent's goal. Shooting has a very fast and hard ball quality and is challenging for the goalkeeper to anticipate (Frayogha and Afrizal, 2019). The purpose of kicking is not only to shoot but also to catch the mount, directing the ball from one's own goal (Ramadhani, 2017). According to Chandra and Mariati (2020), when shooting, there are several muscles capable of doing this, namely the leg muscles and leg lengths, these two muscles are dominant in shooting.

The importance of shooting in futsal requires efforts to improve shooting accuracy to enhance players' abilities and capacities (Perdana, Mariati, Afrizal, Arifan, 2023). Shooting in futsal can be done in various ways, including using the instep, toes, inside of the foot, and the heel. All things considered, shooting with the instep is more successful and more effective for players. Shooting is the climax of an attack, which is the embodiment of futsal or soccer (Ridwan, 2019). As a general rule, this is because coordination is necessary in any type of sports development. Specifically, in futsal, a player is expected to be able to perform very complex developments.

To shoot well, it certainly requires the ability of the actual parts that can support the improvement of shooting abilities such as power, spryness, balance, speed, adaptability, response, coordination, etc. Shooting in futsal requires individuals to have good balance. As expressed by Harsono (2018) balance is an individual's ability to balance the body frame both in static positions and in stronger movement positions, where balance is related to coordination and certain abilities, as well as readiness. The ability itself can include eye-foot coordination, as is the case in kicking a ball. Furthermore, to maintain balance in completing proactive tasks, the development carried out must be arranged precisely with the ultimate goal of controlling all developments. This is because in shooting, individuals only rely on one foot and the other leg swings to kick the ball assisted by the hands to control the body.

Kick ball or *shooting* is shoot ball toward target Where hereis toward goal against. Because *shooting* This very determine fora team to be able to score a goal in a match. Therefore, this *shooting* technique is very important in futsal games in general. If the player can do this technique correctly and precisely then it will it is easy for his team to create or score goals during the match, on the other hand, if the player cannot learn or perform this technique then it will be difficult for his team to score goals during the match, because The goal of futsal is to score as many goals as possible. *Shooting* And technique base other not the only one factor Which can influence in playing futsal, but the physical condition of an athlete also has a big influence on sports, especially in the sport of futsal.

Based on observations researchers on moment having *fun games* on February 29, 2023, when the SMA N 1 Bungaraya players performed *shooting* researchers saw a lack of *shooting ability*, which can be seen in In this *fun game*, the players are less than perfect at *shooting*, this is can be seen from the number of *shooting attempts* made by the players but there are more balls that don't go towards the goal than balls that do towards the goal. Based on a trial against one of the high schools that was in Siak on Sunday, March 10, 2023. Every attack that in do often experience failure especially on moment do *shooting* so that produce *shooting* Which No perfect. Recorded players *shoot* during the first and second half of the ball that is not in play 15 times on target and only 7 times the ball was on target by player. Mistakes That happen allegedly Because lack of coordination eye foot And balance Which result in No maximum in do shooting. If This in left alone so performance player SENIOR HIGH SCHOOL N 1 Bungaraya, will difficult For develop And progress, because *shooting* determine the way something match. If player No have the ability *shooting* the good one is the three futsal players of SMA N1 Bungaraya can't play well and it's also difficult to win victory.

Based on observation Which has writer do in field The *shooting* ability of SMA N 1 Bungaraya players is not yet in accordance with what what was expected. This was proven during the training given by the trainer. during *shooting* practice which was carried out in several trials on average the number of

balls that go towards the goal is very small compared to the balls that don't go towards the goal leading to goal.

Method

This exploration is a type of correlational examination. According to Sugiyono (2012), correlational exploration is a study that asks about the relationship between at least two factors. The exploration population was 15 students of SMAN 1 Bungaraya Siak Rule, where the testing strategy was all-out inspection. The test instruments used were a lower limb coordination test with the Mitcel Soccer Test and an offset test with a standing balance stroke test, followed by a shooting ability test. Information examination was carried out using the Item Second connection with SPSS 20.

