

## “Effect of Circuit Training on Speed, Agility and Endurance among Physical Education Students”

**Basharat Ashraf**

Research Scholar Mewar University, India

### Abstract

The study in hand was an attempt to investigate the effects of circuit training on physical fitness components (agility, endurance and speed) among physical education students. For this purpose 40 students of physical education department from university of Kashmir have been randomly selected as subjects for the study. The age of the subjects ranged between 18 to 28 years. The data on these variables was collected by using 50 yard dash test for speed, semo agility test for agility and 12 minutes run walk test for endurance. To find out the effect of circuit training on speed, agility and endurance among physical education students t test as a statistical tool was used to find out the significant difference between pre test and post test score of subjects' .the level of significance was set at 0.05. The results revealed that circuit training has a significant effect on agility, speed and endurance.

**KEYWORDS:** - circuit training, speed, endurance and agility.

**INTRODUCTION:** - Physical fitness is a state of well-being that comprises skill and health-related components. Fitness is a condition in which an individual has sufficient energy to avoid fatigue and enjoy life. It is necessary for elderly people to maintain and improve their physical fitness in order to satisfy healthy, high quality of daily life (Tanaka et al., 2004). Skill-related physical fitness refers to an individual's athletic ability in sports such as tennis and encompasses skill-related attributes like dynamic balance, power, speed and agility; the health-related aspect is a measure of cardiovascular endurance, muscle strength, endurance and flexibility and body composition (Hopkins & Walker, 1988)

Circuit training is an efficient and challenging form of conditioning that develops strength, endurance (both aerobic and anaerobic), flexibility and coordination all in one exercise session. It is one of the few forms of fitness training that has been shown to effectively develop both strength and cardiovascular fitness in the same exercise session. A well designed circuit provides a balanced workout that targets all the muscle groups and builds cardiovascular endurance

**Methodology:-**the aim of this study was to investigate the effect of circuit training on speed, agility and endurance among physical education students. 40 male students of physical education from department of physical education, university of Kashmir have been selected as subjects for the study. 20 students were kept in control group and 20 students received experimental treatment (circuit training) for six weeks. T test was used as a Statistical tool to know the effect of circuit training. The level of significance was set at 0.05. Speed and agility were used as variables for the study. 50 yard dash test was used to measure the speed and semo agility test for agility

**Findings :-**

**Shows statistical comparison of Speed between pre-test and post-test of Experimental group is as under:**

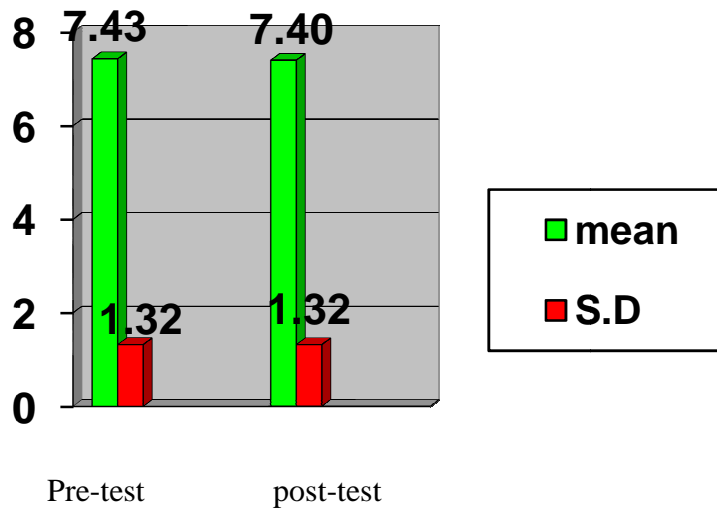
Group	Mean	SD	T-ratio
Pre-test	7.43	1.32	0.07
Post-test	7.40	1.32	

➤ Level of Significance=0.05

Tabulated  $t'_{0.05(18)}=2.02$

**Figure 1**

**Figure showing the Mean difference of Experimental group in pre and post test on Speed**



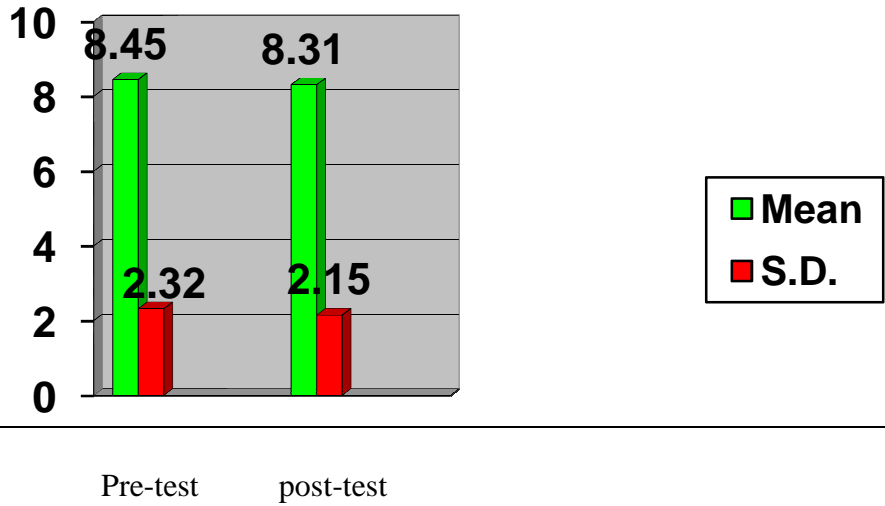
**Table 2**

**Shows statistical comparison of Speed between pre-test and post-test of Control group :**

Group	Mean	SD	T-ratio
Pre-test	8.45	2.32	2
Post-test	8.31	2.15	

- N = 20 Level of Significance=0.05
- Tabulated 't'0.05(18)=2.02

Figure showing the Mean difference of Control group students in pre and post test on Speed



