

# Study was to investigate the Comparative Effects of Weight Training, Interval Training and Plyometric Training on Variables Like Flexibility

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**Abstract:** The aim of the research is to study the Study was to Investigate the Comparative Effects of Weight Training, Interval Training and Plyometric Training Variables Like Flexibility. Total 80 students from Saurashtra Uni. Phy.Edu. Department male students with age range to 17 to 21 years. were selected at the subject. These students were divided into Four groups i.e. 20 students in Weight Training group, 20 students in Interval Training group, 20 students in Plyometric Training group and 20 students in control group. Speed were tested by Sit and Rich Test, respectively twice i.e. before and after the particular 10 weeks training. Analysis of Covariance (ANCOVA) was applied at 0.05 level of significance to test the hypothesis. It was observed from the result of the study that both the experimental groups improved significantly in Flexibility and due to the particular of Weight Training, Interval Training and Plyometric Training.

**Key Words:** Weight Training, Interval Training, Plyometric Training, Flexibility.

## 1. INTRODUCTION :

As a many sided social phenomenon, sports is an active preparing a person for leisure and other socially necessary types of activity and alongside this, one of the important means of the ethic and aesthetic education, satisfaction of the moral requirements of its historical development sport has occupied a prominent place both in the physical, as well as in the moral culture of a society. Its social significance continues to soar. The sphere of sports therefore includes rather varied kinds of activity. A number of "ancient" sports (running, jumping, throwing, wrestling, etc.) originated from definite forms of work and then combat actions. The forms of sports movements and actions invariably changed compared with their initial basis, developing in accordance with the requirements of the sporting activity.

## 2. Objective of the Study :

The main objective of this study was to investigate the comparative effects of weight training, interval training and plyometric training on variables like Flexibility

## 3. Delimitations:

Subjects of the present study were delimited to the college level male students with age range to 17 to 21 years. The study was limited for the college level male students only from M.p.ed Department, Sau. Uni. Rajkot. The total number of subjects was delimited to eighty and there were four groups. Each group was consisted of twenty subjects. The period of training programme was delimited to 10 weeks. The study was also delimited to the following variables Speed

## 4. Measurement Criterion :

Following criterion measures were selected to record the data on various tests. After the study of literature and in consultation with the Professional experts, the following variables were selected as the Criterion measures in this study for testing the hypothesis.

**4.1 Flexibility :** Flexibility was measured by sit and reach test recorded in inches.

## 5. Design of the study:

Random group design was employed in this study. Equal number of subjects was assigned to four groups three experimental group each consisting of 20 students randomly. The control group was not involved in any training. The pretest was taken before administrating the training. At the end of 10 weeks the post test was taken. The three experimental groups were exposed to training respectively e.g. weight training group, interval training group and plyometric training group for the period of 10 weeks excluding the period utilized for the testing under the personal supervision of the researcher.

### 5.1 Collection of data

The pre and post test data on the selected criterion variables were collected by administering the test as per the standardized Procedures before and after the ten weeks of the training programme. The data of selected variables like flexibility were collected from standing broad jump, Before the test all the subjects were briefed about the objectives and the requirements of variables that were to be tested. No motivation was given to the subjects before the test.

### 5.2 Statistical techniques :

In order to find opt the comparative effects of weight training, interval training and plyometric training on college level male students analysis of covariance was applied. The level of significance was set at 0.05.

### 6. Analysis of Data and Result of the Study :

The statistical analysis of data has been presented in this chapter. Data of 50 Yard Dash Test, 10 meter Shuttle Run Test, Sit and Reach Test, Sit up Test and Standing Broad Jump tests were collected from all the experimental groups and control group twice i.e. pre-test and post-test. Further the LSD Post Hoc tests were applied to find the significance of mean difference among specific group means

**Table - 1**  
**ANCOVA table of Sit & Reach Test**

Test	Group				Ancova table			
	A	B	C	D	Sum of square	Df	Mean sum of square	"F"
Pre test Mean	3.75	3.6	3.8	3.75	0.45	3	0.15	0.057
					199.5	76	2.625	
Post test mean	4.7	4.6	6.1	4.2	41.2	3	13.733	4.970*
					210	76	2.763	
Adjusted mean	4.677	4.714	6.031	4.177	37.716	3	12.572	22.090*
					42.685	75	0.569	

\*Significant Level 0.05 F (3.75) = 4.08

It is evident from table - 1 that the pre-test mean of Sit & Reach Test of Group - A, Group - B, Group - C and Group - D is 3.75, 3.6, 3.8 and 3.75 respectively. The calculated F value of pre-test is 0.057, which is not significant at 0.05 level. The post-test mean of Sit & Reach Bench Test of Group - A, Group - B, Group - C and Group - D is 4.7, 4.6, 6.1 and 4.2 respectively. The calculated F value of pre-test is 4.970, which is significant at 0.05 level. The adjusted mean of Sit & Reach Bench Test of Group - A, Group - B, Group - C and Group - D is 4.677, 4.714, 6.031 and 4.177 respectively. The calculated Value of adjusted mean is 22.090, which is significant at 0.05 level. As the value of calculated ANCOVA is significant LSD test was applied.

**Table - 2**  
**LSD Test of Sit & Reach Test**

Mean				Mean difference	Critical difference
A	B	C	D		
4.677	4.714			0.037	0.472
4.677		6.031		1.354*	
4.677			4.177	0.5*	
	4.714	6.031		1.316*	
	4.714		4.177	0.537*	
		6.031	4.177	1.854*	

\*Significant Level 0.05

It is evident from table - 2 that the difference of Adjusted Means of Group - A and Group - B is 0.037 which is not greater than critical difference i.e. 0.472, the difference of Adjusted Means of Group - A and Group - C is 1.354 which is greater than critical difference i.e. 0.472, the difference of Adjusted Means of Group - A and Group - D is 0.5 which is greater than critical difference i.e. 0.472, the difference of Adjusted Means of Group - B and Group - C is 1.316

which is greater than critical difference i.e. 0.472, the difference of Adjusted Means of Group - B and Group - D is 0.537 which is greater than critical difference i.e. 0.472, the difference of Adjusted Means of Group - C and Group-D is 1.854 which is greater than critical difference i.e. 0.472 .

#### **7. Discussion of Findings :**

It is observed from the findings of the study that there is significant improvement in Flexibility of subjects of all three experimental groups i.e. Weight Training, Interval Training and Plyometrics Training. The reason for the same could be the particular training may have improved the factors affecting Flexibility.

#### **REFERENCES:**

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