Results

Considering the continued effects of lower limb coordination, the highest score is 39 and the baseline score is 32. In addition, the mean (normal) value = 35.39 and the standard deviation = 1.98. For additional clarity, the depiction of character information should be seen in the table below:

Table 1. Distribusi Frequency Ankle Coordination

Interval	Category	Frequency	Percentage (%)
>39	Very good	2	13.2
38 – 37	Good	3	19.8
36- 35	Currently	7	46.2
34- 33	Not enough	2	13.2
<33	Very less	1	6.6
Amount		15	100

Based on the table 15 examples above, 2 people (13.2%) have practical lower leg dexterity ≥ 39 with a general class of very good, 3 people (19.8%) have practical lower leg dexterity ranging from 37-38 with a good class, 7 people (46.2%) have lower leg walking dexterity between 35-36 with a moderate classification, 2 people (13.2%) have practical lower leg dexterity ranging from 33-34 with a poor classification, 1 person (6.6%) has ankle-foot skills ranging from ≤ 33 with a very poor class. From the information examination, it was obtained that the normal lower leg coordination of futsal players at SMAN 1 Bungaraya Siak Regime is 35.39, so the lower leg coordination of futsal players at SMAN 1 Bungaraya Siak Rules is in the moderate class .

Judging from the consequences of the equilibrium test, the highest score is 53 and the base score is 50. In addition, the average value is 51.6 and the standard deviation is 1.12. For additional subtlety, the depiction of the information should be seen in the table below .

Table 2. Distribusi Frequency Balance

Interval	Category	Frequency	Percentage (%)
>50 Seconds	Very good	12	79.2
37-50	Good	3	19.8
14 - 36	Currently	0	0
5 – 13	Not enough	0	0
0-4	Very less	0	0
Amount		15	100

Based on the table 15 examples above, 12 people (79.2%) have an offset of ≥ 50 with a very good class, 3 people (19.8%) have a balance of 37-50 with a decent classification, none have a balance of

moderate classification, none have a balance of unfavorable classification, none have a balance classification very unfavorable. From the examination of the information obtained that the normal balance of futsal players at SMAN 1 Bungaraya Regime Siak is 52.6, so the normal balance of futsal players at SMAN 1 Bungaraya Regime Siak is included in the very good classification .

Judging from the results of the shooting skill test, the maximum score is 9, and the base score is 6. Furthermore, the mean is 7, and the standard deviation is 0.93. For additional clarity, the side effects of shooting ability can be seen in the histogram below:

Table 3. Distribusi Frequency Shooting Ability

Interval	Category	Frequency	Percentage (%)
>8	Very good	2	13.2
7.9 – 7	Good	9	59.4
6.9- 6.5	Currently	0	0
6.4- 6.1	Not enough	0	0
>6	Very less	4	26.4
Amount		15	100

Based on the histogram above from 15 examples, 2 people (13.2%) were found to have very good shooting ability, 9 people (59.4%) had good shooting ability, none had average shooting ability, none had poor shooting ability, 4 people (26.4%) had very poor shooting ability. From the information examination it was obtained that the normal shooting ability of SMAN 1 Bungaraya Siak futsal players was 7, so the shooting ability of SMAN 1 Bungaraya futsal players in the Siak Regulations was included in the large class .

Discussion

The results of this study show that lower limb coordination (X1) has a very large relationship with futsal shooting ability in students of SMAN 1 Bungaraya, Siak Regency.

Shooting is the most common way to kick the ball as quickly and accurately as expected, because shooting is a very necessary method in this futsal game, especially for an attacker because, in cases such as the attacker has dominated this strategy, it will be easy for him to score against the opponent's goal. The best shooting strategy to do is with the instep. The way to shoot power is the strength of the foot and the ideal kicking point. Shooting is one of the main strategies in futsal.

Lower limb coordination is very important and necessary for the accuracy of kicks on target to create goals, Subandi (2018). Majic (2020), coordination is a complex machine capacity that is closely related to speed, strength, persistence, and adaptability which is very important to achieve and develop further procedures and strategies.

Candra O. (2019) coordination is the development to complete the development of the machine quickly and not completely rigidly with the most common way to control and direct the development, as well as the participation of the focus sensory system. Coordination is a very complex biomotor capacity, where the individual's capacity to successfully combine various developments into a solitary development design, Hermanzoni (2019).

