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Optimization of Agility and Emotion Towards Penalty Kick in Athletes Mountain Light Football Academy Kendal

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Abstract

The purpose of this study was to determine 1) the correlation agility towards penalty kicks in Cahaya Gunung Football Academy Kendal athletes. 2) Knowing the emotional correlation towards penalty kicks in Cahaya Gunung Football Academy Kendal athletes, 3) Knowing the correlation between agility and emotional towards penalty kicks in Cahaya Gunung Football Academy athletes. The research used by the author is quantitative research, using the correlational method. The place of implementation of this research is at Cahaya Gunung Football Academy Kendal, with research subjects as many as 24 athletes. The data analysis technique uses multiple regression analysis with a significance level of 5%. The results of the hypothesis test 1 showed a calculated r value of $0.503 > r_{\text{table}} (0.05) (24) (0.388)$, it was concluded that there was a significant correlation between agility and penalty kicks in Cahaya Gunung Football Academy Kendal athletes. The results of the hypothesis 2 test show a calculated r value of $0.697 > r_{\text{table}} (0.05) (24) (0.388)$, so it can be concluded that there is a significant relationship between emotions and penalty kicks in Cahaya Gunung Football Academy Kendal athletes. The results of the hypothesis 3 test obtained a calculated F result of 13.853 with $F_{\text{table}} = 3.47$, so that the calculated $F > F_{\text{table}} (13.853 > 3.47)$ concluded that there was a significant correlation between agility and emotion towards penalty kicks in Cahaya Gunung Football Academy athletes.

Keywords: correlation, agility, emotional, penalty kick

INTRODUCTION

Sports are physical exercises that involve a person's body to increase and expand a person's abilities, as well as basic movement skills and certain sports skills. These activities are an approach to physical fitness which is also known as physical health, namely health that has the ability to move to meet daily movement needs. (Harmon et al., 2019). This means that individuals who do physical exercise through sports will have a sufficient level of fitness. Mass sports are a type of sport that can be done simultaneously by many people (Parry, 2023). It is also known as community sports and is basically a health sport because the goal is to maintain or improve health and movement activity (Yunis Bangun, 2016).

In order to play football, a person must have basic technical skills, which means all the basic activities of the game of football itself. Basic techniques in football include passing, control, shooting, and dribbling (Saputra et al., 2019). Basic techniques in football have their own level of difficulty, especially when kicking the ball which is the most basic or frequently used technique in football, this technique is used to provide passes and kick the ball towards the opponent's defense or the opponent's goal. The kicking technique itself is divided into three parts, namely, using the inside of the foot (insole), the outside of the foot (outsole), and the instep (Paramitha et al., 2020). Dead ball kicks are a great opportunity for the team to score, especially penalty kicks have a higher percentage of scoring goals against the opponent's goal than other dead ball kicks, the penalty itself occurs in the 16 pass goal box due to violations committed by the player, namely, tackling the opponent, hand ball, or dogso or known as violations preventing the opponent from scoring goals (Brinkschulte et al., 2021).

In the game of football, agility and changes in direction of the athlete's body are very necessary.

Agility is a rapid change in speed and direction of movement in response to external influences. In football, there are many transitions in the intensity of movement. (Shabih et al., 2021) . This includes high-intensity movements such as running, jumping, kicking, accelerating, and decelerating, as well as low-intensity movements such as jogging, walking, and standing still. (Darma & Fernando, 2024) . The acceleration seen is usually done in response to external stimuli such as the movement of the ball, opponents, or teammates, this important soccer ability is an example of agility. It requires excellent athletic condition, as well as fast aerobic and sprinting abilities, strong muscle strength and flexibility, speed, and adaptability (Hazman et al., 2020) . Moreover, when athletes take penalty kicks, they must be able to maximize their agility in putting the ball into the goal (Krolo et al., nd) . Measured by the Illinois test, improvements in running agility can be attributed to differences in the performance composition of the monitored set, training ability, functioning systems, and physiology; however, significant increases in speed only occur in 15-year-olds (Horicka et al., 2018) . Soccer players typically make many changes of direction each game in unplanned and unplanned situations, and these maneuvers are often performed quickly when they have full control over their bodies. It is clear that situations requiring reactive agility are very dangerous for ineffective movements, which can lead to injuries (Mijatovic et al., 2022) .

