

The Effect of Agility Ladder Drills on Increasing the Speed of Dribbling a Ball for Male Football Players at the Age of 13 to 15 at Mahavajiravudh School in Songkhla Province

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Abstract: The purpose of this research were (1) to examine the effect of the agility ladder drills on increasing the speed of dribbling a ball for the male football players at the age of 13 to 15 at Mahavajiravudh School in Songkhla Province and (2) to compare the level of speed in dribbling the ball of those players before and after the agility ladder drills. It was found that the agility ladder drills played a significant role in easing the dribbling of a ball for the male football players at Mahavajiravudh School in Songkhla Province. In the process of testing, the 20 football players were required to dribble a ball through a 12 meter-long speed track with 12 cones placed along the track. Before applying the ladder drills, the average time spent in dribbling a ball across the ladder for the 20 players was 3 minutes. The significant change in the time spent in dribbling a ball across the track was found after 8 weeks of agility ladder drills whereby the better average time of 1.95 minutes was recorded. In addition, it was also found that the football players with the body weight between 36 and 40 kilograms made the most outstanding improvement in their dribbling time. From the average of 3 minutes before the ladder drills application, they managed to make it 1.75 minutes after the drills. The significant improvement in dribbling a ball of the players after going through the agility ladder drills was at .05 levels.

1 INTRODUCTION

In Thailand, football is considered one of the most popular sports. A number of young people have made football their regular sport for exercise and professional purposes. In order to train football players, it is obviously necessary for all trainers to come up with training methods to enhance skills and physical fitness of the players to achieve their goal in competitions. Aside from the physical health and professional benefits, football could also enhance unity due to the fact that football relies on a team effort in which all the players need to synchronize their latent and skills both in practice sessions and in actual competitions. This togetherness leads to unity which in turn enhances the way their live their life with other members in the society (Toopbhucha, 2015).

A speed ladder is supposed to be one of the many sport equipment available in supposedly enhancing agility in short distance among athletes. It is known to be one of the best devices to enhance the effective

co-functioning of the nervous system and physical movements. Having been engaged in this type of drill for a good period of time could enhance the agility of a player in doing any sport.

This study tried to make use of agility ladder drills among the football players with the hope to increase the speed in dribbling a ball which could put them into more advantageous situation over their opponents during games. It was expected that through proper and well-designed ladder drills, the players could therefore be more proficient in their ball-dribbling skills which could therefore enhance the speed on doing such function at the field. The study was therefore conducted with a selected group of young football players at the age of 13 to 15 from Mahavajiravudh School in Songkhla Province to prove the idea.

Conceptual framework: According to an extensive review of the literature in using agility ladder drills on increasing the ease of dribbling a

ball for the football players, a conceptual framework can be drawn as follows.

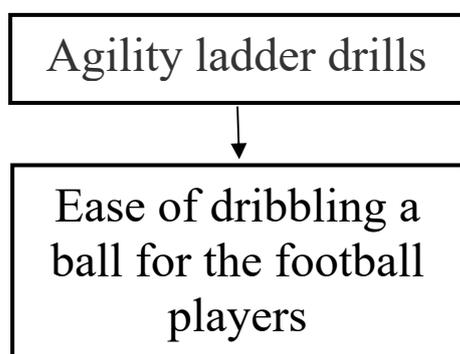


Figure 1: Independent variable Dependent variable

This study was aimed at pursuing the following objectives: 1) To study the effect of agility ladder drills on increasing the ease and speed of dribbling a ball for the male football players who were 13 to 15 years of age. 2) To compare the level of speed in dribbling a ball of the male football players before and after going through the agility ladder drills

2 RESEARCH METHOD

2.1 Research Type

This study used an experimental research method to compare the level of speed in dribbling a ball of the male football players before and after going through the agility ladder drills. The conduct of the study followed the following guidelines: 1) The orientation was conducted to make sure all 20 football players were aware of all the details regarding research objectives, how to go on handling the agility ladder drills, things to do and be aware during the drills, and necessary requirements throughout the entire process; 2) The eight-week practice phase involved getting the players to undergo the agility ladder drills 30 minutes per session, three sessions (Monday, Wednesday, and Friday) per weeks; 3) The assessment step was taken in which the 20 football players were required to dribble a ball through a 12 meter-long track with 12 cones placed along. The first (pre-test) assessment was done right in the beginning of the program and the other (post-test) was done after 8 weeks of practice; 4) The researcher controlled and kept records of all the speeds gained by each of the player.

2.2 Data, Instrument, Data Collection Technique

2.2.1 Agility Ladder Drills

- 1 Single-Foot Run: a quick and light run through the ladder with one foot in each square
- 2 Two-Foot Run: Basic run, single foot in each box and two feet in each box run
- 3 Jumping Jack Feet: Two feet jump together in a square, and then jump out while moving down the ladder
- 4 Squat: Standing in the first square of the ladder, feet shoulder-width apart. Jump forward one square, spreading legs wide to land in a squat with one foot on each side of the ladder. Quickly jump to the next square, landing with both feet inside the ladder.
- 5 Crossover: a sideways run with one foot touching in each box
- 6 Lateral In, In, Out, Out: Start by facing the side of ladder with two feet touching in and out from the side of each box, following a 4 count of "In, In, Out, Out.
- 7 Lateral Shuffle: Standing with ladder on left side, laterally step the left foot into the first square, and laterally step the right foot into the first square. Then, laterally step the left foot into the second square, followed by the right foot. Repeat the steps until the end of ladder is reached.
- 8 Single Foot Hops: Standing in front of the ladder. Lift left foot off the ground then hop forward through the squares on the right foot. At the end of the ladder, run backward to the start and repeat.

