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## Effect of circuit resistance training on motor fitness variables among college football players

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### Abstract

The purpose of the study was to find out the effect of circuit resistance training on motor fitness variables among college football players. To achieve the purpose of the study, 15 men football players were selected as subjects randomly from the SRM University Chennai who did not participate in any of the special training or the coaching programme. However they were allowed to participate in their regular physical education classes in the college as per their curriculum. The subjects were aged between 18 and 25. For the study, the dependent variables selected were speed and agility. Circuit Resistance Training was selected as independent variable. To find out whether there was any significant difference between the pre-test and post test means, the dependent 't' ratio was used. The result of the study showed that the training program had resulted in a significant improvement in the speed and agility of college football players.

**Keywords:** Circuit resistance training

### Introduction

The caloric cost of exercise can be increased to bring about improvements in more than one aspect of fitness by modifying the standard approach to resistance training [2]. This approach, called circuit resistance training. The game of Football demands a high level of fitness that will enable the players to run strongly, to move quickly off the mark in any direction to control, to pass accurately and to tackle efficiently throughout the game [3]. Football requires a high standard of physical fitness along with skills. Since the game of Football is played for 90 minutes (if necessary an extra period of 30 minutes in the match ends in a draw in knock out tournament) it demands a high level of physical fitness and the training programme should be planned accordingly. Football, at any age, is a physical game. It involves running. It involves twisting and turning. It involves jumping, kicking, and tackling [4]. In addition, as young players mature, the stresses and strains of the competitive environment become greater and greater. Football is fitness dominating sports along with technical and tactical skills. Physical fitness is used to denote the sum five components. I.e. strength, speed, endurance, flexibility endurance and their complex form [5].

### Methodology

To achieve the purpose of the study, 15 men football players were selected as subjects randomly from the SRM University Chennai who did not participate in any of the special training or the coaching programme [6]. However they were allowed to participate in their regular physical education classes in the college as per their curriculum. The subjects were aged between 18 and 25. For the study, the dependent variables selected were speed and agility. Circuit Resistance Training was selected as independent variable [7].

### Analysis and interpretation of the data

Single group design was used for the study. The following statistical procedures were used to analyze the obtained data. To find out whether there was any significant difference between the pre-test means the dependent 't' ratio was used [1]. To test the level of significance of difference between the means 0.05 level of confidence was fixed.

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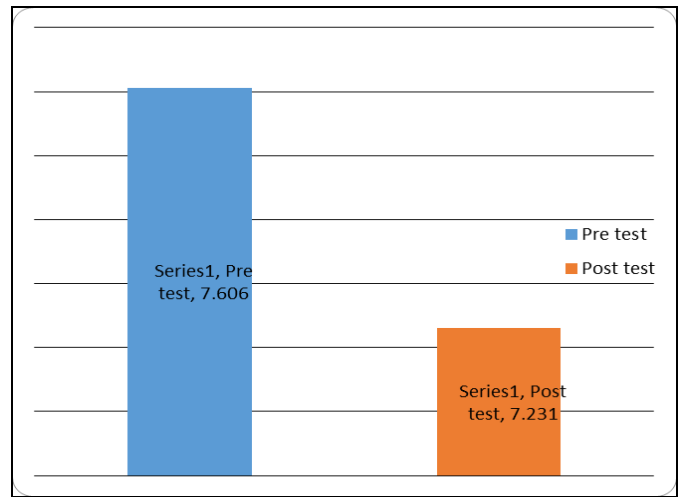
**Table 1:** Summary of Mean, Standard Deviation and Dependent ‘T’ Test for the Pre and Post Tests on Speed of Experimental Group

Group	Number	Mean	S. D	Obtained ‘t’ ratio
Pre test	15	7.606	0.299	6.414*
Post-test	15	7.231	0.286	

\*Significance at 0.05 level, t (0.5) 14 = 2.145

Table 1 shows that the pre test and post-test mean values of experimental group is 6.414. The obtained value is greater than the required table value 2.145 with df 14 at 0.05 level of confidence. It was concluded that, there was significant improvement between the pre test and post-test means in the performance of speed.

The mean values of pre and post-tests of experimental group on speed have been graphically represented in Figure 1.



**Fig 1:** The Pre and Post Test Mean Values of Experimental Group on Speed

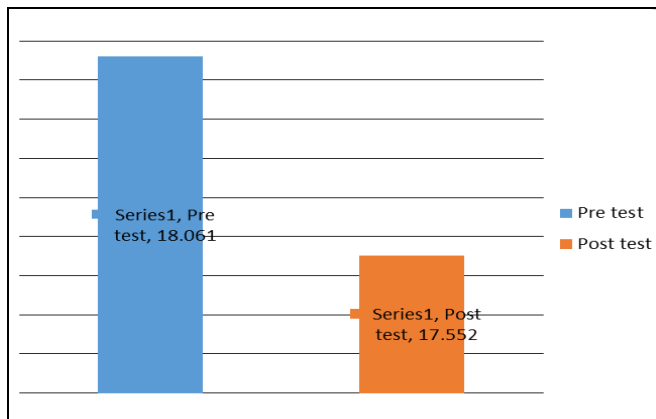
**Table 2:** Summary of Mean, Standard Deviation and Dependent ‘T’ Test For The Pre And Post Tests On Agility Of Experimental Group

Group	Number	Mean	S.D	Obtained ‘t’ ratio
Pre test	15	18.061	0.563	4.428*
Post-test	15	17.552	0.726	

\*Significance at 0.05 level, t (0.5) 14 = 2.145

Table 2 shows that the pre-test and post-test mean values of experimental group is 4.428. The obtained value is greater than the required table value 2.145 with df 14 at 0.05 level of confidence. It was concluded that, there was significant improvement between the pre-test and post-test means in the performance of agility.

The mean values of pre and post-tests of experimental group on agility have been graphically represented in Figure 2.



**Fig 2:** The Pre and Post Test Mean Values of Experimental Group on Agility

**Conclusion**

The result of the study showed that the training program had resulted in a significant improvement in the speed and agility of college football players.

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