Conditioning training is a factor that influences the teaching and learning process, coaches must organize different skills specifically. One of the goals is to study human movement by considering its character (Kia, 2024) . Sports psychology is very important in understanding and improving sports abilities. This academic field has existed for two centuries, the science of which can help improve athlete performance. Until now, psychology studies several aspects, namely mental and individual behavior. The psychological factors themselves such as motivation, anxiety, self-confidence, concentration, and focus, in this case can overcome mental barriers that can interfere with performance (Id et al., 2022) . Due to the large number of competitions and excessive physical and emotional pressure, football makes athletes very stressed. Players must make decisions quickly because their abilities are limited, peak activity in extreme situations, and fierce competition to play in the first team (Shcherbak et al., 2023) . The following are factors that influence penalty kicks, the agility factor of the kicker's foot using his strongest foot tends to have better results than his weak foot, psychological factors such as self-confidence and anxiety affect kicks, anxiety can interfere with concentration while high self-confidence can increase the success of penalty execution, the accuracy factor is very important for kicking, training with a fixed target improves the accuracy of penalty kicks better than training techniques with changing targets, this is due to better focus when players do the training (Firmansyah et al., 2018) . Indeed, mental strength affects the ability to play sports, but Cowden's research (in Setiawan et al., 2020) found that it also depends on certain conditions, when someone is in a high-pressure situation it usually causes anxiety that occurs in him; for example, when someone executes a penalty kick, the score is behind, unable to break up the opponent's attack, and does not score a goal. In such conditions, psychological factors, including mental strength, affect the athlete's ability.

Looking at the facts on the ground, coaches and officials often do not pay much attention to penalty kicks during training. Coaches are used to focusing on strategy, tactics, play, and the physical condition of athletes. Penalty decisions can be discussed for days, if not weeks, especially when the match is almost over, the concept of penalties is so popular because it can directly affect the results (Tuğlu et al., 2022) . In a game, one penalty can result in a victory or championship. They often ignore penalty kick training techniques, making it difficult for coaches to appoint players who are truly ready to take penalty kicks, players must also stay focused when taking penalty kicks, as can be seen from the readiness, confidence, and ability of the players (Ferri Hendryanto, 2024) . Kicking the ball is considered very important in the game, but a strong kick is not always successful because the success of the kick depends on accuracy, the three main factors that influence the success of a kick are the accuracy of the impact of the ball hitting, strength, and swing of the leg when kicking. With 80% in football the fact that the average number of goals in professional football is 2.5-2.7 supports the importance of penalty kicks has become a common practice or habit to determine the outcome in a knockout tournament where the final result is 90 minutes plus extra time with a draw from both teams (Arguz et al., 2021) . A total of 34 penalty videos from major European leagues (2017-2020) were analyzed and validated by an average confidence score expert using OpenPose, with an average score of 0.80 ± 0.14 (Pinheiro et al., 2022) . The strategy that depends on the kicker also depends on the level of anticipation of the goalkeeper (waiting) and the speed of the kicker's run (slow). With the experience and observations of researchers in the field, there are still many football players who are still hesitant and feel uneasy in making decisions when taking a penalty kick, they think that they are

able or not to score a goal against the opponent's goal, pressure from the audience, and the team's determinant to qualify for the next round in the competition or tournament (Zheng et al., 2025) . This is what gives rise to fear and anxiety in players, so it is not surprising that sometimes we still find players who prefer to play it safe and are reluctant to take a penalty.

Based on the researcher's observations and explanations in the description above, this problem is interesting to be studied in more depth. So that the researcher is interested in conducting a study entitled "Optimizing Agility and Emotional Against Penalty Kicks in Cahaya Gunung Football Academy Kendal Athletes " so that by conducting the study, it can present data and provide knowledge about agility, emotional psychology, and penalty kick accuracy.

