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The Relationship Between Agility and Eye-Foot Coordination on the Ball Dribbling Ability of Dewi Sartika High School Futsal Athletes

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Abstract

This research aimed to determine the relationship between agility and eye-foot coordination with the dribbling ability of Dewi Sartika High School futsal athletes. This type of research is correlational research. The population in this study was 20 players. Using the total sampling technique. Agility data retrieval with shapes, Illinois Agility Test, and Eye-toe coordination with the form Soccer wall volley test. Meanwhile, dribbling ability is assessed using the zig-zag dribbling test. The research results show that 1) There is a significant relationship between agility and dribbling ability. 2) There is a significant relationship between eye-foot coordination and dribbling ability. 3) A significant relationship exists between agility, eye-foot coordination, and dribbling ability. This study shows that agility and eye-foot coordination must be trained to improve dribbling ability.

How to Cite

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INTRODUCTION

Futsal is a team sport where the game is high-speed and dynamic; a high level of collectivity will increase achievements (Nur et al., 2023). The ability to dribble the ball is a very important technical skill in the game of futsal, especially for student athletes who are currently developing their motor skills and game techniques. In futsal, dribbling the ball not only requires mastery of basic techniques but also requires support from physical abilities such as agility and eye-foot coordination so that movements can be carried out quickly, precisely, and effectively on a relatively small and stressful field (Benny Badaru, 2017).

The ability to dribble (dribble the ball) is one of the basic skills that is very important in the game of futsal. Dribbling not only functions to maintain possession of the ball but also to get past opponents and create space in the game (Iskandar & Pradana, 2017). Research shows that mastery of good dribbling techniques can make a significant contribution to a team's success on the field (Dahlan, 2019).

Agility is one component of the physical condition that is needed by futsal players. Agility is a person's ability to change direction quickly and accurately without losing balance when moving (Nasution & Suharjana, 2015). Agility is a combination of many components of speed, strength, balance, and movement coordination, so many sports require agility (Ridwan, 2020).

Agility is very necessary in the game of futsal because it allows players to move quickly, avoid opponent pressure, and create space to attack without being easily followed by defenders (Ramadhan & Zulkifli, 2024).

Good dribbling technique requires good physical condition because the ability to defend the ball from an opponent when moving quickly is greatly influenced by eye-foot coordination, agility, muscle strength, and speed (Eraslan et al., 2025). Ankle coordination and agility are physical abilities that are considered to influence ball dribbling skills (Andriansyah & Winarno, 2020).

Futsal players who have good coordination will be able to dribble the ball well, but football players who have poor coordination will have difficulty dribbling. The function of coordination is to produce a harmonious, rhythmic, and complex movement pattern (Anam et al., 2018). Coordination is a combination of muscle functions correctly and in balance to create one movement pattern. You can combine movements without tension and execute complex movements smoothly without much energy (Widiastuti, 2015).

Coordination is an element of physical conditions that is relatively difficult to define quickly about other elements of physical conditions and is largely determined by system accuracy (Afrinaldi et al., 2021). Coordination between eyes and feet plays an important role in ball control when dribbling, because the ability to simultaneously observe the movement of the game while controlling the ball with the feet allows players to maintain possession of the ball effectively under opponent pressure (Nurkadri & Kholil, 2021). The coordination aspect is formed from the combination of several different movements into one effective, complete movement pattern (Syahruddin et al., 2023).

Agility and eye-foot coordination are components of physical condition that are important in achieving success in sports. However, it is necessary to research how much agility and eye-foot coordination contribute to the ability to dribble the ball in futsal games. This study wants to know whether there is a relationship between agility and dribbling ability? Is there a relationship between eye-foot coordination and dribbling ability? And is there a simultaneous relationship between agility and eye-foot coordination with dribbling? This study produces more relevant and applicable findings to improve futsal athlete training at the high school level in Indonesia. The sample used in this study is student athletes who are diligent in training and often win.

