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Differences In Agility Training And Speed Training On Football Dribbling Ability At Ssb Duminanga Village

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Abstract

This study aims to determine the differences in the effect of speed training and agility training on football dribbling ability among players of SSB Banteng Muda Duminanga. This research employed a quasi-experimental method with a Two Group Pretest-Posttest Design. The research sample consisted of 14 athletes divided into two groups: the speed training group and the agility training group, each comprising 7 participants. Data were collected using a dribbling test administered before (pre-test) and after (post-test) the intervention. Data analysis was conducted through normality tests and t-tests (paired sample t-test and independent sample t-test). The results indicate that both training methods produced a significant effect on the improvement of dribbling ability. The t-value for the speed training group was 2.978948, while the agility training group obtained a t-value of 2.475437. These findings suggest that speed training exerts a more dominant influence than agility training in enhancing football dribbling ability. It can therefore be concluded that, although both training methods are effective, speed training is more strongly recommended for improving players' dribbling performance.

Keywords: agility, dribbling, football, speed

INTRODUCTION

Football is a sport that demands the optimal combination of technical skills, tactical

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awareness, and physical fitness. In modern football, which is characterized by its fast and dynamic nature, players are required to make quick decisions and execute explosive movements to withstand opponents' pressure. Consequently, physical conditioning constitutes one of the primary determinants of a player's performance on the field.

One of the most fundamental technical skills in football is dribbling ability. Dribbling is not merely about ball possession; it also encompasses the player's capacity to beat opponents, create space, and support the team's attacking patterns. In practice, dribbling ability is significantly influenced by physical conditioning components, particularly speed and agility.

Speed refers to a player's ability to move or change position in the shortest possible time, whether during sprinting, chasing the ball, or initiating a counterattack. Agility, on the other hand, is the capacity to change the direction of movement rapidly and precisely without losing balance. Both components play a crucial role in supporting the effectiveness of dribbling, particularly in game situations that require sudden directional changes and rapid movement to evade opponents.

Nevertheless, in practical training settings, the development of speed and agility is often conducted separately, without adequately considering the specific contribution of each component to technical skills, particularly dribbling. Training programs implemented by coaches, especially at the youth football school (SSB) level, tend to be general and not yet grounded in a scientific approach that empirically tests the effectiveness of specific training methods.

Based on observations conducted at SSB Banteng Muda Duminanga, it was found that players' dribbling ability remains suboptimal. This was evidenced by a lack of speed during ball-carrying movements and difficulties in performing directional changes when under pressure from opponents. These conditions suggest that physical components, particularly speed and agility, have not yet been fully developed.

In light of the foregoing, a research gap exists: there is insufficient empirical clarity regarding which type of training is more effective — speed training or agility training — in improving football players' dribbling ability. Therefore, a study that empirically examines the differential effects of these two training types is warranted, with the goal of contributing to the development of sports coaching science and the design of more targeted, effective, and evidence-based training programs.

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THEORETICAL FRAMEWORK

Definition of Football

Football is a team sport played by two teams, each consisting of 11 players, with the objective of scoring goals against the opposing team while defending their own goal. The game is primarily played using the feet as the main instrument for kicking, passing, and dribbling the ball (Purwanto, Burhan et al., 2024). In agreement with this view, Irianto (Ritonga et al., 2022) defines football as a game in which players compete to kick a ball, with the aim of scoring as many goals as possible into the opponent's net.

Based on these expert views, it can be concluded that football is a team sport played by two teams whose primary objective is to score goals against the opponent while protecting their own goal. The game is played on a grass field with a ball, predominantly using the feet, and involves various player positions, each with specific roles and responsibilities. Football has also become one of the most popular sports globally, as it can be played by individuals of all age groups and social backgrounds.

Definition of Dribbling

Dribbling is a fundamental technique in football used to carry the ball from one position to another while maintaining possession. Sarumpaet (Susilawati & Esser, 2022) explains that dribbling is intended to move the ball during gameplay situations, while Budian and Sin (Basrizal et al., 2020) state that dribbling is used to bypass opponents and create attacking opportunities.