METHOD

Researchers use correlational methods in research to find out how strong and where the relationship is between two or more variables. In other words, this study does not establish a cause-and-effect relationship. In correlational research, there are two types of relationships known. The first is a positive correlation indicating that an increase in one variable causes an increase in another variable, the second is a negative correlation indicating that an increase in one variable causes a decrease in another variable (Ekstrand et al., 2018). In order to obtain the most objective probability distribution of expert knowledge, knowledge mining must be designed to avoid or at least minimize systematic errors that can occur (O'Hagan, 2019). This study involved Cahaya Gunung Football Academy Kendal athletes from a total population of 55 athletes. This technique is part of the probability sampling, which means that each individual in the population has an equal chance of being taken as a sample (Harianto et al., 2024). Based on the explanation above, the researcher determined a sample of 24 players, namely, KU-17 with 13 players and KU-15 with 11 players from Cahaya Gunung Football Academy Kendal athletes.

RESULTS AND DISCUSSION

Research Result

The results of this study are described based on each variable, namely agility, emotional and penalty kicks of athletes of Cahaya Gunung Football Academy Kendal. The statistical results of the research data can be described as follows:

1. Agility of Cahaya Gunung Football Academy Kendal Athletes

The description of the research data *on the Agility of Cahaya Gunung Football Academy Kendal Athletes* can be seen in the table below:

Table 4.1.1 Description of Research Data *on Agility of Cahaya Gunung Football Academy Kendal Athletes*

Interval		Frequency	Percentage
<i>Excellent</i>	< 17	8	33.33
<i>Good</i>	17 – 17.9	10	41.67
<i>Average</i>	18 – 21.7	6	25
<i>Fair</i>	21.8 – 23	0	0
<i>Poor</i>	> 23	0	0
Amount		24	100

Based on the results of the study, if displayed in the form of a diagram, it can be seen in the image below:

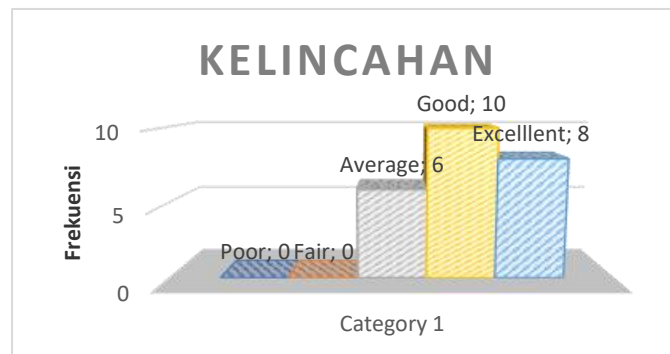


Figure 4.1.1 Description of Research Data on Agility of Cahaya Gunung Football Academy Kendal Athletes

2. Emotional Athlete Cahaya Gunung Football Academy Kendal

Emotional data on athletes of the Kendal Football Academy's Gunung Cahaya can be seen in the table below:

Table 4.1.2 Description of Emotional Research Data on Cahaya Gunung Football Academy Kendal Athletes

Interval	Frequency	%	
> 25.28	Very good	0	0
$23.44 < X \leq 25.28$	Good	8	33.33
$21.6 < X \leq 23.44$	Pretty good	7	29.17
$19.76 < X \leq 21.6$	Not good	7	29.17
< 19.76	Very less	2	8.33
Amount		24	100

Based on the research results, if displayed in diagram form, it can be seen in the image below:

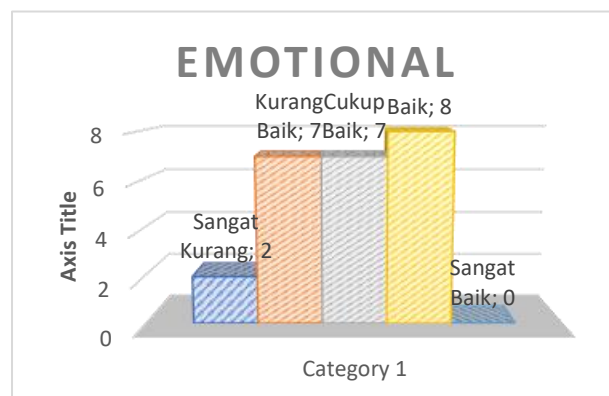


Figure 4.1.2 Emotional Research Data on Cahaya Gunung Football Academy Kendal Athletes