According to (Cahyono and Sin, 2018) coordination is the development to carry out rapid and uncertain engine development in the most common way to control and manage development, as well as the participation of the focus sensory system. Whereas eye-foot coordination is the athlete's ability to consolidate the mutual relationship between the focus sensory system and the motor apparatus in a pleasant way, in regulating and controlling that made by the muscles to carry out simultaneous development between the development of the eyes (vision) and feet actively, precisely and coordinated (Perdana, 2023).

The results of the study show that there is a very large relationship between balance and futsal shooting ability in students of SMAN 1 Bungaraya, Siak Regency.

As stated by Putra, T (2023) "Balance is the ability of an individual to control the body's organs that are neuromuscular". According to Maidarman (2016) "Balance is part of the conditions required in different games". As interpreted by Widiastuti (2015) balance is the ability to maintain a valid body posture and position when standing (static balance) or when making movements (dynamic balance).

Equilibrium can be characterized as the capacity to follow the body's focal point of gravity on a support base and is generated by neuromuscular activity considering constant visual, vestibular, and somato-tactile criticism (Boccolini, 2013). Balance is the ability to maintain a proper posture while making progress (Donal, 2020). Balance is characterized as the ability to maintain a steady posture with the body's focal point of mass in the support base space while counteracting outside or struggling below the surface (Khuman, 2014) .

At a basic level, balance is the ability to maintain the body's equilibrium when positioned in different positions. According to (Asnur, I, 2022), balance is the ability to follow the focal point of gravity on a support, especially in an upright position. Balance is the ability to maintain our neuromuscular system in a static state, or to control our neuromuscular framework in a productive position or disposition while we move (Nando, 2019).

From the explanation above, it can be said that balance is not a particularly important factor for shooting ability. Achievement is the consequence of relentless efforts to develop abilities. Learning outcomes are student achievements that can be estimated from student grades after completing questions or exercises given by the teacher during the assessment. Mental preparation in sports truly plays a crucial role in achieving normal performance.

The consequences of the review show that lower limb coordination (X1) and balance (X2) together have a very large relationship with futsal shooting ability. From the results of the completed factual examination, the SPSS 20 connection coefficient was obtained with a cost of $t = 0.961$ and p

value = $0.010/2 = 0.005 < 0.01$ Ho or dismissed. It can be assumed that there is a significant relationship between X1 and X2 with Y. This means that the lower leg coordination and joint adjustment factors do not have a significant relationship with futsal shooting ability at SMAN 1 Bungaraya, Siak Regime.

A player's performance generally depends on their shooting strategy. A good shot is also a prerequisite for competing well. In a match, every misstep counts as an additional point for the opponent, therefore mastering good shooting techniques is an undeniable necessity for every player. The more types of shots, the better, because with varied preparation, players can strategize to start shooting quickly. To score against an opponent, we are expected to have the ability to perform shooting skills under the pressure of the game, with limited time, and against a completely drained and strong opponent. (Afrizal, 2018).

Conclusion

It is likely to be reasonable that there is a significant relationship between lower limb coordination and futsal shooting ability at SMAN 1 Bungaraya Rezim Siak. There is a critical relationship between balance and futsal shooting capacity at SMAN 1 Bungaraya, Rezim Siak. There is a critical relationship between lower limb coordination and balance together in the shooting skills of SMAN 1 Bungaraya Peraturan Siak. Physical condition of eye-foot coordination and balance can be used by coaches as a solution and variation to improve abilities. *Shooting* on goal is based on these findings, taking into account the benefits of physical condition, eye-foot coordination, and balance. A sports coach must also consider attributive variables when selecting the most appropriate and efficient approach for an athlete.

References

- Adhi, B. P. (2021). Hubungan Daya Ledak Otot Tungkai terhadap Akurasi Shooting Permainan Futsal Putra. *Journal of Education and Sport Science (JESS)*, 2(2), 55–62.