METHODS

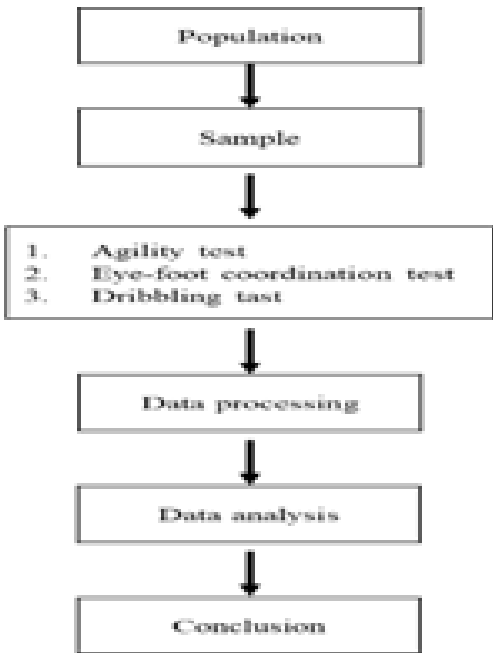

Figure 1. Research steps (Mia, 2015)

This research uses a correlational research design, namely a statistical tool, which can be used to compare the measurement results of two different variables to determine the level of relationship between these variables.

This research was conducted in Caringin Futsal Field, JL. Caringin, RT.005/RW.001, Mustika Sari, Kec. Mustika Jaya, Bekasi City, West Java. The population in this study was all futsal athletes from Dewi Sartika High School, numbering 20 people. Sampling was carried out using a total sampling technique. The instrument in this research uses: 1) Agility test using the Illinois Agility Test, 2) Foot-eye Coordination Test using Soccer wall volley test, and 3) dribbling test using Dribbling Zig Zag.

RESULTS AND DISCUSSION

The results of tests and measurements carried out in the field are research findings collected at the time of collecting test data. Carried out to reveal the truth of the hypothesis that has been proposed. The test and measurement results that have been processed into statistical formulas show the following data description **Table 1.**

Table 1. Description date

	N	Min	Max	Mean	Std. Dev
X1	20	35	71	50.00	10.000
X2	20	32	64	50.00	10.000
AND	20	32	65	50.00	10.001

Before testing the hypothesis, the analysis prerequisites are first tested as follows.

The significance value for eye-foot coordination is 0.153, agility is 0.200, and dribbling is also 0.200. Because all significance values are greater than 0.05, it can be concluded that all data are normally distributed.

The significance value of 0.882 is greater than 0.05, so it can be concluded that the data is homogeneous.

Agility Hypothesis Testing

Table 2. First Hypothesis Test

Correlation	Sig.	t	Rtable	Information
X1 with Y	0.000	6.526	2.110	Accepted

Based on the **Table 2** significance value from the table above, the relationship between agility (X1) with dribbling ability (Y), with Sig value. 0.000 is smaller than 0.05, and the t count of 6.526 is greater than the R table of 2.110, so it can be concluded that the first hypothesis is accepted, which means there is an influence of agility on dribbling ability.

Eye-Foot Coordination Hypothesis Test

Table 3. Second Hypothesis Test

Correlation	Sig	t	Rtable	Information
X2 with Y	0.028	2.409	2.110	Accepted

Based on the **Table 3** significance values from the table above, the relationship between eye-foot coordination (X2) with dribbling ability (Y), with Sig value. 0.028 is smaller than 0.05, and t count 2.409 is greater than R table 2.110, so it can be concluded that the second hypothesis is accepted, which means there is an influence of eye-foot coordination on dribbling ability.

Eye-Foot Coordination Hypothesis Test

Table 4. Third Hypothesis Test

Correlation	Say	F	Ftable	Information
X1 & X2 with Y	0.000	474.324	3.55	Accepted

Based on the **Table 4** significance values from the table above, the relationship between agility and eye-foot coordination (X2), together with dribbling ability (Y), is evaluated with a Sig value. 0.000 is smaller than 0.05, and F count 474.324 is bigger than F table 3.55, so it can be concluded that the third hypothesis is accepted, which means there is an influence between agility and foot-eye coordination simultaneously on dribbling ability.

The R Square value is 0.982, which means that the influence of agility and foot-eye coordination simultaneously on dribbling ability is 98.2%.

The relationship between agility and dribbling ability of Dewi Sartika High School Futsal athletes.

Based on the results of research that has been carried out using statistical tests it shows that there is a significant relationship between agility and the dribbling ability of Dewi Sartika High School futsal athletes. This result is shown based on a multiple correlation test with Sig. 0.000 is smaller than 0.05, and t count 6.526 is greater than R table 2.110, then Ho is rejected and Ha is accepted, and there is significant data between agility (X1) on dribbling ability (Y).

Based on this statement and the results of research that have been carried out, it shows that futsal athletes who have good agility can carry out dribbling movements smoothly, but on the

contrary, a lack of agility means their dribbling ability is not optimal. Thus, the results of this research also show that it is important for every athlete to have and improve agility to improve the dribbling abilities of Dewi Sartika High School futsal athletes.