According to Luxbacher (2012, Neliyanti, 2025), dribbling enables players to maintain ball control and surpass opponents quickly and accurately. Critical factors for successful dribbling include speed, balance, agility, body control, and endurance. The fundamental principles of dribbling include: the ball must remain under control at all times; dribbling should be performed in spaces that permit movement; both feet should be used alternately; the player's gaze should not be fixed solely on the ball; and body posture should be balanced and inclined forward (Wardhana, 2022).

Based on these expert perspectives, it can be concluded that dribbling is one of the most critical fundamental techniques in football, as it serves to carry, control, and maintain ball possession during dynamic movement on the field. The success of dribbling is influenced by ball control ability, speed, agility, balance, bodily coordination, and sound decision-making.

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Speed Theory

Speed is defined as a person's ability to perform movements in the shortest possible time (Khalid & Rustiawan, 2020). In sports contexts, speed pertains to the capacity of the nervous system and muscles to respond to stimuli and produce rapid, efficient movements (Wirama et al., 2020). According to Bomba (Fenanlampir & Faruq, 2021), speed results from a combination of reaction time, movement frequency, and distance-covering velocity.

Speed constitutes a physical conditioning component that plays a significant role in the effectiveness of dribbling and the creation of attacking opportunities in football. Players with highspeed levels tend to be more capable of bypassing opponents rapidly and creating advantageous playing spaces for their team during attacking phases (Kaisar & Gazali, 2025). In football, speed encompasses: reaction speed, acceleration speed, maximal speed, and ball-carrying speed.

Based on these expert views, it can be concluded that speed is the ability of an individual to perform movements or change position in the shortest possible time through the rapid, precise, and efficient cooperation of the nervous and muscular systems. In the context of football, speed represents a critical physical conditioning component, as it directly influences dribbling effectiveness, the ability to bypass opponents, the creation of goal-scoring opportunities, and the execution of transitions from attack to defense.

Agility Theory

Agility is defined as the ability to change direction and body position rapidly and accurately without losing balance (Gambetta, 2001). According to Mappaompo (2011, Akmal, 2024), agility refers to a form of movement that requires an individual or player to move quickly and change direction with deftness, without losing balance or spatial awareness of the body's position. Agility is further defined as the ability of an individual to move and change direction rapidly and accurately without losing equilibrium (Rusli & Jumareng, 2025).

In football, agility is critically important during dribbling, evasion of opponents, and rapid directional changes. Ismariyati (Prayoga, 2022) states that agility is associated with the ability for movement coordination, situational responsiveness, and body control. Factors that influence agility include muscular strength, motor coordination, flexibility, and decision-making capacity (Sheppard & Young, 2006).

Based on these expert perspectives, it can be concluded that agility is the capacity of an individual to change direction and body position rapidly, precisely, and effectively without losing

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balance. In the context of football, agility constitutes a vital physical component, as it assists players in dribbling, evading opponents, and executing rapid directional changes in accordance with the dynamics of the game.

RESEARCH METHODOLOGY

This study employed a quasi-experimental research design aimed at examining the differential effects of two types of training on football dribbling ability. The design utilized was the Two Group Pretest-Posttest Design, involving two treatment groups: Group 1 (Experiment A), which received agility training, and Group 2 (Experiment B), which received speed training. Both groups were assessed for dribbling ability prior to (pre-test) and following (post-test) the intervention.

The research was conducted at the Duminanga Village Field, involving the SSB Banteng Muda Duminanga club. The study population comprised 14 athletes from SSB Banteng Muda FC. The entire population served as the sample, subsequently divided into two groups of seven athletes each: the agility training group (7 athletes) and the speed training group (7 athletes).

The data collection instrument used was the dribbling test developed by Nurhasan (2001). The testee stands behind the starting line with the ball under their control; upon the start signal, they dribble the ball to the left, weaving around obstacles in a zigzag pattern in the prescribed direction until crossing the finish line. The score is determined by the elapsed time from the start signal to the moment the athlete crosses the finish line.

