



## EFFECT OF PLYOMETRIC TRAINING ON PHYSICAL FITNESS VARIABLE AGILITY OF SEDENTARY COLLEGE MEN

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### Abstract

*Sports have a very important role in modern society. It is important for an individual, a group, a nation and indeed the world. Sports performance is the result and expression of the total personality of a sports man. The purpose of the study was to determine the effect of plyometric training on agility of sedentary college men, the subjects were restricted to a minimum number of 30 subjects consisting of 15 Plyometric group and 15 control groups. They were randomly selected from The Government Arts College, Mutlur, Chidambaram, Cuddalore, Tamilnadu. The subject aged from 18 to 22 years as per the school records. The study was formulated as a random group design. Thirty Sedentary college men students were selected for this study were randomly divided in to two groups i.e Group 'A' Plyometric group Group 'B' control group. The score were compared by using (ANOVA) The level of significant chosen was 0.01 level and 0.05 level.*

**Keywords:** Plyometric, Agility, College Men.

### INTRODUCTION

Sports have a very important role in modern society. It is important for an individual, a group, a nation and indeed the world. Sports performance is the result and expression of the total personality of a sports man. The development of a sports man enabling him to achieve high level of performance is usually concerned in four areas namely physical power, social adjustment, psychological development and physiological efficiency. Different activities make different demands on the organism with respect to circulatory, respiratory, metabolic and neurological and temperature regulating functions. The concept of sports has been changed now a day. Due to the innovations brought by different sports sciences in the field of sports, now there are a number of scientific methods to improve each and every quality, which determines the performance in each games and sports. The same time development is according to the rate of demand of each games and sports. This is the main reason why the performance standards are going higher day by day. Sports is an institutionalized competitive activity that involves physical exertion or the use of relative complex physical skills by individuals whose participation is motivated by a combination of the intrinsic satisfaction associated with the activity itself and the external rewards earned through participation.

### METHODOLOGY

The purpose of the study was to find out the effect of plyometric training on agility of sedentary college men. Since the test involved physical fitness test, the subjects were restricted to a minimum number of 30 subjects consisting of 15 Plyometric group and 15 control groups. They were randomly selected from The Government Arts College, Mutlur, Chidambaram, Cuddalore, Tamilnadu. The subject aged from 18 to 22 years as per the school records. The subjects assured their voluntary participation during the training period. The study was formulated as a random group design. Thirty Sedentary college men students were selected for this study were randomly divided in to two groups i.e Group 'A' Plyometric group (N=10) Group 'B' control group (N=10). The Plyometric group underwent the training period of 12 weeks. The control group did not involve in any strenuous physical activity during the course of study. However plyometric group and control group were permitted to attend their routine curriculum. The subjects were tested at the beginning (pre test) and end of the experiment (post test) in the period of twelve weeks for the physical fitness variable agility by shuttle run test. The programme was scheduled for in evening sessions between 4:30 p.m and 5:30 p.m. The training programme consists of Plyometric training.

## ANALYSIS OF DATA AND RESULTS OF THE STUDY

**TABLE I**  
**ONE WAY ANALYSIS OF VARIANCE (ANOVA) FOR PRE- TEST SCORES OF SHUTTLE RUN**

Source of variance	Sum of squares	Df	Mean square	'F'
Between	.137	1	.137	.155
Within	24.846	28	.887	
Total	24.983	29		

Table Value for DF (1, 28) at 0.05 level = 4.20, DF (1, 28) at 0.01 level = 7.64

The difference in pre test mean scores across groups is tested with ANOVA and the results are portrayed in table I. It is apparent from the examination of result that there is no significant difference in pre test group means of shuttle run. This is because F value obtained from the analysis is insignificant for pre test scores (.155). The lack

of significant has clearly revealed that there is no difference in group mean values. The calculated F-value is lesser than table the value of 4.20 at 0.05 level and hence it is not significant. Therefore, there is no significant difference among pre-test scores of Shuttle run scores of control and experimental group.

**TABLE II**  
**ONE WAY ANALYSIS OF VARIANCE (ANOVA) FOR POST- TEST SCORES OF SHUTTLE RUN**

Source of variance	Sum of squares	Df	Mean square	'F'
Between	6.403	1	6.403	7.983
Within	22.459	28	.802	
Total	28.863	29		

Table Value for DF (1, 28) at 0.05 level = 4.20, DF (1, 28) at 0.01 level = 7.64

**TABLE III**  
**SCHEFFE'S TEST: TEST OF SIGNIFICANCE OF THE DIFFERENCE BETWEEN PAIRS OF MEANS**

Mean values		Mean difference	LS
Control group	Experimental group	0.92	0.01
15.05	14.13		

Scheffe's Confidence Interval at 0.05 level = 0.670 at 0.01 level = 0.904

Table III presents the result of scheffe's post hoc test for post test scores of agility on shuttle run of Experimental group. It is apparent from the table that there is remarkable difference between control group and experimental group. However, the mean difference (MD=0.92) is significant at 0.01 level of (MD>0.904.CI value at 0.01 level). The above picture clearly envisages that Plyometric training has significant impact has marginal effect on shuttle run of experimental group.

**CONCLUSIONS**

The result of the study seems to be permitting the following conclusions.

1. Participation in 12 weeks plyometric training improves agility.

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