



## Correlations of Selected Physical Variables with Playing Ability among College Level Soccer Players

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Received 6th January 2015, Accepted 5th March 2015

### Abstract

*The aim of this study was to investigate the inter-relationship between selected physical variables with playing ability among college level soccer players. Men (n=65) Soccer players represented Inter-collegiate tournaments were purposively selected from Tiruchirapalli, Tamilnadu, India for this study, and their age of the subjects ranged from 18 to 28 years. The subjects had past playing experience of at least one year in soccer were taken as subjects. To assess the physical variables the following tests were used. Speed was assessed by 50 metres dash, agility was assessed by shuttle run, flexibility was assessed by sit and reach, explosive strength was assessed by standing broad jump and muscular endurance was assessed by sit ups. Playing ability was assessed by coaches rating in 10 points scale. Descriptive statistics and Pearson's correlation coefficients were applied to establish the relationships among the variables measured. Data were analyzed using SPSS (Statistical Package for Social Science) version 15.0. The level of significance was fixed at 0.05. From the present study it is concluded that, among the selected independent variables the speed and explosive strength has highest significant correlation with playing ability followed by agility and flexibility.*

**Keywords:** Speed, Agility, Explosive Strength, Flexibility, Muscular Endurance, Soccer.

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### Introduction

Football is also referred to as soccer in some parts of the world, is a high-energy athletic team sport in this new age. It would be a joy to trace the birth and growth of this popular sport. It said that the number of countries that are FIFA members even outnumber the members of United Nations Organizations – another undeniable proof of the game's popularity. Since 1900, football has also been integral part of the greatest sports extravaganza in the world, the Olympics. The game, as we know it today, has been followed in a feverish fashion in Europe, especially in England, for centuries. In fact, the game has been followed by men and women throughout the world. The first recorded game took place as early as A.D. 217 in the town of Derby in England. This particular game was once part of a grand festival that was celebrated by the local folk after the victory over the invading Romans. The tradition bound English men also conducted annual football events ever since. One of them is the Shrove Tuesday football game being played since 1175 (Morris, 1981).

Football is played in two main forms; firstly as a 90 minute game with a 15 minute half time rest period,

or a more explosive 5 aside game. Being a sport that is constantly on the go, player's fitness level and strength plays an important part in the game, however a high skill level on the ball and good knowledge of the game are also essential. The simplicity of football disguises the intense physical requirements to succeed in the sport. Simply playing football by the hour will make a player better, but it is the focused and specialized training, directed at every segment of the player's necessary skill set, that will take a good player to the next level of ability and accomplishment (Kaka & Biru, 1986).

The physical aspects of the game include speed, including acceleration and explosiveness; agility and balance; body control, particularly in jumping and heading the ball; leg strength; and endurance. The development of each of these physical capabilities must be incorporated into the training required to build the individual technical components of play. Those technical areas are dribbling the ball; passing the ball and receiving a pass, using the feet, legs, torso, or head to control the ball as may be necessary; shooting the ball; heading the ball; in-bounds thrown in; corner kicks; the penalty kick; and defensive marking and tackling techniques (Luxbacher, 1996).

Therefore, Football training and coaching need to be helping to target the right muscles for fitness. Football is a sport that requires a multitude of athletic abilities; aim to make improvements in the following to improve the

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game.

1. Explosive acceleration and fast sprinting speed
2. Muscular endurance and strength in the lower body
3. Muscular balance and high levels of neuromuscular co-ordination
4. Body awareness and agility, the ability to know where player's body is, and be able to move it
5. Discipline to take orders and decisions, as well as putting the team first.
6. Good flexibility to avoid injury, Football players are prone to poor hamstring flexibility
7. Correct balance between your quadriceps and hamstrings, as well as strength imbalances between player's left and right leg.

### Methodology

Sixty five Men Soccer players who represented Inter-Collegiate tournaments were purposively selected

from Tiruchirappalli, Tamil Nadu, India for the study. The age of the subjects ranged from 18 to 28 years. The subjects had past playing experience of at least one year in soccer were taken as subjects. To assess the physical variables the following tests were used. Speed was assessed by 50 metres dash, agility was assessed by shuttle run, flexibility was assessed by sit and reach, explosive strength was assessed by standing broad jump and muscular endurance was assessed by sit ups. Playing ability was assessed by coaches rating in 10 points scale. Descriptive statistics and Pearson's correlation coefficients were applied to establish the relationships among the variables measured. Data were analyzed using SPSS (Statistical Package for Social Science) version 15.0. The level of significance was fixed at 0.05.

### Results and Discussion

The descriptive statistics for selected physical variables for all players are presented in the table below

**Table 1.** Mean and Standard Deviation of Physical variables on Inter-Collegiate Soccer Players

	N	Minimum	Maximum	Mean	Std. Deviation
<b>Speed</b>	65	7.96	8.68	8.21	0.17
<b>Agility</b>	65	10.56	11.42	11.11	0.98
<b>Flexibility</b>	65	28.24	36.33	32.66	4.16
<b>Explosive Strength</b>	65	1.24	1.58	1.44	0.47
<b>Muscular Endurance</b>	65	28	43	36.32	2.97
<b>Playing Ability</b>	65	5	8.5	7.8	0.47

**Table 2.** Correlation Matrix of Selected Physical variables with playing ability among Soccer Players

	SP	AG	FL	ES	ME	PA
<b>SP</b>	1	-.629*	.796**	.440	.786**	.867**
<b>AG</b>		1	-.545*	-.743**	-.473	.676**
<b>FL</b>			1	.336	.326	-.543**
<b>ES</b>				1	.137	.712**
<b>ME</b>					1	.278
<b>PA</b>						1

\*Significant at 0.05 level

\*\* Significant at the 0.01 level

SP – Speed, AG – Agility, FL – Flexibility, ES- Explosive Strength, ME- Muscular Endurance, PA- Playing Ability.

It was evident from the above table –II correlation exists among the Soccer players, the result of the study reveals that the Inter-Collegiate soccer players, the speed, agility, flexibility and explosive strength has significant correlation with playing ability. Among the selected independent variables speed and explosive strength having highest correlation followed by agility and explosive strength.

### Conclusions

From the present study it is concluded that, among the selected independent variables the speed and explosive strength has highest significant correlation with playing ability followed by agility and flexibility.

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