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The Role Of Physical Education Through football In Students of SMP Negeri 2 Ampek Nagari

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Abstract

Dribbling is a fundamental technical skill in soccer that determines a player's ability to control the ball and bypass opponents. At SMP Negeri 2 Ampek Nagari, students participating in extracurricular soccer activities have shown relatively low dribbling ability, highlighting the need for effective training methods. This study aimed to examine the effects of two training types Ladder Drill and Ball Feeling and the role of agility in improving dribbling skills. A pseudo-experimental method with a 2 x 2 factorial design was applied, involving 40 students divided into four groups based on training type and agility level (fast or slow). Data was collected through pre- and post-tests of dribbling and agility across 16 training sessions. The results, analyzed using two-way ANOVA at a 0.05 significance level, revealed a significant effect of both training type and agility level on dribbling improvement ($F = 8.417$; $p < 0.05$), with the interaction contributing 41.2% of the variation. The group with high agility who received Ball Feeling training showed the greatest improvement (mean = 57.80), followed by the low-agility Ball Feeling group (mean = 54.90). In contrast, those trained with Ladder Drill showed lower improvement 42.70 for high agility and 45.30 for low agility. The Tukey test confirmed significant differences between training methods at both agility levels. The study concludes that Ball Feeling training is more effective than Ladder Drill, especially when paired with good agility. Coaches are recommended to emphasize Ball Feeling exercises to optimize young players' dribbling development.

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INTRODUCTION

Soccer is a dynamic and complex sport that requires players to master various technical skills in order to perform effectively during the game (Arwandi & Firdaus, 2021; Daulay & Azmi, 2021). Among these skills, dribbling plays a crucial role in determining a player's ability to control the ball, evade opponents, and create scoring opportunities. In the context of youth soccer development, especially at the school level, enhancing dribbling skills is vital for laying the foundation of technical competence in young athletes (Bahtra & Annas, 2020; Hardinata et al., 2023). However, despite its importance, the dribbling ability of students involved in extracurricular soccer activities at SMP Negeri 2 Ampek Nagari is still relatively low, which highlights the need for structured and effective training programs.

The success of technical training in Soccer is not only influenced by the type of exercise used but also by the physical characteristics of the players (Duncan et al., 2022; Wilson et al., 2020). Agility, defined as the ability to move and change direction quickly while maintaining balance and control, is one of the key physical components that supports effective dribbling. Players with high agility are generally better able to execute rapid directional changes, which are essential in dribbling maneuvers. Therefore, selecting training methods that enhance dribbling in relation to a player's agility level could optimize performance outcomes (Iuliano et al., 2023; Leal et al., 2022).

Several training methods have been proposed to improve soccer-specific skills. Two commonly used approaches include the Ladder Drill and Ball Feeling exercises. Ladder Drill training is designed to enhance footwork, coordination, and quickness, thereby supporting the mechanical efficiency needed in dribbling (Khaladi et al., 2025; Suryadi et al., 2023). On the other hand, Ball Feeling training emphasizes close control, ball manipulation, and touch sensitivity skills directly related to effective dribbling in game situations. While both methods offer benefits, their comparative effectiveness, especially in combination with individual agility levels, requires empirical validation.

To address this gap, this study investigates the combined influence of training method and agility on the dribbling performance of soccer players. A factorial 2x2 design was employed, categorizing participants based on the type of training received either Ladder Drill or Ball Feeling and their level of agility (high or low). This design enables the analysis of not only the main effects of training and agility but also their interaction in contributing to dribbling improvement. The outcomes of such research can offer valuable insights into the development of more personalized and effective training regimens for youth soccer players (Gidu et al., 2022; Qowiyyuridho & Tomoliyus, 2021).

Ultimately, this study aims to provide evidence-based recommendations for coaches and educators involved in youth soccer training. By identifying which combination of training type and agility level yields the greatest improvements in dribbling performance, the findings are expected to contribute to the optimization of training programs. This is especially important in school settings, where training time and resources are often limited, and maximizing the impact of each session is critical for athlete development.

METHODS

The research employs a quasi-experimental method using a 2x2 factorial design to examine the effects of Ladder Drill and Ball Feeling training, along with agility levels, on the dribbling skills

of football players at SMP Negeri 2 Ampek Nagari. The independent variables are the two training methods, while the dependent variable is dribbling ability. Agility functions as a moderating variable, categorized into high and low levels. A total of 40 students, selected through purposive sampling based on specific criteria, were divided evenly into four groups using ordinal matching to ensure balanced initial capabilities before undergoing 16 training sessions.

Data were collected through a standardized dribbling test and agility assessment (Illinois Agility T-Test), conducted both before (pre-test) and after (post-test) the intervention. The dribbling test measured the time taken to complete a zigzag cone course, while agility was assessed through a specific movement pattern involving directional changes. Data analysis involved descriptive and inferential statistics, including normality and homogeneity tests, followed by two-way ANOVA and Tukey's post hoc test if interactions were found. The study took place between January and April 2025 on a designated football field, with a structured research schedule guiding each step from participant selection to final data analysis.

RESULT AND DISCUSSION

Table 1. presents descriptive statistics of dribbling ability measurements among soccer players at SMP Negeri 2 Ampek Nagari, categorized by agility level (fast and slow) and training method (Ladder Drill and Ball Feeling).