Data analysis was conducted through a normality test using the Lilliefors test (Kolmogorov-Smirnov for n = 14) and a paired sample t-test to examine differences between pre-test and post-test values within each group. To assess differences between the two groups, an independent sample t-test was applied. Data are considered normally distributed when the calculated L-value is smaller than the L-table value.

RESULTS AND DISCUSSION

Research Results

This study utilized an experimental method with a Pre-test and Post-test design. Prior to the training intervention, both groups underwent an initial test (pre-test) to establish their baseline dribbling ability. Following 16 training sessions, a final test (post-test) was administered to determine the improvement in football dribbling ability.

Frequency Distribution of Speed Pre-test and Post-test

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Table 1. Frequency Distribution of Speed Pre-test

No.	Class Interval	Absolute Frequency	Relative Frequency (%)
1	164.25 – 168.25	2	28.57
2	168.25 – 172.25	1	14.29
3	172.25 – 176.25	2	28.57
4	176.25 – 180.25	2	28.57
	Total	7	100

Based on Table 1, the speed pre-test frequency distribution groups data into four class intervals with seven samples. The highest frequencies occur in three class intervals (164.25–168.25; 172.25–176.25; and 176.25–180.25), each with two participants (28.57%). The lowest frequency appears in the interval 168.25–172.25 with one participant (14.29%). This data distribution indicates that participants' dribbling speed ability prior to the intervention was varied.

Table 2. Frequency Distribution of Speed Post-test

No.	Class Interval	Absolute Frequency	Relative Frequency (%)
1	141.30 – 145.30	3	42.86
2	145.30 – 149.30	2	28.57
3	149.30 – 153.30	1	14.29
4	153.30 – 157.30	1	14.29
	Total	7	100

Based on Table 2, the majority of participants fall within the interval 141.30–145.30, which has the highest frequency (42.86%), indicating an improvement in dribbling speed following the intervention. The concentration of data toward lower values (faster times) demonstrates superior

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post-test performance relative to the pre-test.

Frequency Distribution of Agility Pre-test and Post-test

Table 3. Frequency Distribution of Agility Pre-test

No.	Class Interval	Absolute Frequency	Relative Frequency (%)
1	52.52 – 59.59	4	57.14
2	59.59 – 66.59	1	14.29
3	66.59 – 73.59	1	14.29
4	73.59 – 80.59	1	14.29
	Total	7	100

Based on Table 3, the agility pre-test frequency distribution shows that the majority of participants (57.14%) fall within the lowest class interval (52.52–59.59), while 14.29% are distributed across each of the higher intervals. This indicates that participants' baseline agility ability tended to be concentrated within a specific cluster with some variation.

Table 4. Frequency Distribution of Agility Post-test

No.	Class Interval	Absolute Frequency	Relative Frequency (%)
1	24.51 – 31.51	2	28.57
2	31.51 – 38.51	1	14.29
3	38.51 – 45.51	2	28.57
4	45.51 – 52.51	2	28.57
	Total	7	100

Based on Table 4, the agility post-test results reveal a more evenly distributed pattern

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across class intervals. Compared with the pre-test, a notable tendency toward lower time values is observed, indicating improvements in agility performance. This finding suggests that the training intervention had a positive impact on participants' agility ability.

Normality Test

Table 5. Normality Test Results

Variable	L Calculated	L Table	Description
Speed Post-test	0.01226	0.319	Normal
Agility Post-test	0.03951	0.319	Normal

Based on Table 5, the normality test results show that the speed post-test variable yielded an L-calculated value of 0.01226, which is less than the L-table value of 0.319 (0.01226 < 0.319); thus, the data are normally distributed. The agility post-test variable produced an L-calculated value of 0.03951, also less than the L-table value of 0.319 (0.03951 < 0.319); thus, the data are also normally distributed. Accordingly, the research data meet the requirements for continued parametric statistical analysis.

