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## **Technical Skills According to Playing Position of Male and Female Soccer Players**

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### **Abstract**

The aim of this study was to assess the technical skills of both male and female players according to their position. Twenty seven female ( $M= 12.52 \pm .51$ ) and thirty seven male soccer players ( $M= 12.46 \pm .51$ ) who were members of amateur youth leagues participated in the study. Players were classified according to their playing position into the following groups: central defenders (CD), fullbacks (FB), midfielders (M), wingers (W), forwards (F). Shooting, short and long passing, dribbling, and dribbling after passing abilities were assessed. Although there were not significant differences between players of various positions the central defenders as well as the female players performed significantly lower scores in most of the technical skills.

**Keywords:** soccer, technical tests, playing position

## Introduction

Soccer is not just who runs the fastest, who is the strongest or who is the most aggressive. Physical, technical, tactical and mental skills discriminate soccer players by competitive level (Hoare & Warr, 2000; Martindale, Collins, & Daubney, 2005; Reilly, Williams, Nevill, & Franks, 2000). Therefore, to be able to play soccer and produce optimal performance the players should be able to master the basic techniques of the game (Menichelli, 2012). Technical skills of players are considered as a main component in talent identification and development systems (Malina et al., 2005; Reilly, Bangsbo, & Franks, 2000; Vaeyens, Lenoir, Williams, & Philippaerts, 2008) and a discriminator variable for the players who move to elite level and players who drop out of soccer (e Silva et al., 2010). Indeed, many findings conclude that successful performance in technical skills is an important determinant of success in soccer (Rebelo et al., 2013; Vaeyens et al., 2006). The aim of training soccer techniques is to improve players' ability to control the ball on the ground or in the air so as to gain possession and overcome the opponents (Menichelli, 2012). The players are also able to support the movements and the actions of their teammates. Technical abilities are not a way to show off but they serve the team targets (Menichelli, 2012). Players also need a different combination of skills and sub-skills such as control, contact, pass, and kick, fact that might lead them to a higher competitive level (Vaeyens et al., 2008; Vaeyens et al., 2006). For the assessment of these skills a variety of technical tests has been used (Ali, 2011; BenOunis et al., 2013; Malina et al., 2005; Rösch et al., 2000; Rebelo et al., 2013).

Past research has already examined technical skills by dividing players according to their playing position that demand a different combination of skills. Specifically Hughes and colleagues (2012) concluded that central defenders should perform high in passing and running with the ball, fullbacks in dribbling and running with the ball, midfielders and wingers in passing, dribbling and running with the ball, and forwards in shooting (Hughes et al., 2012). Midfielders indicated higher juggling ability than all the other positions as well as higher dribbling performance than the full backs. They also performed greater percentage of successful passes (Dellal, Wong, Moalla, & Chamari, 2010) and they covered longer distances than players of other positions (Mohr, Krustup, & Bangsbo, 2005). Di Salvo and colleagues (2007) study showed that external midfielders covered significantly greater distance with the ball than players of any other position, while central defenders covered the shortest distance (Di Salvo et al., 2007). However, Vale and colleagues (2009) concluded that there were no significant differences in passing skill of players aged 17-18 years old according to their playing position (Vale et al., 2009). On the other hand, studies showed that neither players aged 13-15 years old (Malina et al., 2005; Wong, Chamari, Dellal, & Wisløff (2009) nor players aged 17-18 years old (Reilly, Bangsbo, & Franks, 2000) differed significantly in technical skills according to their playing position. Differences between these conclusions are probably explained by the various position classifications and technical tests that were used. Specifically, Malina and colleagues (2005), as well as Wong and colleagues (2009) classified players in defenders, midfielders and strikers, Di Salvo and colleagues (2007) as well as Dellal and colleagues (2010) classified them in central defenders, external defenders, central midfielders, external midfielders and strikers, Vale and colleagues (2009) classified them in full backs, central defenders, midfielders and strikes (Dellal et al., 2010; Di Salvo et al., 2007; Malina et al., 2005; Vale et al., 2009; Wong et al., 2009). Similarly, Gioldasis, Bekris, and Gissis (2014) who examined the anthropometric and fitness characteristics of players according to their playing position divided them in goalkeepers, central defenders, fullbacks, midfielders, wingers, and forwards.