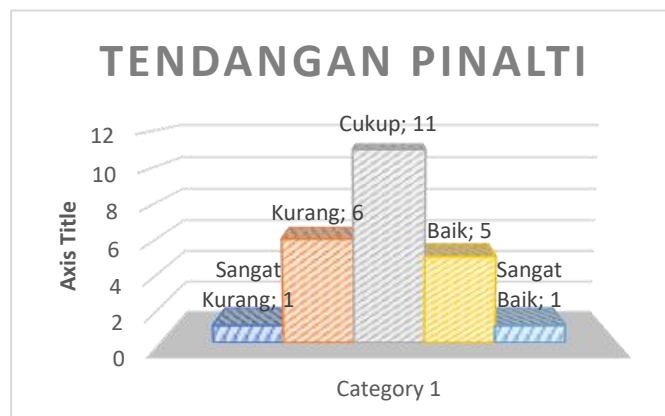
3. Penalty Kick For The Athlete Cahaya Gunung Football Academy Kendal

Description of research data on *penalty kicks* for athletes at the Cahaya Gunung Football Academy Kendal can be seen in the table below:

Table 4.1.3 Description of Research Data on *penalty kicks* for athletes at the Cahaya Gunung Football Academy Kendal

Interval	Frequency	%	
> 11.41	Very good	1	4.17
$9.49 < X \leq 11.41$	Good	5	20.83
$7.58 < X \leq 9.49$	Pretty good	11	45.83
$5.67 < X \leq 7.58$	Not good	6	25
< 5.67	Very less	1	4.17
Amount		24	100

Based on the research results, if displayed in diagram form, it can be seen in the image below:

Figure 4.1.3 Research Data on *penalty kicks* for athletes at the Cahaya Gunung Football Academy Kendal

Data Analysis

1. Normality Test

The purpose of the normality test is to ensure whether the data from each variable analyzed follows a normal distribution pattern. *Kolmogorov-Smirnov* is used to test the normality of the variables. If $p > 0.05$, the distribution is considered normal, and if $p < 0.05$, the distribution is considered abnormal. The following table shows a summary of the results of the normality test.

Table 4.2.1 Normality Test

Variables	Z	p	Sig.	Information
<i>Agility</i>	0.121	0.200	0,05	Normal
<i>Emotional</i>	0.118	0.200	0,05	Normal
<i>Penalty Kick</i>	0.155	0.139	0,05	Normal

All data have a normal distribution according to the table above, and the significance value (p) of each variable is greater than 0.05. Therefore, the analysis can be continued with parametric statistical analysis.

2. Hypothesis Testing

Hypothesis Test 1

The research hypothesis test is conducted after the data requirements are met. To test the relationship between X and Y using the *product moment correlation test* from Karl Person. The results of the correlation analysis can be described as follows:

Table 4.2.2 Correlation Test Results Hypothesis 1

Variables	d f	r _{table}	r _{count}	Sig 5 %
Correlation of agility to penalty kicks	24	0.388	-0, 503	0,000

The product moment correlation analysis above show a calculated r value of $0.503 > r_{\text{table } (0.05) (24)}$ (0.388). Thus it can be interpreted that there is a significant correlation between agility and penalty kicks in Cahaya Gunung Football Academy Kendal athletes.

Hypothesis Test 2

To test the relationship between X2 and Y, Karl Person's *product moment correlation test* is used. The results of the correlation analysis can be described as follows:

Table 4.2.3 Correlation Test Results Hypothesis 2

Variables	d f	r _{table}	r _{count}	Sig 5 %
Emotional correlation to penalty kicks		0.388	0, 697	0,000

Product moment correlation analysis showed that the calculated r value was $0.697 > r_{\text{table } (0.05) (24)}$ (0.388). Therefore, it can be concluded that there is a significant correlation between emotions towards penalty kicks in Cahaya Gunung Football Academy Kendal athletes.