2.2.2 Football Dribbling Test

Objective: To assess the speed in dribbling a ball
Equipment

1. A ball
2. Lime powder for grass field and a tape for artificial grass field
3. Two markers
4. Measuring tape
5. Notepad
6. Ten cones

Dribbling test procedures

1. Having heard the start sound signal, a player starts dribbling a ball in a zigzag direction

- along the track trying not to hit the cones placed along the track.
2. Upon reaching the other ends of the track, dribbling the ball back to the starting point with speed in a straight line.
 3. Having completely returned to the starting point, the researcher records the time spent for the whole process.

- 21 to 25 minutes = 2 marks
 26 to 30 minutes = 1 mark
 More than 30 minutes = 0 mark

Dribbling test requirements

1. The player has to dribble the ball in a zigzag direction through each gap between the cones without skipping any of them.
2. In case of hitting the cones, continue dribbling the ball without stopping.
3. If the ball gets off track in an uncontrolled manner, the player can catch the ball and put it back on the track and continue dribbling.

Marking criteria (dribbling time)

Less than 20 minutes = 3 marks

3 RESEARCH RESULT AND DISCUSSION

Table 1 describes the Frequencies and percentages of each type of information of the participants who were 20 football players. They were all male at the age of 13. All of them weighed between 41 to 45 kilograms and most of them (30 percent) were between 151 to 155 centimeters tall.

In the first test, the average speed in dribbling a ball along the track was recorded at 3 minutes. Having gone through 8 weeks of agility ladder drills, the significant improvement was recorded in the second round of the test in which, on average, the players took only 1.95 minutes to complete the task.

Table 1: Frequencies and percentages of each type of information of the participants

General information	Number(persons)	percentage
Sex		
Male	20	100
Female	0	0
Age		
13 years of age	20	100
14 years of age	0	0
15 years of age	0	0
Weight		
30 to 35kilograms	0	0
36 to 40kilograms	4	20.0
41 to 45kilograms	11	55.0
46 to 50kilograms	5	25.5
Height		
130 to135 centimeters	0	0
136 to140 centimeters	0	0
141 to 145 centimeters	2	10.0
146 to150 centimeters	6	30.0
151 to155 centimeters	5	25.0
156 to160 centimeters	4	20.0
161 to165 centimeters	3	15.0
Total	20	100

Table 2: The overall average time spent in dribbling a ball before and after the agility ladder drills.

Test	N	\bar{X}
Test1	20	3.00
Test2	20	1.95

The dependent Sample t-tests were employed in the second part of the analysis to identify the differences of the average time spent in dribbling a ball in Test 1 (before applying the agility ladder drills) and that that in Test 2 (after applying the agility ladder drills) in relation to certain factors.

Table 3: The differences of the average time spent in dribbling a ball before and after the agility ladder drills in relation to the weights of the participants.

Weight	N	\bar{X}	S.D.	t	Sig
36 to 40 kg	4	1.75	0.00	0.358	.000**
41 to 45 kg	11	3.00	0.50		
46 to 50 kg	5	3.00	0.50		

*significant at 0.05 levels, ** significant at 0.01 levels

This part highlights the analysis of the differences of the average time spent in dribbling a ball along the track before and after going through the agility ladder drills in relation to the different weights of the football players. There were 3 groups of football players: 36 to 40, 41 to 45, and 46 to 50 kilograms, respectively. It was found that the 36 to 40 year old group surpassed all other groups in their improvement in the speed of dribbling a ball along the ladder after the 8-week training.

3.1 Research Result

The average speed in dribbling a ball of the football players along the track significantly improved from 3 minutes before the training to the average of 1.95 minutes after 8 weeks of agility ladder drills.

The individual variable like the weight played a crucial part in determining the speed the players dribbling the ball along the track in which the 36 to 40 kilograms group showed the most significant improvement in their improvement of the dribbling a ball speed along the track after the 8 week training, while other variables did not show any significant improvement.

3.2 Discussion

The examination of the effect of the agility ladder drills on increasing the ease or speed of dribbling a ball for the male football players at the age of 13 to 15 at Mahavajiravudh School in Songkhla Province has found that the agility ladder drills played a significant role in easing the dribbling of a ball for the male football players. The results of this study confirmed the hypothesis about the benefits the ladder drills have on the football players' agility when being trained on the well-designed program for the appropriate length of time and conducted in accordance with the physical fitness guidelines. The players tended to enhance reaction time or latency and agility in executing any physical movements after the completion of the ladder drills.

The results were in line with those of Wechapat and Palawiwat (1993) who suggested that in any agility drills, it is necessary to take into account the effective co-functioning of nervous system and muscles, muscle strength, time for reaction time, flexibility, and speed. Moreover, individual variables like body type, age, and sex as well as other related factors like obesity, fatigue, and time for the drills were also found to play the main part in agility enhancement. The findings from this study were also in accordance with those of Chanaparn (2007) in which he found the significant (.05 levels) positive impact of agility drills on the speed of dribbling a ball among 12 to 14 year old football players.

4 RECOMMENDATION

The agility ladder drills have been proven to enhance reaction time or latency and agility in executing any physical movements. These types of drill could be applied in other sports or training programs.

Apart from the agility ladder drills, it is recommended to try looking into other training programs in enhancing football handling skills and investigate their outcomes in comparison to the ladder drills.

For more complete picture of the effect of the agility ladder drills, it is recommended that the training program takes into account the age difference of the players and see if the impact will still be positive with other age groups.

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