It is obvious that, although the fundamental value of the positional requirements of each playing position, sport researchers have not taken it into deep consideration. Furthermore, in our knowledge, there is also a lack of research concerning female soccer players. Therefore, the aim of the current study was to examine the technical differences of both male and female players according to their position.

## Methods

### Participants

In the current study participated twenty seven female ( $M= 12.52 \pm .51$  years old) and thirty seven male soccer players ( $M= 12.46 \pm .51$  years old) from amateur leagues. All players participated in 2 training sessions per week with their clubs, 75 minutes each session. The club participated in a 9 month national amateur league and a cup organized by the Hellenic football federation. The parents or the guardians of the participants were informed about the ethics, the risks, the benefits, and the aims of the study before giving them a written informed consent. All the procedures were approved by the Peloponnese University Committee. Two researchers specialized in sport ergophysiology and sport psychology assessed the technical skills of the players in the end of the season. Coaches of the players recorded their field position in which they were placed in most league and cup games.

### Skill testing

Five valid and reliable tests were administered to assess the technical skills of the players. The first test was a modified version of the shooting test of Vale and colleagues (2009) according to which the players had to kick the ball from 16.5 meter inside a standard official goal divided by ropes in six marked sections. The researchers placed an horizontally rope between the posts 1.5 meter from the ground, and they dropped two ropes from the crossbar 0.5 meter away of each post. They evaluated the upper right and left sections for 5 points, the lower right and left for 3 points and the upper and lower middle sections for 2 and 1 point respectively. The players had three trials before the ten recorded kicks. The second test was a modified version of Rösch and colleagues' (2000) test for assessing short and long passing ability. For short passing assessment the players had to dribble the ball within a four meter marked rectangle up to a line and then pass the ball into a hockey goal 11 meter away. The players had ten trials of which only the ones that did not hit the ground before the 8 meter distance were rated by the researchers. Initially the players had three more trials so as to familiarize themselves with the test. The researchers recorded 1 point when the ball hit the crossbar or the goalpost and 3 points when the ball was inside the hockey goal. The researchers assessed the long passing accuracy by a test that the players had to pass a no moving ball into a 20 meter distance from the center of three concentric circles with a two meter radius. The radius of the circles were 0.5, 1.5 and 3.5 while a 12X12 square distance was 6 meter from the circle center for each side. The players had one trial before performing the 10 main trials. They achieved 5 points if the ball landed inside the 1 meter circle or its circumference, 3 points if the ball landed inside the 3 meter circle, 2 points if the ball landed inside the 7 meter circle and 1 point if the ball landed inside the marked square or its circumference. Then the researchers examined dribbling ability with Benounis and colleagues' (2013) test. Players had to dribble the ball straight for 3 meters before the timer starting up. Then they had to dribble for three meters, zig zag for three meters, pass the ball under a hurdle while the player had to jump above it and dribble the ball through one of the

two 1-meter finish lines which were placed seven meter away the hurdle. Initially the players had three trials so as to familiarize themselves with the test. Then the researchers recorded the main three trials. Finally, they assessed dribbling-passing ability by Vääntinen and colleagues' (2010) test. The players had to perform a 7 meter pass to a two meter bench and then receive the rebound before shuttling between 6 meter distance of two cones with zig zag. Then they had to perform another 7 meter pass to the bench on the other side which represented one round. They had to perform 5 rounds in total before finishing the test. The researchers instructed them to perform three trials before the test but at least one successful from each player. They also stopped the trial when the players lost their ball. The researchers recorded the time of the test.

