COMPETITOR:
JURNAL PENDIDIKAN KEPELATIHAN OLAHRAGA
e-ISSN: 2657-0734 & p-ISSN: 2085-5389 || Volume 17, Number 3, 2025 || P.2295-2301

The Effect of Ladder Drill Training On The Agility of Rokan Hulu Academy Futsal Team Players

Muarif Arha Purtra[1A-E*], Lolia Maurizal[2B-D], Hadi Sahputra Nasution[3B-D]

[1,2,3] Universitas Pasir Pengaraian, Riau, Indonesia

muarifarhasputra@upp.ac.id[1*], loliammanurizal@upp.ac.id[2], hadisergio@gmail.com[3]

ABSTRACT

This research was based on observations made by the researcher, which showed that many players still lack physical attributes, particularly agility. The researcher assumed that players had become less motivated to train due to irregular training schedules and the limited number of competitive events, leading to a decrease in enthusiasm. This study aims to determine the effect of ladder drill training on the agility of players in the Rokan Hulu Futsal Academy team. The study employed a quasi-experimental method with a One-Group Pretest-Posttest Design. The population in this study consisted of 15 players from the Rokan Hulu Futsal Academy. The sampling technique used was total sampling, in which the entire population was selected as the sample. The research design involved both a pre-test and a post-test. The instrument used to measure agility was the Illinois Agility Test. Data analysis and hypothesis testing were conducted using the independent t-test with a significance level of $\alpha = 0.05$. The results indicated that ladder drill training had a significant effect on the agility of the Rokan Hulu Futsal Academy players. The hypothesis testing showed that the calculated t-value ($t_h = 5.549$) was greater than the critical t-value ($t_t = 1.753$), which means that Ho is rejected and Ha is accepted. Therefore, it can be concluded that ladder drill training significantly improves the agility of players in the Rokan Hulu Futsal Academy team.

ARTICLE HISTORY
Received: 2025/07/25
Accepted: 2025/07/31
Published: 2025/10/08

KEYWORDS
Training;
Ladder Drill;
Agility;
Futsal.

AUTHORS' CONTRIBUTION
A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
E. Obtaining funding

Cites this Article : Purtra, Muarif Arha; Maurizal, Lolia; Nasution, Hadi Sahputra. (2025). The Effect of Ladder Drill Training On The Agility of Rokan Hulu Academy Futsal Team Players. **Competitor: Jurnal Pendidikan Kepelatihan Olahraga**. 17 (3), p. 2295-2301

INTRODUCTION

Sport is an activity that trains individuals to develop sportsmanship, namely, learning to accept failure and grow in resilience. Sport can also improve the body's immunity. Furthermore, sports also include recreational and competitive sports. Achievement is tangible evidence of a person's participation in sports. Continuous training can determine a person's quality for future achievements. Today's sport is driven by achievement, or achieving good results, which is a characteristic of competitive sports. According to the characteristics of competitive sports, Law Number 3 of 2005, Article 1, Paragraph 13, Rokan Hulu futsal will fall into this category in 2025 because the

Muarif Arha Purtra[1A-E*], Lolia Maurizal[2B-D], Hadi Sahputra Nasution[3B-D]
muarifarhasputra@upp.ac.id[1*]

MAN 1 Rokan Hulu Futsal Team advanced to the knockout round of the Super Student League. One of the goals of competitive sports is to improve performance in sports, and one of the sports discussed in this study is futsal. The researcher's preliminary observations during training activities indicate that physical conditions, such as agility, are still not as expected.

Prakasa et al. (2024: 30) stated that futsal is currently a very popular sport in Indonesia. The rules, which are not very different from those of soccer, make futsal more easily accepted and understood by all ages. The main goal in playing futsal is to score as many goals as possible while conceding as few as possible. According to Sandi in Aulia et al. (2024: 731), futsal is played by only five players with a goalkeeper, and the field is smaller than a soccer field, namely: 38-42 meters long, 15-25 meters wide. The playing time is 2 x 20 minutes. Based on theoretical studies put forward by several experts, researchers conclude that futsal is an appropriate sport for anyone and an alternative for soccer fans experiencing unfavourable weather outdoors.

Agility is one of the 10 components of physical condition required in almost all sports. In dribbling the ball, besides having to be fast, you also have to have agility to be able to deceive the opponent and pass him and finally get the opportunity to shoot. Futsal players need speed and agility. Agility is very important for types of sports that require high adaptability to changing situations in the game, one of which is Futsal. According to 12 Ahmad (2018: 182), Agility is the ability to change the direction and position of the body quickly and precisely while moving without losing balance and awareness of one's body position. Widiastuti (2017: 137) Agility is the ability to change the direction or position of the body quickly, which is done together with other movements. Cahayani, et al (2023: 28) Agility is a person's ability to move from one point to another in the shortest possible time.

Manurizal and Armade (2019:24) define training as the process of improving exercise through a scientific approach, specifically the principles of regular and planned training, thereby enhancing an athlete's ability and readiness through repeated repetition. Harsono (2017:50) defines training as a systematic process of practising or working repeatedly, with increasing training or workload. Based on the explanation above, it can be concluded that training is a systematic process carried out repeatedly, with increasing training or workload, leading to the development of human physiological and psychological characteristics to achieve predetermined goals.