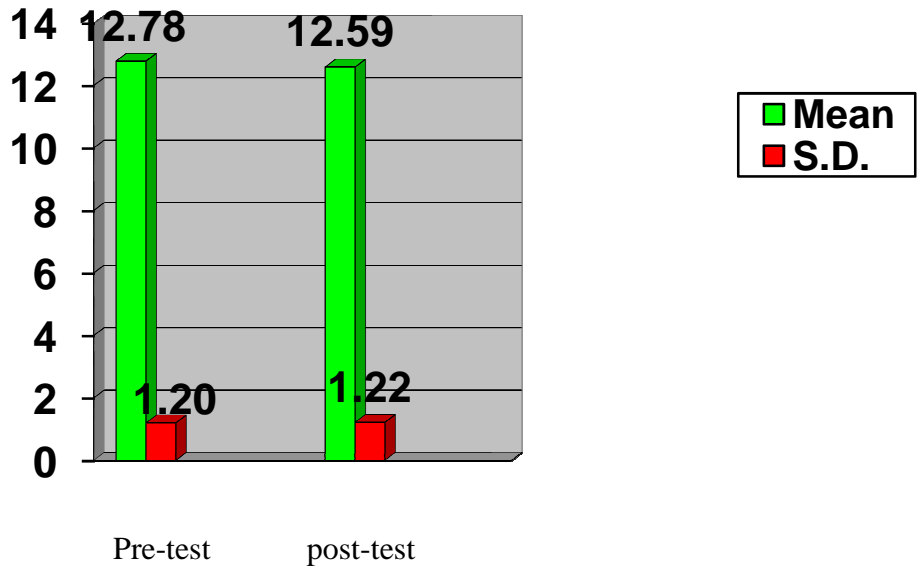
**Table 3**

Shows statistical comparison of Agility between pre-test and post-test of Experimental group is as under:

Group	Mean	SD	T-ratio
Pre-test	12.78	1.20	0.51
Post-test	12.59	1.22	

- N = 20 Level of Significance=0.05
- Tabulated 't'0.05(18)=2.02

**Figure 3**  
**Figure showing the Mean difference of Experimental group in pre and post test on Agility**



**Table 4**

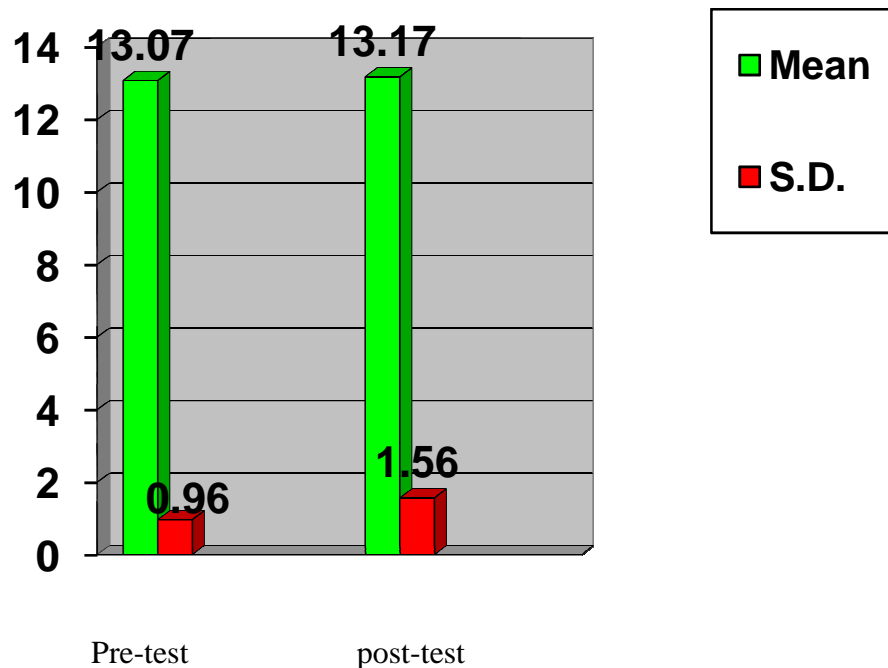
Shows statistical comparison of Agility between pre-test and post-test of Control group is as under:

Group	Mean	SD	T-ratio
Pre-test	13.07	0.96	0.25
Post-test	13.17	1.56	

- N = 20 Level of Significance=0.05
- Tabulated 't' $_{0.05(18)}$ =2.02

**Figure 4**

**Figure showing the Mean difference of Control group students in pre and post test on agility**



**Discussion of findings:-** It was observed that there was a significant improvement in the agility and speed of the experimental group through the circuit training programme. It was also found the there was no significant improvement in agility, speed and endurance of the control group which did not have the circuit training programme. Within the limitations of the study and from the findings of the analysis of the data, Circuit training may be considered as a vital part of the physical education programme in all schools/ colleges, to improve the Cardio vascular efficiency of the students.

This result is consistent with the findings as reported in previous research by Arazi & Asadi (2012), Thomas et al. (2009), and Al-Rashidi (2006), which indicated that using the circuit training method has its effectiveness in increasing and promoting physical fitness components. In other words, these findings indicate that using the circuit training method led to same noticeable improvement in the performance of all participants. These findings are in agreement with those of the studies of Alam et al. (2012), Taskin (2009), Jood Allah (2009), Hamoudat (2008), and Al-Wadayan (2001), which indicated that the circuit training method in the physical education lesson has an effective impact on the development and improvement of the physical fitness components, and creating a functional adaptation in their respiratory and circulatory systems.

#### **References :-**

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