Hypothesis Test 3

The results of the simultaneous statistical test of the correlation between emotions towards penalty kicks in Cahaya Gunung Football Academy Kendal athletes can be seen in the following table:

Table 4.2.4 Results of F-test analysis

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47,759	2	23,879	13,853	.000 ^b
	Residual	36,200	21	1,724		
	Total	83,958	23			

Based on the results of the statistical test above, it can be explained that the F count result is 13.853 with a significance of 5%. The degree of freedom of the numerator (k) is 2 while the degree of freedom of the denominator is $N - k - 1 = 24 - 2 - 1 = 21$, then F table = 3.47, so that F count > F table ($13.853 > 3.47$) thus there is a significant correlation between agility and emotion towards penalty kicks in Cahaya Gunung Football Academy athletes.

Discussion

Football is a ball game played by two teams, each team consisting of eleven players. The goal is to get the ball into the opponent's goal by manipulating the ball using the feet and other body parts other than the hands, except for the goalkeeper. In football, unexpected situations can occur when the score is tied or a penalty kick due to a violation in front of the goal. To successfully take a penalty kick, a player must be able to master the level of accuracy of his kick (Agras et al., 2016). The physical and psychological factors of the player become very important in situations like this.

a. Correlation of Agility to Penalty Kicks in Cahaya Gunung Football Academy Kendal Athletes.

The results of the correlation analysis of the agility correlation with penalty kicks in Cahaya Gunung Football Academy Kendal athletes, *the product moment* above shows a calculated r value of $0.503 > r_{\text{table } (0.05) (24)} (0.388)$, thus it can be interpreted that there is a significant correlation between agility and penalty kicks in Cahaya Gunung Football Academy Kendal athletes. Agility according to Ozkan & Gok, (2022) is related to the speed in responding to various changes. Therefore, being agile requires sensitivity to the time set for agility and being innovative in responding to unexpected situations.

This agility is one of the abilities of a soccer player, this is because agility will play a very important role in changing direction quickly when running with the ball. And agility can also play a role for a player in taking a penalty kick, namely the player's ability to change the direction of the kick quickly to outwit a goalkeeper. Therefore, in addition to accuracy, agility and leg strength also need to be trained by soccer players.

b. Emotional Correlation Towards Penalty Kicks In Cahaya Gunung Football Academy Kendal Athletes

the product moment correlation analysis above show a calculated r value of $0.697 > r_{\text{table } (0.05) (24)} (0.388)$. It can be interpreted that there is Knowing the emotional correlation to penalty kicks in Cahaya Gunung Football Academy Kendal athletes. In addition to technical factors, taking a penalty kick requires the player's confidence and emotional state. Mentality is one of the important factors in a penalty kick, this is shown by the player's ability to control emotions so that calm is needed in taking the kick.

To increase the success of penalty kicks in football, players must have stable emotions and self-confidence, and not be easily provoked by their opponents. Stable emotions allow athletes to control the situation and not be easily disturbed by pressure outside the field.

c. Correlation Between Agility and Emotion on Penalty Kicks in Cahaya Gunung Football Academy Athletes

Based on the results of the F test analysis, the calculated F value was 13.853, so the F table = 3.47, so that $F_{\text{count}} > F_{\text{table}} (13.853 > 3.47)$ thus means that the correlation between agility and emotion towards penalty kicks in Cahaya Gunung Football Academy athletes. The results of data analysis show that agility and emotion simultaneously correlate positively with penalty kick ability.

When players face a penalty kick, emotional ability is very important. Players with strong emotions are not easily disturbed or influenced by other variables, both on and off the field. High self-confidence can improve technical qualities such as passing in football (Festiawan et al., 2024). However, these results are certainly not entirely from these two factors. Other factors that can affect the success of a penalty kick are accuracy, leg power and concentration.

