



The Relationship between Speed and Agility on the Football Skills of Young Football Players

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Abstract

This correlational study aims to determine the relationship between speed and agility on the football playing skills of young players. The sample consisted of 109 players with a mean age of 11.4 years. The sample had an average body weight of 38.5 kg, with a height of 148 cm. The sample had at least 3 months of practice experience in football school. It was conducted by first determining the speed of the players through a 40 m running test. Second, agility was measured a shuttle run test, while the basic football skills were measured using the David Lee skill test. The results showed that there was a relationship between speed, agility, and the football skills of the young players. This proves that football skills alone may not be able to describe the entire performance of players, as speed and agility are also important factors. Therefore, football coaches for young players are expected to pay attention to these factors as supporting components in improving player performance.

How to Cite

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INTRODUCTION

Ridwan (2020) stated that in making achievements, regular, directed, and continuous training is needed, including the development of the necessary physical conditions. Sports achievements, especially in football, cannot be separated from good technique. This is because players with good technique will easily win the ball, develop strategies to outwit opponents, receive and pass the ball, as well as score goals (Pambudi and Widiyanto 2019). Football is a complex game that requires good physical conditions in combination with the technical, tactical, and mental skills of players (Maliki, Hadi, and Royana 2017) and (Bryson et al. 2012). There is one way to achieve maximum performance (Pratama and Imanudin 2019), and it involves players having an excellent ability in passing, dribbling, shooting, juggling, and heading (Dahlan, Hidayat, and Syahrudin 2020). To maintain these basic playing techniques adequately, they need to be supported by excellent physical conditions, such as endurance, strength, agility, speed, and coordination (Hamdi, Wahyudi, and Humaedi 2019). Finally, Irianto (2018) stated that to achieve maximum performance, a player needs to be given regular, directed, increased, as well as repeated physical and mental loads.

Physical components related to skills consist of the ability to run fast (sprint) and agility. These are two physical subcomponents that are considered important and related to football playing skills (Nasution and Suharjana 2015). Furthermore, they are the main physical elements in performing dribbling techniques when facing opponents. There is a significant effect of agility variation training on football dribbling skills (Efendi, Pahliwandari, and Arifin 2018). Therefore, a footballer with good agility will be able to make changes speedily with correct and precise movement when dribbling. Arjuna (2018) stated that football players need good speed to be able to easily chase the ball, dribble quickly, run, and move. Guntoro and Muhammad 2020 showed that agility has a relationship with football playing skills, as they require a long and continuous training process (Hadi 2019) and (Yang 2014).

Improving proficiency in playing football can be carried out through special exercises, with a high level of difficulty (Dahlan et al., 2020; Schroepf and Lames, 2018), and requires effective and efficient training methods (Yulifri and Ali Asmi n.d.). This training is to improve physical aspects, as well as to provide positive personal development, character, and social life interaction skills for young players (Hyballa and te

Poel 2015). Players with good speed and agility in matches easily overtake opponents and create chances, both for themselves and other team members to score goals. Therefore, they are considered highly skilled players and are important to the team. Based on the description and identification of various problems related to the training process in football, this study aims to determine the relationship between speed and agility on the football playing skills of young players. The results would be useful for coaches in order to provide a proportional physical exercise program.

METHODS

This is a correlational study conducted on young football players that train at the Football School (SSB). The sample size was 109 players and the average age was 11.4 years. The players carried out exercises with a frequency of 3 times per week, and on average, they had an experience of 2.2 years participating in several football competitions. The instrument used to measure the football playing skills was David Lee's skill test, while the player's speed was ascertained through the 40 m sprint test. Finally, their agility was determined using the shuttle run test, which involved the players running back and forth. The data obtained were analyzed through a simple regression technique with a significance level of 95%, using the SPSS 22 program.

RESULTS AND DISCUSSION

The description of the measurement data on running speed, agility, playing skills, as well as the analysis of the relationship between variables using multiple linear regression techniques with the help of SPSS 22 are presented in table 1-5. The analysis showed that there was a relationship between running speed, agility, and playing skills.

Table 1. Measurement Results of Height, Weight, Speed, Agility, and Basic Skills

Com- po- nents	N	Min	Max	Mean	Sd
Height	109	124.8	162.3	138.2	0.94
Weight	109	20.7	58.7	33.18	0.94
Speed	109	9.95	5.13	7	0.94
Agility	109	24.3	18.1	20.18	1,14
Basic Playing Skills	109	32.21	14.07	21.05	3.88

Based on the data analysis, there was a relationship between speed and playing skills in the low category, where the R value was 0.336.

Based on the data analysis, there was a relationship between agility and playing skills in the moderate category with an R value of 0.470.

The data analysis also showed that there was a relationship between speed and agility on the playing skills of the footballers in the sufficient category with an R value of 0.506.