- Afrizal, S. (2018). Daya Ledak Otot Tungkai dan Kelentukan Berkontribusi Terhadap Akurasi Shooting Sepakbola. *Jurnal Performa Olahraga* , 81-81.
- Arifin, Ikhwanul. 2019. *The Effect of Jump to Box Exercises on Heading Ability*. *Advances in Health Sciences Research*, volume 35 Proceedings of the 1st International Conference on Sport Sciences, Health and Tourism (ICSSHT 2019).
- Asnur, I., Ridwan, M. R., Irawan, R., Oktavianus, I., yenes, ronny, Arifan, I., soniawan, vega, & okilanda, ardo. (2022). Hubungan keseimbangan, Daya ledak otot tungkai, dan koordinasi mata - kaki terhadap kemampuan shooting atlet futsal kota padang. *Gladiator*, 2(4), 187-198.
- Boccolini, Gabriele. (2013). *Using balance training to improve the performance of youth basketball players*. *Sport Sci Health* (2013) 9:37–42DOI 10.1007/s11332- 013-0143-z.
- Candra, O. A. (2019). *The Contribution of Eye-Hand Coordination to Basketball Lay Up Shoot Skills*. 1st Progress in Social Science, Humanities and Education Research Symposium (PSSHRS), Volume 464. , 864-869
- Chandra, B., & Mariati, S. (2020). Daya Ledak Otot Tungkai dan Kelentukan Otot Pinggang Memberikan Kontribusi Terhadap Kemampuan Smash Bolavoli. *Jurnal Patriot*, 2(1), 96–110.
- Cahyono, S., & Sin, T. H. (2018). Kontribusi Daya Ledak Otot Tungkai dan Koordinasi Mata Kaki Terhadap Akurasi Shooting Sepakbola. *Patriot*, 1(2), 299–305.
- Donal, septia, & Mardela, R. (2020). Latihan Keseimbangan dan Latihan Kelentukan Berpengaruh Terhadap Kemampuan Servis Bawah Sepaktakraw. *Jurnal Patriot*, 2(2), 514-525
- Finlay, M. J., Tinnion, D. J., & Simpson, T. 2022. *A Virtual Versus Blended Learning Approach To Higher Education During The Covid-19 Pandemic: The Experiences Of A Sport And Exercise Science Student Cohort*. *Journal Of Hospitality, Leisure, Sport & Tourism Education*, 30, 100363
- Frayogha, J., & Afrizal. (2019). Pengaruh Latihan Daya Ledak Otot Tungkai Terhadap Akurasi Shooting Pemain Futsal. *Society*, 2(1), 1–19.
- Goodyear, V. A., Skinner, B., Mckeever, J., & Griffiths, M. 2023. *The Influence Of Online Physical Activity Interventions On Children And Young People's Engagement With Physical Activity: A Systematic Review*. *Physical Education And Sport Pedagogy*, 28(1), 94–108.
- Harsono. (2018). *Latihan Kondisi Fisik*. Bandung: FPOK UPI.
- Hermanzoni, H. (2019). Hubungan Motivasi dan Koordinasi Mata Kaki dengan Kemampuan Sepaksila Atlet Sepaktakraw. *Jurnal Patriot* , 565-577.
- Indra, P. &. (2020). Pengaruh Metode Latihan dan Motivasi Berlatih terhadap Keterampilan Bermain Sepak Bola Ssb Persika Jaya Sikabau. *Jurnal Performa Olahraga* , 39-47
- Irawadi, H., Lesmana, H., & Ridwan, M. 2020. Aktivitas Latihan Mahasiswa Prodi Pendidikan Kepelatihan Olahraga Fik Unp. *Jurnal Patriot*, 2(3), 743-756.
- Kanaley, J. A., Colberg, S. R., Corcoran, M. H., Malin, S. K., Rodriguez, N. R., Crespo, C. J., Kirwan, J. P., & Zierath, J. R. 2022. *Exercise/Physical Activity In Individuals With Type 2 Diabetes: A Consensus Statement From The American College Of Sports Medicine*. *Medicine & Science In Sports & Exercise*, 54(2), 353–368.