Football coaches should consider both of these aspects simultaneously if they want to improve their athletes' ability to take penalty kicks. Confident athletes tend to feel calmer and more focused if they do exercises that improve emotional balance and agility, such as visualization techniques or relaxation exercises. In addition, exercises that increase self-confidence, such as playing in a match situation or doing exercises under pressure, can also help athletes feel more steady and confident when facing penalty kick situations. Other methods such as chewing gum, chocolate, or shouting are also methods to train athletes' calmness to be calmer in doing so.

CONCLUSION

Based on the research results and discussions that have been presented above, the researcher concluded the results that have been summarized as follows:

1. The results of the hypothesis test 1 showed a calculated r value of $0.503 > r_{\text{table } (0.05) (24)} (0.388)$, it was concluded that there was a significant correlation between agility and penalty kicks in Cahaya Gunung Football Academy Kendal athletes.
2. The results of the hypothesis 2 test showed a calculated r value of $0.697 > r_{\text{table } (0.05) (24)} (0.388)$, so it can be concluded that there is a significant relationship between emotions and penalty kicks in Cahaya Gunung Football Academy Kendal athletes.
3. The results of the hypothesis test 3 obtained a calculated F result of 13.853 with F table = 3.47, so that $F_{\text{count}} > F_{\text{table}} (13.853 > 3.47)$ it is concluded that there is a significant

correlation between agility and emotion towards penalty kicks in Cahaya Gunung Football Academy athletes.

REFERENCES

- Arguz, A., Guebli, A., Erkmen, N., & Aktaş, S. (2021). for Turkish Soccer players : Group-based analysis without goalkeeper. *PHYSICAL EDUCATION OF STUDENTS* , c , 189–196. <https://doi.org/10.15561/20755279.2021.0307>
- Brinkschulte, M., Furley, P., & Memmert, D. (2021). English Football Players are not as Bad at Kicking Penalties as Commonly Assumed. *Scientific Reports* , 2020 , 1–5. <https://doi.org/10.1038/s41598-020-63889-6>
- Darma, IZ, & Fernando, R. (2024). Ibnu Zaki Darma. *Asian Journal of Sport Research and Review* , 1 (1), 1–6. <https://journal.riaumedia.id/index.php/SET/article/view/24/8>
- Ferri Hendryanto. (2024). Contribution of Concentration to the Penalty Kick Ability of SSB Bina Putra Sosa Students in Football. *Journal Sport Rokania* , 4 (2), 76–89. <https://doi.org/https://doi.org/10.56313/jsr.v4i2.385>
- Firmansyah, I., Rahayu, NI, & Sultoni, K. (2018). Journal of Applied Sports Science Correlation Between Self-Confidence and Penalty Kick Success in Football Games. *Journal of Applied Sports Science* , 3 (2), 1–5. <https://doi.org/10.17509/jtikor.v3i2.10144>
- Harmon, KG, Clugston, JR, Dec, K., Hainline, B., Herring, S., Kane, SF, Kontos, AP, Leddy, JJ, Mccrea, M., Poddar, SK, Putukian, M., Wilson, JC, Roberts, WO, & Harmon, KG (2019). American Medical Society for Sports Medicine position statement on concussion in sport. *BMJ Journal of Sports Medicine* , 53 (4), 213–225. <https://doi.org/10.1136/bjsports-2018-100338>
- Hazman, M., Hasan, H., Azli, MS, Mohamed, MN, Aqilah, F., & Razak, A. (2020). Effects of Plyometric Training on Speed and Agility among Recreational Football Players. *International Journal of Human Movement and Sports Sciences* , 8 (5), 174–180. <https://doi.org/10.13189/saj.2020.080503>
- Horicka, P., Simonek, J., & Brodani, J. (2018). Diagnostics of reactive and running agility in young football players. *Polish Scientific Journals Database* , 6 , 29–36. <https://doi.org/10.16926/par.2018.06.05>