Paired Sample t-Test

Table 6. Paired Sample t-Test Results for Speed and Agility Training

No.	Training Group	t Calculated	Conclusion
1	Speed Training Group	2.978948	t-value for speed is greater than t-value for agility
2	Agility Training Group	2.475437	t-value for agility is less than t-value for speed

Based on Table 6, the t-calculated value for the speed training group (2.978948) is greater than that of the agility training group (2.475437). This indicates that the magnitude of change, or the influence exerted on the speed variable, is stronger than that of agility with respect to

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dribbling ability.

Independent Sample t-Test

Table 7. Independent Sample t-Test Results

No.	Best Group	t Calculated	Description
1	Speed Training Group	2.978948	Speed training is more effective in improving football dribbling ability

When compared against the t-table value (α = 0.05; df = 6) of ±2.447, the t-calculated value for the speed group (2.978948) > t-table (2.447), and the t-calculated value for the agility group (2.475437) > t-table (2.447). This indicates that both variables exert a significant effect on the improvement of football dribbling ability. However, given that the t-calculated value for speed training is higher than that of agility training, it can be interpreted that speed training exerts a stronger and more effective influence than agility training.

DISCUSSION

The research findings confirm that speed training produces a significant effect on the enhancement of football dribbling ability. This is evidenced by a comparison of the pre-test and post-test results in the speed training group. Following the speed training intervention, post-test results showed a distributional shift toward the lower interval (141.30–145.30), which recorded the highest frequency (42.86%). This distributional shift indicates a reduction in completion time, which is synonymous with improved dribbling ability. Physiologically, speed training enhances acceleration capacity and movement speed — attributes that are critically required when executing fast dribbling, particularly when bypassing opponents or executing counterattacks.

Agility training likewise demonstrated a positive influence on dribbling ability improvement. In the pre-test, the majority of participants were concentrated in the interval 52.52–59.59, with a frequency of 57.14%. Following the agility training intervention, post-test results showed a more evenly distributed pattern across several class intervals. This shift indicates an improvement in agility capacity, which subsequently impacts dribbling ability — particularly in

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terms of controlling the ball and executing rapid directional changes without losing balance.

Based on the t-test analysis, the t-calculated value for the speed training group was 2.978948, while the agility training group yielded a value of 2.475437. These values indicate that the speed training group had a higher t-calculated value than the agility training group; therefore, the effect of speed training on the enhancement of dribbling ability is more dominant. This finding is consistent with Sugiarto (2020), who demonstrated that sprint training significantly influences dribbling ability, as well as Ramadhan and Yuliana (2022), who concluded that there are differential effects between speed training and agility training on dribbling performance.

Theoretically, speed is the primary physical component in dribbling, as it is directly related to a player's capacity to carry the ball rapidly. Agility plays a supportive role in facilitating directional changes and maintaining balance during ball control. Although both components are important, speed contributes more substantially to dribbling effectiveness in actual game situations, such as counterattacks and penetrations into the opponent's defensive area. These findings are further corroborated by Abdullah and Sari (2023), who reported that both speed and agility positively contribute to dribbling performance in futsal athletes, as well as by Hidayat and Rahmadani (2023), who confirmed a significant relationship between running speed, agility, and dribbling ability in football players.

CONCLUSION

Based on the results and discussion of the research on the effects of speed training and agility training on football dribbling ability among players at SSB Banteng Muda Duminanga, the following conclusions are drawn:

(1) Speed training produces a significant effect on the improvement of dribbling ability, as evidenced by the reduction in dribbling completion time from pre-test to post-test and the distributional shift toward improved performance;

(2) Agility training also contributes to the improvement of dribbling ability, though the magnitude of improvement is not as large as that produced by speed training;

(3) There is a differential effect between speed training and agility training, with speed training exerting a more dominant influence, as confirmed by the t-test results (t-calculated for speed: 2.978948 > t-calculated for agility: 2.475437);

(4) Overall, both types of training are effective in improving dribbling ability; however, speed training is more effective and is recommended as a priority in football training programs, particularly for youth players at the SSB level.

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These findings have significant practical implications for football coaches, particularly at the SSB level. Practitioners are encouraged to design training programs that prioritize speed development as the primary physical conditioning approach for enhancing dribbling performance, while also incorporating agility exercises as complementary training elements to ensure well-rounded physical development.

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