### **Main trial procedures**

The researchers classified the players in five positions which were considered as the most representative according to the literature review (Hughes et al., 2012; Di Salvo et al., 2007). Therefore, they assigned the players to one of the following positional groups: central defenders (CD), fullbacks (FB), midfielders (M), wingers (W) and forwards (F). They further excluded goalkeepers as the sample was too small as well as the requirements of their position differ significantly than other playing positions (Vääntinen, Blomqvist, & Häkkinen, 2010). Before skill testing the players performed a 15 minute without ball warming-up (jogging, running, sprinting, and stretching) as well as a 10 minute with ball warming-up (passing, dribbling, and some duels). The players completed the tests after six training sessions arranged under similar conditions of time and temperature (19:00-21:00pm; 23-25oC).

### **Statistical analyses**

The statistical package (v. 17) was used for data analysis. Descriptive statistics (means and standard deviations) were counted for all the variables of the study. Differences in the technical skills among players of various playing position were initially evaluated by analysis of variance (ANOVA). Comparisons among the playing positions were performed using Tukey comparisons while the significance level was set at 10%.

### **Results**

Descriptive statistics of technical skills in the total sample and in players grouped by position and sex are summarized in Table I. Although the number of sample is small a considerable technical variation among players of different position was notified for both males and females. The table also records the analyses of variances and the Tukey's comparisons between the subgroups.

#### **Shoot**

The scores of male soccer players showed that central defenders and full-backs indicate the lowest level while midfielders the highest. Furthermore, midfielders and wingers presented moderate scores. However, the only significant difference was between central defenders and midfielders who presented significantly higher scores. Concerning female soccer players, wingers and forwards showed the highest scores while central defenders and midfielders performed low scores. Moreover, full-backs revealed moderate scores. However none of the comparisons between subgroups was significant.

### **Short pass**

Male soccer midfielders indicated the highest scores while central defenders and full-backs the lowest. Concerning subgroups of wingers and forwards, they presented moderate performance. Analyses of variance showed that midfielders performed significantly better short passes than central defenders and full-backs. In contrast, the other subgroups did not differ significantly from each other. As far as the female soccer players, the forwards performed the higher scores in short passing ability while central defenders the lower. Subgroups of full-backs, midfielders and wingers presented moderate scores.

### **Long Pass**

Midfield male players performed the highest score of long pass skill while the other subgroups indicated similarly with lower scores. However, the only significant difference was between midfielders and central defenders who performed lower scores. In contrast, female midfielders and forwards performed the highest scores in long pass while the other groups revealed similar performance.

### **Dribble**

The scores of male soccer players showed that midfielders and wingers performed the highest level while central defenders, full-backs and forwards indicated the lowest. However the only significant difference was between midfielders and central defenders who performed the lowest scores. Regarding dribbling skill of female soccer players it was found that wingers indicated the highest performance. Differences among other subgroups were not statistically significant.

### **Dribble-Pass**

Finally, male midfielders performed the highest level while the forwards performed the lowest. Fullbacks and central defenders presented low scores while wingers indicated moderate performance. However it was not found any significant difference between the subgroups. As far as female soccer players the wingers revealed the highest performance while central defenders and forwards the lowest. Furthermore, midfielders and fullbacks revealed moderate performance. However, the only significant difference was between central defenders and wingers, who showed higher performance.