The relationship between speed and agility with the basic playing skills was linear as indicated by Sig. $0.00 < (0.05)$. Bolotin & Bakayev (2017) stated that in modern football, the best results can be achieved with the quality training of young players. Team success is determined by three main factors such as player technique, tactics, and the overall physical, moral, and psychological condition of each player. Football is a team sport that requires players to have good endurance and speed for short sprints, fast acceleration, and rapid changes in the direction of motion. This is because the skill to make actions at high speed has a good effect on game performance (Baron et al. 2020). Football also combines several characteristics such as strength, speed, agility, balance, stability, flexibility, and endurance (Ozuak and Çağlayan 2019). Agility has a relationship with trainable physical attributes such as strength, power, technique, as well as cognitive components such as visual scanning technique, speed, and anticipation of visual scanning (Shahidi et al. 2012).

Based on this study, speed, agility, and playing skills have a relationship, though in the low category. Playing skills, as measured by David Lee's skill test, begins with rocking the ball, dribbling, short and long passes, and ends with dribbling quickly. The difficulty experienced by the players is based on the ability to carry out the technique correctly, with accurate and consistent results under a limited time. Skills in dribbling, as well as in low and top passing, are movement skills carried out to direct a ball to a stationary target. The ability to run fast, as well as agility, are categorized as closed skills. Meanwhile, skills, as measured by David Lee's, are categorized as open where the components of the ball, targets, and obstacles are in conditions that are similar to those of a football match (Nuri et al. 2013).

There was a low relationship between zig-zag agility and speed when sprinting for 10 and 30 m. This finding is in accordance with the study by Köklü et al. (2015). Furthermore, there was also a low correlation between this form of

agility and the skill to carry out vertical and squat jumps. Young players with good speed and agility do not always have good playing skills. This is because these players are weaker than adults, and their speed and strength develop in different ways (Bolotin and Bakayev 2017). Skills in sports competitions are complex movement activities that are strongly related to basic movement skills. Similarly, in football, technical skills are related to basic movement skills (Kokstejn et al. 2019). The level of basic motor skills, as well as football skills, is strongly associated with Belgian professional club players. Therefore, specific football skills are important for identifying talented players, and the likelihood of a player remaining in high-level development and training programs (Rebelo et al. 2014). Physical ability and skills are related, but physical ability is more strongly related to the player's performance in the match (Dahlan et al. 2020).

Playing skills should be trained continuously and tiered according to ability. Alesi stated that football stimulates not only technical elements during training sessions but also motor and cognitive growth, especially attention skills (Alesi et al. 2015). Players are required to respond quickly and accurately to actions during the game as well as continuously evaluate and follow the match situation. During player development, technical skills training is different from the physical, or tactical training process. Therefore, the development of movement skills, especially in the field of sports, is carried out in the following stages namely, cognitive, associative, and autonomous phases.

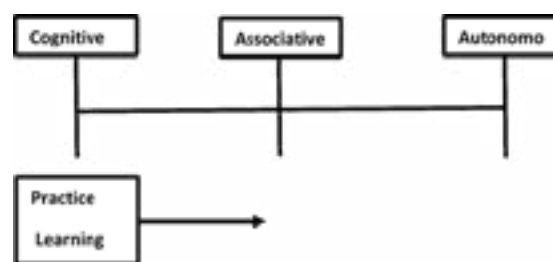


Figure 1. Movement Skills Learning Levels According to Fitts and Posner (Edwards, 2011).

Playing skills are a combination of technical, physical, tactical, and mental skills. When measuring the level of these skills, the results may vary when the measurement is carried out through observation of the player in the field when competing with an opponent. This indicates that the trainers should be careful in preparing training programs. The training method

carried out should be in accordance with the goal or orientation to be developed, the time available, as well as the initial ability and age of the player. Technical skills such as passing, dribbling, and kicking at a young age are influenced by a more positive attitude towards individual skill development (Duncan et al. 2021). Game experience learning (GEL) based training model can be an alternative choice for coach in an effort to improve skills. The training model in addition to being able to improve skills can also develop the attitude of young football players, (Sulistiyono et al. 2021) .

Football is a sport in which the success of competitive activities depends not only on the development of motor skills but also on the nervous system, which is reflected in an increase in the speed of response to various stimuli (Cieřlicka et al. 2021). Players with optimal development of body flexibility can maximize the potential of their motor skills, especially skills characterized by agility and explosive movements such as sprinting, striking, jumping ((Sermahaj et al. 2021). Skills are mastered with repeated practice to become an automatic movement. Therefore, a player that does not master the basic skills of playing football is unlikely to play a good game (Lardika 2020).

Robertson et al. stated that a football player should have good technical skills, tactics, and physical skills to achieve maximum performance (Robertson, Woods, and Gastin 2015). Therefore, training these skills should be started at a young age (Bennike, Wikman, and Ottesen 2014). During a match, players should overcome the pressure of opponents that are always changing situations and conditions. They should also be able to handle the ball which may be moving at an uncertain velocity. Therefore, the performance of a complex football player cannot be described by only measuring technical skills using David Lee's skill test.

CONCLUSION

This study concludes that speed and agility were related to football playing skills, though, in the weak category. This is because the physical components had not contributed to the skills of the young players. It was also concluded that physical ability is not the most important factor in coaching young football players. This is due to the condition that skills which are refined in step by step process to become more perfect require different approaches according to the specifics and characteristics of the sport.

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