Ladder Drill is an exercise using equipment such as a ladder to train a person's agility. The goal is to improve agility, coordination, balance, hip flexibility, and speed. Santoso et al. (2023:414) define ladder drill as a form of footwork training with variations that uses a ladder on the floor or ground that requires players to jump and move quickly and precisely from side to side. Players have increased body movement speed, muscle explosiveness, improved balance, body movement coordination, and reaction time, so players can change direction more quickly, even at top speed (sprint). These are the benefits of Ladder Drill training. Armanzah & Nurrochmah in Haryono, et al. (2021: 483) Ladder drill or training ladder is a tool for training agility in the form of a ladder placed on

the ground or field surface that functions to train leg muscles. Permatasari in Hasibuan, et al. (2023: 168) Ladder drill training is a physical training model that uses a tool resembling a flexible step, measuring approximately 50 x 520 cm and functions to train agility and foot speed.

When researchers conducted an interview, Mr Syukri, the Executive Director of the club, stated that currently, the improvement in playing ability of the Rokan Hulu Futsal Academy players is still below average. Based on the results of the researcher's observations of the Academy Futsal players, the researcher assumes that the players are starting to get bored with training because the training schedule is no longer scheduled, and the lack of events that are running makes the players lazy to train. Furthermore, several factors were found that made the researcher feel like conducting research on this Academy Futsal Team, including internal and external factors. The internal factors are physical condition, gender, age, and genetic factors inherited from parents. Even body posture and innate talent factors influence agility. While the external factors are (1) the physical elements of the Rokan Hulu Academy Futsal Team players,

Based on the researcher's observations, so far, the training that is often done is only techniques and games. Training that leads to physical training, especially agility, is still less done. (2) The Rokan Hulu Futsal Academy team players look less agile, this is seen when in making movements with the ball such as moving right and left, front and back, the movements look slow, then when the player changes position, to get the ball from the opponent also looks slow, so it is difficult to pass, then when there is a one-on-one ball fight because of the slow movement, so the ball is often taken by the opponent, so there needs to be a solution to improve agility. (3) There is no training program to improve agility, such as: 360-Degree Drill, Ladder Drill, Shuttle Run, Hourglass Drill and Zig-zag Run, so it becomes an obstacle to improving the physical condition of players and player performance during matches. (4) The researcher saw a lack of motivation in players to become professional players. This is seen because there are still 6 players who are not serious when participating in training sessions. (6) Lack of discipline of the players in following the exercises that have been taught. In relation to the many problems that researchers have encountered, researchers are interested in conducting in-depth research on Ladder Drill Exercises, so that accurate data and information can be obtained, and to find solutions or ways to solve the problem of whether this exercise can affect the Agility of the Rokan Hulu Academy Futsal Team Players.

METHODS

The method used in this study was quasi-experimental. The purpose of the experimental method is to determine the effect of certain treatments on others under controlled conditions. The research design used in this study was a "One-Group Pretest-Posttest Design." Sugiyono (2018: 74) states that in this design, observations are conducted twice: before and after the experiment. The observation made before the

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muarifarhasputra@upp.ac.id[1*]

experiment (O1) is called the pre-test score, and the observation after the experiment (O2) is called the post-test score.

The researcher experimented to determine the effect of the variables studied. The research variables consist of independent variables and dependent variables. The independent variable in this study was Ladder Drill (as the exercise or treatment), while the dependent variable was Agility as the pre-test and post-test. Experimental methods require training (treatment), and in this case, the factor being tested was the Ladder Drill. The technique used in this study was total sampling. Therefore, the sample size was 15 participants.

The research instrument used for data collection in this study was a measurement test. Data collection in this study used a test and measurement method to measure the agility of the Rokan Hulu Academy Futsal Team players. The Illinois Agility Test was used to measure player agility (Dawes and Roozen in Purwandi, 2017: 8-9).

RESULTS AND DISCUSSION

Result

The normality of this research data was tested using the Lilliefors test, with a significance level of $\alpha = 0.05$ used to determine whether a data distribution is normal. In accordance with the hypothesis stated above, the criterion used is to reject the null hypothesis. If the L-observation value is greater than the L-table, it indicates that the population is not normally distributed. Conversely, the null hypothesis is accepted if the L-observation value is less than the L-table, indicating that the population is normally distributed. The results of the normality test analysis for each variable are presented in the table below.

Table 1.
Summary of Normality Test Analysis

No	Data Variables	N	Tes	$L_{observation}$	L_{table}	Information
1	Ladder Drill	15	*Pre-test*	0,1714	0,2200	Normal
			Post-test	0,1394	0,2200	Normal

Based on Table 1 above, the summary of the results of the normality test analysis of the Ladder Drill Exercise group at a significance level of 0.05 was obtained in the initial test Observation 0.1714 < Ltable 0.2200, then in the final test Observation 0.1714 < Ltable 0.2200. Thus, it can be concluded that the data from the variables above are normally distributed.