The relationship between eye-foot coordination and the dribbling ability of Dewi Sartika High School Futsal athletes.

Based on the results of research that has been carried out using statistical tests it shows that there is a significant relationship between eye-foot coordination and the dribbling ability of Dewi Sartika High School futsal athletes. This result was shown based on a multiple correlation test with Sig. 0.028 is smaller than 0.05, and t count 2.409 is greater than R table 2.110, then Ho is rejected and Ha is accepted, and there is significant data between eye-foot coordination (X2) on dribbling ability (Y).

Based on this statement and the results of research that have been carried out, it shows that futsal athletes who have good eye-foot coordination can carry out dribbling movements well, but on the contrary, a lack of coordination means that their dribbling ability is not optimal. Thus, the results of this study also show that eye-foot coordination must be paid attention to and improved by every athlete to improve the dribbling ability of Dewi Sartika High School futsal athletes.

The relationship between agility and eye-foot coordination, and the dribbling ability of Dewi Sartika High School Futsal athletes

The relationship between the two independent variables (X1 and X2) on the dependent variable (Y) can be seen in the value Sig. 0.000 is smaller than 0.05, and F count 474.324 is bigger than F table 3.55, so it can be concluded that the third hypothesis is accepted, which means there is an influence between agility and foot-eye coordination simultaneously on dribbling ability. The coefficient value in the contribution analysis is 98.2%, and the rest is influenced by other factors not studied, such as flexibility, balance, endurance, and psychological factors.

In futsal, dribbling technique is one of the most important techniques. If one of the players does not master it well, they will have difficulty finding space to attack. By mastering the basic techniques of dribbling the ball, a player will be able to provide space for other players, and also provide opportunities to score points by passing opponents and opening up space for shooting (Gunawan et al., 2016). The usefulness of dribbling skills is huge to help the offense to penetrate the opponent's defense. Dribbling is useful for controlling the ball and controlling it until a teammate is free and puts it in a better position (Siregar & Yani, 2023).

The results of the study showed that the futsal athlete of Dewi Sartika High School had a significant correlation between agility and eye-foot coordination and dribbling ability. ased on previous research, agility training has a significant influence, namely increasing abilities by 6.34% compared to before the training was carried out (Khilmi & Sudarmono, 2023). To improve the ability to dribble the ball, it is necessary to be given agility training (Asfanza et al., 2020).

The feet have an important role in dribbling, so good coordination between the eyes and feet is required. When dribbling, the player receives visual information which is then processed into motor movements. If this process goes well, the dribbling movement will be more coordinated and flexible. Therefore, eye-foot coordination has a significant relationship with dribbling ability (Sudirman et al., 2022). A person's ability to be able to string together eye movements when receiving stimuli and foot movements into one pattern that can be put together. However, a player has good eye-foot coordination, then he can perform dribbling techniques well (Achmad Karim & Ikadarny, 2023).

Based on the results of the discussion, agility and eye-foot coordination need to be trained regularly because both play an important role in improving dribbling skills.

CONCLUSION

Based on the results of data analysis, descriptions, testing research results, and discussion, it can be concluded that: 1) There is a significant relationship between agility and the dribbling ability of Dewi Sartika High School futsal athletes. In a futsal game with limited movement space and high intensity, agility helps players maintain control of the ball while maneuvering and allows them to move quickly and change direction abruptly to avoid opponents' obstacles. The higher a player's agility, the easier it will be for him to perform fast and effective dribbling moves. 2) There is a significant relationship between eye-foot coordination and the dribbling ability of Dewi Sartika High School futsal athletes. In dribbling, players must be able to control the ball with their feet while looking at the direction of their opponent's movement, free space, and the position of their teammates. In this process, the visual system must cooperate with the motor movements of the legs. When eye and foot coordination goes

well, dribbling movements become smoother, on target, and less easily lost the ball. 3) There is a significant relationship between agility and eye-foot coordination, simultaneously with the dribbling ability of Dewi Sartika High School futsal athletes. When agility and eye-foot coordination are combined, the effect on dribbling ability becomes stronger. Agility assists players in aspects of changing direction and speed, while eye-foot coordination keeps ball control stable and accurate during movement. The two complement each other: agility without coordination will result in fast but uncontrolled movements, while coordination without agility will make the player slow and easily pressured by opponents.

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