**Table 1. Descriptive statistics technical skills**

Males						
Technical skills						
Position	N	Shoot	Short Pass	Long Pass	Dribble	Dribble-Pass
CD <sup>1</sup>	10	17.00 (3.09)	15.60 (3.84)	16.00 (2.06)	5.58 (.30)	46.44 (2.61)
FB <sup>2</sup>	8	18.00 (4.75)	15.13 (2.53)	16.88 (1.73)	5.57 (.46)	47.60 (1.26)
M <sup>3</sup>	6	23.33 (5.82)	19.67 (2.16)	20.83 (6.56)	5.16 (.29)	44.97 (2.99)
W <sup>4</sup>	7	20.57 (4.20)	17.14 (1.46)	16.43 (3.78)	5.24 (.25)	45.28 (1.92)
F <sup>5</sup>	6	20.00 (1.90)	16.17 (1.60)	16.33 (2.34)	5.47 (.18)	48.22 (4.08)
<b>Anova</b>		2.65**	3.07**	2.13*	2.66**	1.87
<b>Tukey's</b>		1<3	1<3, 2<3	1<3	1<3	
Females						
CD <sup>1</sup>	3	12.00 (1.73)	13.33 (.58)	11.67 (2.31)	6.68 (.71)	51.00 (4.41)
FB <sup>2</sup>	4	13.75 (1.26)	14.50 (1.73)	11.50 (3.79)	6.19 (.52)	47.43 (1.71)
M <sup>3</sup>	9	12.78 (2.77)	15.56 (1.94)	13.56 (2.51)	6.39 (.69)	48.31 (2.14)
W <sup>4</sup>	5	14.40 (2.51)	15.80 (1.79)	12.00 (1.23)	5.89 (.54)	46.50 (.94)
F <sup>5</sup>	4	15.25 (2.63)	17.00 (5.48)	13.75 (2.87)	6.09 (.31)	50.25 (1.10)
<b>Anova</b>		1.18	.96	.83	1.07	3.05**
<b>Tukey's</b>						1>4

\*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$

## Discussion

The aim of the current study was to analyze the performance of soccer players in technical skills in relation to their playing position. Differences were evident in most of the technical skills of males but the researchers found statistical significance only between some playing positions. As far as female soccer players the researchers reported differences only in dribble-pass technical skill. Extensively the results showed that in shooting skill only the male midfielders assessed significantly higher performance than central defenders, finding that is probably explained by the fact that shooting requirements for central defenders are extremely low (Hughes et al., 2012). As far as the short and long distance passing skill it was found that male midfielders better than central defenders and fullbacks. These findings are probably

related to the greater percentage of successful passes that midfielders reveal as well as the high requirements of passing that this position demands (Hughes et al., 2012; Dellal et al., 2010). In contrast literature review showed that midfielders aged 17-18 years old did not present any significant difference with players of other positional groups (Vale et al., 2009). Male midfielders also performed higher than central defenders in dribbling skill, finding that is probably explained by the fact that they cover longer distances (Mohr et al., 2005) as well as they possess the ball for longer than players of other playing positions (Dellal et al., 2010). In addition, Hughes and colleagues (2012) concluded that midfielders require higher level of passing, dribbling and run with the ball skills. On the other hand, our findings showed that female wingers performed better than central defenders in dribbling-passing skill. Literature review concludes that wingers cover greater distance than central defenders as well as they require high levels of with-ball activities (Hughes et al., 2012; Di Salvo et al., 2007). Furthermore, the non-significant findings about dribbling differences are supported by Taskin (2008) study. In contrast to the above findings many studies concluded that players did not differ significantly according to their position (Malina et al., 2005; Wong et al., 2009). This difference is probably occurred by the position classification of players (defenders, midfielder, strikers) as well as by the different age groups that past research used.

## Conclusion

Although past research has discovered the relationship between technical skills and playing positions there is little evidence of any specific skill which is predictive of the positional differences between players. Thus we decided to examine this relationship in various skills as well as for both males and females players. The results showed that there were not significant differences between players of various positions. However, only the central defenders performed significantly lower scores in most of the technical skills. In contrast it is suggested that central defenders should develop technical skills so as to cope with offensive build up situations (Vaeyens et al., 2006). However the researchers of the current study do not support this suggestion as central defenders perform significantly lower scores in passing, shooting and dribbling. In contrast to male soccer players, the females differences were significantly lower. We suggest future researchers to compare various age groups on their relationship between technical skills and playing position. Future research should also evaluate technical skills through different more realistic measurement tools such as videoanalysis of high intensity small sided games with the opponent pressure.

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## Conflicts of Interest

The authors have no conflicts of interest to acknowledge.

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