Homogeneity of Variance Test

This study used a homogeneity of variance test by examining pre-test and post-test data. The homogeneity test aims to determine whether the data obtained are homogeneous. The F-test for homogeneity of variance yielded F-count < from F-table, thus indicating that both variances are homogeneous. A summary of the homogeneity of variance test is presented in Table 2.

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muarifarhasputra@upp.ac.id[1*]

Table 2.
Summary of the Homogeneity of Variance Analysis

Data Variables	Varians	N	F_{Value}	F_{table}	information
Post-Test	1,97	15	0,33	2,48	Homogeneous
Pre-test	5,92				

Based on the data obtained in Table 2 above, using degrees of freedom (n1-1), (n2-1), and a significance level of 0.05, the F-table shows a value of 2.48. Given that the calculated F-table (0.33) < F-table (2.48), it can be concluded that the variance is homogeneous.

Hypothesis Testing

Hypothesis testing was conducted to determine the effect of Ladder Drill Training on the Agility of Rokan Hulu Academy Futsal Team Players. The statistical test used was the t-test at a significance level of $\alpha = 0.05$.

Table 3.
Summary of Hypothesis Testing Analysis

Ladder Drill	Mean	SD	t_{Value}	α	t_{table}	Information
Pre-test	21,38	2,43	5,549	0,05	1,753	Signifikan

Based on Table 3, the summary of the results of the Hypothesis testing analysis of the Ladder Drill exercise, which was carried out, statistical calculations according to the formula used (t-test) obtained t count 5.549 > t table 1.753, which means Ho is rejected and Ha is accepted. These results mean that there is an Effect of Ladder Drill Exercise on the Agility of the Rokan Hulu Academy Futsal Team Players.

CONCLUSION

Ladder Drill is a training method to improve agility. Ladder Drill can be done in an open or closed field and must be on a flat surface for the training to take place properly. Ladder Drill is done with a pre-arranged training program by increasing the training load, so that players can adapt well. Ladder Drill is done with the starting position behind the ladder, then the tester waits for the signal from the coach to start the exercise and recovery time, so that it can stimulate the body for the next exercise. This condition must be maintained by practising continuously, namely exercises that are carried out continuously for 14 meetings. From meetings 2-4, the test performs Ladder Drill exercises along the ladder with a training intensity of 80%, 3 sets, 5 repetitions and 1 repetition rest for 30 seconds. Then, meetings 5-7, the test performs Ladder Drill exercises along the ladder with a training intensity of 85%, 3 sets, 5 repetitions and 1 repetition rest for 30 seconds. Furthermore, from meetings 8-10, testee 47 performed ladder drills along the stairs with a training intensity of 90%, 3 sets, 5 repetitions, and 1 repetition with a 30-second rest period. Then, in meetings 11-13, the testee performed ladder drills along the stairs with a training intensity of 100%, 3 sets, 5 repetitions, and 1

repetition with a 30-second rest period. This resulted in a training effect in the form of increased agility for the Rokan Hulu Academy Futsal Team players. 4.3.1.

Ladder Drills Impact Agility Improvement in Rokan Hulu Academy Futsal Team Players. The post-test results of the ladder drill on improving the agility of Rokan Hulu Academy Futsal Team players from the pre-test and post-test showed an increase of 2.37, or 2%, from an average score of 21.38 in the pre-test to 19.02 in the post-test. Thus, Ladder Drill is one of the exercises that can improve the Agility of Futsal Players, especially for the Rokan Hulu Futsal Academy Team Players. Ladder Drill is an exercise using tools such as ladders to train a person's agility. Purwadi, Ramadi, & Wijayanti (2017: 6-7) Agility Ladder Drill is an agility ladder exercise that is a good way to improve foot speed, agility, coordination and overall speed. This exercise aims to improve agility, because agility is very necessary for every movement in the game of soccer. This exercise moves the hips and ankle movements, starting with a standing position next to the agility ladder, and the feet must show the direction for each jump, like a snake movement. The agility ladder has a length of ± 6m with a width of 30 cm. The results of this study are supported by the results of relevant research conducted by Setiadi Daniel & Achmad Widodo (2021) with the title: The Effect of Ladder Drill Training 2 Feet In Each on Increasing Agility at the Surabaya Meta Futsal Academy U-18, consisting of 14 people. The results of the study are that there is a significant effect of providing ladder drill training on increasing the agility of the U-18 Meta Futsal Academy players. This can be proven by the results of the Sig. (2-tailed) T-run of 0.000 ≤ 0.05. Then, from the mean pretest (11.5733), posttest (9.1453), there was an increase with a difference (2.428. Thus, providing ladder drill training is very appropriate to increase the agility of the Surabaya Meta Futsal Academy U-18 players.

ACKNOWLEDGMENT

Based on the data analysis and discussion presented previously, the following conclusions can be drawn: Ladder Drill training has an impact on the agility of the Rokan Hulu Academy Futsal Team. The pre-test average of 21.38 increased by 2.37, or 2%, to 19.02 in the post-test, with the results (t-count 5.549 > t-table 1.753). Therefore, Ho is rejected and Ha is accepted.

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