- Id, M.L., Stoner, E., Hefner, T., Cooper, S., Lane, M., & Terry, P.C. (2022). *Sport psychology and performance meta-analyses: A systematic review of the literature* . 1–22. <https://doi.org/10.1371/journal.pone.0263408>
- Kia, M.H. (2024). Sports Psychology. *Sports Psychology* , 16 (2), 49–67. <https://doi.org/10.48308/MBSP.2022.226864.1111>
- Krolo, A., Gilic, B., Foretic, N., Pojskic, H., & Hammami, R. (nd). Agility Testing in Youth Football (Soccer) Players; Evaluating Reliability, Validity, and Correlates of Newly Developed Testing Protocols. *MDPI Journals* , 17 (1). <https://doi.org/https://doi.org/10.3390/ijerph17010294>
- Mijatovic, D., Krivokapic, D., Versic, S., Dimitric, G., & Zenic, N. (2022). Change of Direction Speed and Reactive Agility in Prediction of Injury in Football ; Prospective Analysis over One Half-Season. *MDPI Journals* , 10 (3). <https://doi.org/https://doi.org/10.3390/healthcare10030440>
- Ozkan, N., & Gok, M. S. (2022). Definition Synthesis of Agility in Software Development: Comprehensive Review of Theory to Practice. *Modern Education and Computer Science* , March . <https://doi.org/10.5815/ijmeecs.2022.03.02>
- Paramitha, ST, Imanudin, I., Hardwis, S., & Suwanta, DM (2020). Development of Basic Football Learning Techniques (Kicking) Through Digitalization of Learning Materials. *ATLANTIS PRESS* , 394 (Icirad 2019), 419–424. <https://doi.org/https://doi.org/10.2991/assehr.k.200115.069>
- Parry, J. (2023). On the Definition of Sport. *Sport, Ethics and Philosophy* , 17 (1), 49–57. <https://doi.org/10.1080/17511321.2022.2077814>
- Pinheiro, G.D.S., Jin, X., Teoldo, V., Costa, D., & Lames, M. (2022). Body Pose Estimation Integrated With Notational Analysis: A New Approach to Analyze Penalty Kicks Strategy in Elite Football. *Frontiers in Sports and Active Living* , 4 (March), 1–10. <https://doi.org/10.3389/fspor.2022.818556>
- Saputra, A., Muzaffa, A., Alpaizin, M., & Wibowo, YG (2019). Analysis of basic technical abilities of SSB Pratama football players in Batanghari Regency. *Indonesian Journal of Sport Science and Coaching* , 1 (1), 1–10. <https://doi.org/https://doi.org/10.22437/ijssc.viii.6311>
- Setiawan, E., Patah, I.A., Bapista, C., Winarno, M. , & Sabino, B. (2020). Self-efficacy and mental toughness: Are psychological factors correlated with athlete performance? *Journal of Sports* , 8 (2), 158–165. <https://doi.org/https://doi.org/10.21831/jk.v8i2.33551>
- Shabih, MI, Iyakrus, & Destriani. (2021). Kejaora Journal: Journal of Physical Health and Sports. *Kejaora Journal: Journal of Physical Health and Sports* , 6 (April), 145–152.

- <https://doi.org/https://doi.org/10.36526/kejaora.v6i1.1289>
- Shcherbak, T., Popovych, I., Kariyev, A., & Duisenbayeva, A. (2023). Psychological causes of fatigue in football players. *Journal of Physical Education and Sport* , 23 (8), 2193–2202. <https://doi.org/10.7752/jpes.2023.08251>
- Tuğlu, Ş., Ermiş, E., & Erilli, NALP (2022). Evaluation of Pressure Elements in the Penalty Kicks. *Pakistan Journal of Medical & Health Sciences* , 16 (05), 901–904. <https://doi.org/https://doi.org/10.53350/pjmhs22165901>
- Yunis Bangun, S. (2016). THE ROLE OF PHYSICAL EDUCATION AND SPORTS IN EDUCATIONAL INSTITUTIONS IN INDONESIA. *Journal of Thought, Research and Community Service in the Field of Education* , VI . <https://doi.org/https://doi.org/10.26858/publikan.v6i3.2270>
- Zheng, R., Kamp, J. Van Der, Kemperman, K., & Jong, I. De. (2025). An investigation into the effect of audiences on the soccer penalty kick. *Science and Medicine in Football* , 9 (1), 90–93. <https://doi.org/10.1080/24733938.2023.2285963>