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## Relationship between explosive strength and agility of Football male players

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### Abstract

**Purpose:** -The purpose of the study was to find out correlation between Explosive Strength, and Agility of football male players. **Methodology:** - The subjects for this study were selected from Bilaspur University, Bilaspur (C.G). A total of 25 male football players were selected. Age of the subjects ranged between 18 to 22 years. Selected Variables were Explosive Strength and Agility. The selected variables were measured by different items of JCR test. To find out correlation between Explosive Strength, and Agility of male football players, Product Moment Method of correlation was used. **Findings:** - There exists a significant relationship between Explosive Strength and Agility of male football players ( $r = .537, p < .05$ ).

**Keywords:** Explosive Strength, Agility, Football.

### Introduction

The fitness components are qualities that athletes must develop to physically prepare for sport competition. They are the building blocks of exercise and physical activity. Sports training programs are designed to build these components in the proper proportions that match the requirements of each sport. A basic definition of physical fitness is "the ability to complete daily tasks with energy, reduce health risks due to inactivity, and be able to participate in a variety of physical activities." The 5 fitness components that are deemed health-related are: cardio, strength, endurance, flexibility, and body composition. In addition, speed; agility, power, balance, and coordination have been identified as performance-related. All of these qualities exist to some degree in most sports, but developing certain combinations is important in any given sport.

Physical fitness is general state of good physical health. Physical fitness is the ability to endure, beat with stand stress and carry on in circumstances where an unfit person could not continue. In order for one to be considered physically fit, heart, Lungs and muscles have to perform at a normal level for the Individual to continue feeling capable of performing an activity.

The following are some of the important components of physical fitness: Strength, Speed, Endurance, Agility, Flexibility, Co-Ordination, Balance and Reaction Time.

Strength is the ability of overcoming resistance. Different forms of strength are applicable in different games and sports. For example performance on dynamometer is static strength, performing a clean and jerk in weight lifting is dynamic strength and putting shot is power activity of explosive strength form activities.

Agility is referred to be the quality by which an individual will be able to change the direction of his body/motion in a shortest time and in a graceful manner. Many events in day to day life and in sports warrant this kind of efficiency on the part of the individuals to cope up various situations. Flexibility is the ability of possessing full range of motion around joints in the body. Flexibility reduces the injury proneness in day to day life and in sports and under various occasions. This component has its bearing on stride length in running, perfection in executing follow through actions involved in performing almost all executing follow through actions involved in performing almost all activities and in connection with the body space aesthetics. The flexibility can be improved by stretching exercises, calisthenics and practice of Asana.

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The game of football is also known as SOCCER. The game of football involves two teams of usually between 11 and 18 players. Each team tries to score goal or points, by moving the to an opposing teams end of the field and either into a goal area, or over a line. The goal is defended by the opposing team and players are required to move the ball by kicking. Football refers to a number of sports that involve, to varying degrees, kicking a ball with the foot to score a goal. The most popular of these sports worldwide is association football, more commonly known as just "football" or "soccer". Unqualified, the word football applies to whichever form of football is the most popular in the regional context in which the word appears, including association football, as well as American football, Australian rules football, Canadian football, Gaelic football, rugby league, rugby union, and other related games.

**Objectives of the study**

- To find out the relationship between Explosive Strength and Agility of male football players.

**Methodology**

**Selection of Subjects**

A total of 25 male football players were selected from Bilaspur University, Bilaspur (C.G). Age of the subjects ranged between 18 to 22 years.

**Selection of Variables**

Keeping the feasibility criterion in mind, the researcher selected the following variables for the present study:

- Explosive Strength
- Agility

**Criterion Measures**

- Explosive Strength was measured by the help of vertical jump and recorded in cm.
- Agility was measured by 10x10mt. Shuttle run in seconds.

**Statistical Analysis**

For determining the relationships of selected variables, descriptive statistics and the Pearson’s Product Moment Correlation was used, the data analyzed with the help of SPSS (16.0 version) software and the level of significance was set at 0.05 level of confidence.

**Result and Findings of the Study**

Descriptive statistics was applied on all data. After determining normal distribution of the test variables, Pearson’s Product Moment correlation was used to identify relationship between test variables.

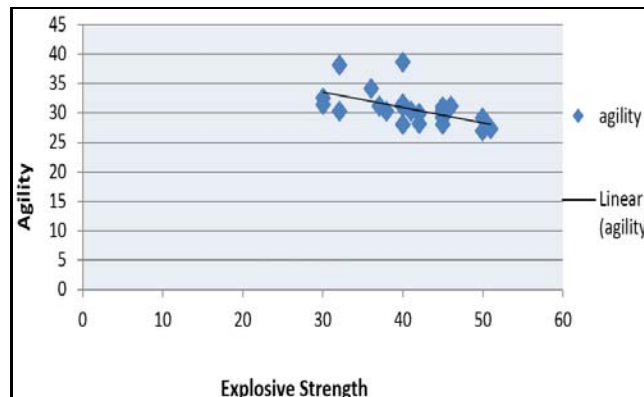
**Table 1:** Descriptive statistics and Correlation Coefficient of Explosive Strength and Agility of male Football players

Variable	N	Mean	SD	Correlation coefficient (r)	Sig.
Explosive Strength	25	41.0800	5.92959	-0.537*	0.006
Agility	25	30.6680	2.84928		

\*P <0.05, Statistically Significant.

Table 1 indicates that the descriptive statistics i.e. Mean and SD of explosive strength and agility of male Football players. Table 1 also indicates that there exists a significant

relationship between Explosive Strength and Agility of male Football players (r=.537), as the p-values were less than 0.05. It is observed that there is negative correlation between performance of vertical jump (in cm) and shuttle run (in seconds)



**Fig 1:** Graphical representation of correlation between Explosive Strength and Agility of male Football players

Fig. 1 shows that the inverse relationship between agility and explosive strength of male football players.

**Discussion of the Findings**

The data gathered previous studies and result of present study we can say that the explosive strength is most dominating variable for the improvement of agility of an individual.

The analysis of the gathered data revealed that the variables selected for the purpose of the study were had significant in relationship. There are numerous studies which is supported the result of this study i.e. Thour, Mandeep. (2014) [8] who conducted a study on Relationship of Explosive Strength and Agility among Basketball Players. A significant relationship was also found between explosive strength and agility of basketball players. She has also found a negative correlation between these variables. Another study conducted by Nimphius, Sophia, Mcguigan, Michael. R. & Newton, Robert. U. (2010) [7] on Relationship between Strength, Power, Speed, and Change of Direction Performance of Female Softball Players had also supported the results of this study.

On the basis of previous studies and result of present study we can say that the explosive strength is most dominating variable for the improvement of agility of an individual.

**Conclusion**

Within the limitation of the present study and on the basis of findings of the result of the study, it can be concluded that there is a significant difference between explosive strength and agility of male football players (r = 0.537, p< 0.05). Findings also shows that the negative correlation between explosive strength and agility of male football players.

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