Table 1. Descriptive Statistics

Agility of Players	Training Method	N	Mean	Std. Deviation
Fast	Ladder Drill (A1)	10	42.70	8.125
Fast	Ball Feeling (A2)	10	57.80	5.138
Total Fast	-	20	50.25	10.187
Slow	Ladder Drill (A1)	10	45.30	11.461
Slow	Ball Feeling (A2)	10	54.90	5.466
Total Slow	-	20	50.10	10.031
Overall Total	-	40	50.18	9.979

This table illustrates that players with fast agility who followed the Ball Feeling training had the highest dribbling ability average (57.80), whereas those with fast agility who followed Ladder Drill had the lowest average (42.70). Similar trends were observed for players with slow agility, with those in the Ball Feeling group recording higher dribbling averages (54.90) compared to the Ladder Drill group (45.30). Overall, the average dribbling ability across all participants was approximately 50.18, with a standard deviation of 9.979, indicating a wide variation in outcomes among players.

Table 2. Normality Test (Kolmogorov-Smirnov Test)

Group	N	K-S Statistic	Asymp. Sig. (2-tailed)	Normally Distributed
Ladder Drill (Total)	20	0.176	0.106	Yes
Ball Feeling (Total)	20	0.154	0.200	Yes
Ladder Drill – Fast Agility	10	0.249	0.081	Yes
Ball Feeling – Fast Agility	10	0.199	0.200	Yes
Ladder Drill – Slow Agility	10	0.153	0.200	Yes
Ball Feeling – Slow Agility	10	0.213	0.200	Yes

Table 2. displays the results of the normality test (Kolmogorov-Smirnov test) for dribbling ability data, confirming normal distribution across all Ladder Drill and Ball Feeling training groups, both for fast and slow agility categories.

Table 3. Homogeneity of Variance Test (Levene's Test)

Method Used	Levene Statistic	df1	df2	Sig.
Based on Mean	1.627	3	36	0.200
Based on Median	1.553	3	36	0.218
Based on Median Adjusted	1.553	3	26.444	0.224
Based on Trimmed Mean	1.718	3	36	0.181

Table 3 presents the results of the Levene's test for homogeneity of variances, indicating non-significant p-values (> 0.05) across all test methods. This suggests homogeneous variances among groups, meeting the assumptions necessary for ANOVA analysis.

DISCUSSION

The study revealed that both Ladder Drill and Ball Feeling exercises significantly impact the improvement of dribbling skills among soccer players at SMP Negeri 2 Ampek Nagari, with Ball Feeling proving more effective. While Ladder Drill focuses on enhancing agility, foot coordination, and speed elements crucial for movement efficiency its lack of direct engagement with ball control limits its impact on dribbling. In contrast, Ball Feeling combines physical and technical components, training players in touch, control, and ball manipulation, which directly contributes to better dribbling performance (Barbon Junior et al., 2022; Brink et al., 2023).

The statistical analysis supported the superior effectiveness of Ball Feeling, with players in this group achieving higher dribbling scores and lower standard deviations compared to those in the Ladder Drill group. Moreover, players with fast agility who underwent Ball Feeling training showed the highest improvements, indicating that this method maximizes the potential of players with strong physical attributes by refining their technical skills. Ball Feeling also showed a significant impact on players with slower agility, highlighting its versatility and adaptability for different physical capabilities (Marsuna, 2024; Padrón-Cabo et al., 2020).

Interestingly, the level of agility alone (fast or slow) did not significantly affect dribbling ability unless combined with the appropriate training method. This suggests that while agility is a supportive factor, the type of training particularly those involving direct ball handling plays a more decisive role in developing dribbling skills. Therefore, training programs should not rely solely on physical attributes like agility but must also include techniques focused on ball control (Irfan & Candra, 2023; Palmer et al., 2022).

The interaction between training type and agility level proved statistically significant, showing that the effectiveness of a training method depends on the player's physical characteristics. Ball Feeling consistently provided better results across agility levels, making it a recommended method for soccer training in schools. Coaches are encouraged to adopt individualized training plans that combine agility and technical drills, particularly Ball Feeling, to ensure optimal development of players' dribbling abilities

CONCLUSIONS

This study concludes that the type of training and the level of agility significantly influence the improvement of dribbling ability in junior high school soccer players. Specifically, Ball Feeling training proved to be more effective than Ladder Drill training, particularly for players with a high level of agility. The interaction between training method and agility level suggests that combining the right training with appropriate physical attributes can maximize skill development. Therefore,

coaches are encouraged to prioritize Ball Feeling exercises, especially for agile players, to enhance dribbling performance in youth soccer training programs.

CONFLICTS OF INTEREST STATEMENT

Regarding this study, the author declares that there is no conflict of interest.

AUTHOR CONTRIBUTIONS

Study concept and design: Dian Al Hakki. Acquisition of data: Wilda Welis. Analysis and interpretation of data: Roma Irawan. Drafting the manuscript: Dian Al Hakki. Critical revision of the manuscript for important intellectual content: Ridho Bahtra. Statistical analysis: Dian Al Hakki.

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