- Khuman, Ratan. (2014). *Comparison of static and dynamic balance among collegiate cricket, soccer and volleyball male players*. International Journal of Health & Allied Sciences • Vol. 3 • Issue 1 • Jan-Mar 2014, IP: 117.238.49.158.
- Lochbaum, M., Stoner, E., Hefner, T., Cooper, S., Lane, A. M., & Terry, P. C. 2022. *Sport Psychology And Performance Meta-Analyses: A Systematic Review Of The Literature*. Plos One, 17(2), E0263408.
- Maidarman, M. (2016). Kontribusi Kekuatan Otot Tungkai, Kelentukan Pinggang dan Keseimbangan Terhadap Kemampuan Star Renang Gaya Kupu-kupu Pada Mahasiswa. Jurnal Performa Olahraga, 1(02), 147-156
- Majic, F. H. (2020). *Canonical Relations Between Coordinatioan dan Technical Skills in Young Football Players*. Journal of Development Psychology, 19(3), ISSUE: 1 , 88-91.
- Marpaung, D. R., & Manihuruk, F. 2022. Pengaruh Latihan Shadow Terhadap Peningkatan Kelincahan Dan Keseimbangan Bermain Bulutangkis. Sains Olahraga : Jurnal Ilmiah Ilmu Keolahragaan, 5(1), Article 1.
- Mendez-Dominguez, C. G.-R.-P. (2019). *Goal Scored and Received in 5vs4 GK Game Strategy Are Constrained by Critical Moment and Situational Variable in Elite Futsal* . Journal of Sports Science, 37(21), ISSN : 0264-0414.
- Naldi, I. Y. (2020). Kontribusi Kemampuan Motorik Terhadap Kemampuan Teknik Dasar Pada Atlet Ssb (Sekolah Sepakbola) Balai Baru Kota Padang. Jurnal Performa Olahraga , 6-11
- Nando, Icup, & -, W. (2019). Korelasi Koordinasi Mata-Kaki Dan Keseimbangan Terhadap Kemampuan Mengumpan Pada Pemain Sepaktakraw Sekolah Menengah Pertama Negeri 18 Padang. Jurnal Patriot, 1(1), 45-51.
- Naser, N. &. (2016). *A descriptive-comparative study of performance charateristics in futsal players of different level*. Jurnal of sports sciences , 1707-1715.
- Okilanda, 2023. *Correlational study: Sports Students' special test results and basic athletic training learning outcomes Estudio correlacional: Los resultados de las pruebas especiales de los estudiantes de deporte y los resultados del aprendizaje del entrenamiento atlético básico*. Federación Española de Asociaciones de Docentes de Educación Física (FEADEF) ISSN: Edición impresa: 1579-1726. Edición Web: 1988-2041.
- Perdana, Mariati, Afrizal, Arifan. 2023. Interelasi Daya Ledak Otot Tungkai dan Koordinasi Mata Kaki dengan Akurasi Shooting Futsal. Jurnal Prestasi Vol. 7 No. 1, Juni 2023: 45-54 p-ISSN : 2549-9394 e-ISSN : 2579-7093
- Putra, T., Arwandi, J., Irawan, R., & Arifianto, I. (2023). Kontribusi Daya Ledak Otot Tungkai, Keseimbangan Dan Koordinasi Mata-Kaki Terhadap Kemampuan Shooting. *Gladiator*, 3(1), 16-32.
- Ramadhani, A. F. (2017). Konsentrasi Terhadap Ketepatan dan Kecepatan Shooting pada Pemain Futsal MTS Syarif Hidayatulloh. Jurnal Prestasi Olahraga, 2(1), 7.
- Ramos-Campo, D. J.-A.-P. (2016). *Physical performance of elite and subelite Spanish female futsal players*. Biology of sport , 297.
- Ridwan, M. "Kekuatan Otot Tungkai, Koordinasi Mata-Kaki dan Keseimbangan Berhubungan dengan Kemampuan Shooting Sepakbola." *Jurnal Patriot* 1.2 (2019):749-761.

Saleh, A., & Martiani. (2020). Hubungan Power Otot Tungkai Terhadap Keterampilan Shooting Futsal Di Smp Negeri 15 Kota Bengkulu. *Journal Of Dehasen Educational Review*, 1(1), 11–19.

Sarmento, H. B. (2015). *Quantifying the Offensive Sequences That Result in Goals in Elite Futsal Matches*. *Jurnal of Sports Sciences*, 34(7)

Subandi, R. &. (2018). Hubungan antara Kecemasan (Anxiety) dan Koordinasi Mata Kaki terhadap Shooting Pemain Sepakbola. *Jurnal Patriot*, 234-239

Widiastuti. (2015). *Tes dan Pengukuran Olahraga*. Jakarta: Rajawali Pers.