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

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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 Speed. Total 80 students from college level 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 50 Yard Run 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 Speed and due to the particular of Weight Training, Interval Training and Plyometric Training.*

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

1. INTRODUCTION :

Physical education is an educational process that has as its aim the improvement of human performance and enhancement of human development through the medium of physical activities selected to realize this outcome. In this definition, education is broadly defined as representing the ongoing process of learning and total development that occurs throughout our lifespan. Physical education includes the acquisition and refinement of motor skills, the development and maintenance of fitness for optimal health and wellbeing the attainment of knowledge about physical activities and exercise, and the development of positive attitudes towards physical activity as a means to improve human performance. Physical education is not only connected with the physical outcomes that development of knowledge and attitudes conducive to lifelong learning and lifespan participation. Sound physical education programs can be conducted in school as well as in non-school settings such as corporate fitness centers and community agencies.

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 Speed

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 Rajkot District in Bhayavadar Village. 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 Speed :- Speed was measured by 50 yard dash test was recorded up to 1/100 of a seconds.

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 speed, collected from 50 Yard dash 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 50 Yard Dash Test

Test	Group				Ancova table			
	A	B	C	D	Sum of square	Df	Mean sum of square	"F"
Pre test Mean	7.697	7.602	7.642	7.566	0.188	3	0.062	0.426
					11.218	76	0.147	
Post test mean	7.228	7.022	7.341	7.538	2.714	3	0.904	7.214*
					9.531	76	0.125	
Adjusted mean	7.235	7.040	7.329	7.583	3.052	3	1.017	24.256*
					3.145	75	0.041	

***Significant Level at 0.05 F (3.75) = 4.08**

It is evident from table - 6 that the pre-test mean of 50 Yard Dash Test of Group - A, Group - B, Group - C and Group - D is 7.697, 7.602, 7.642 and 7.566 respectively. The calculated F value of pre-test is 0.426, which is not significant at 0.05 level. The post-test mean of 50 Yard Dash Test of Group - A, Group - B, Group - C and Group - D is 7.288, 7.022, 7.341 and 7.538 respectively. The calculated F value of pre-test is 7.214, which is significant at 0.05 level. The adjusted mean of 50 Yard Dash Test of Group - A, Group - B, Group - C and Group - D is 7.235, 7.040, 7.329 and 7.583 respectively. The calculated F value of adjusted mean is 24.256, which is significant at 0.05 level. As the value of calculated ANCOVA is significant LSD test was applied.

Table - 2
LSD Test of 50 Yard Dash Test

Mean				Mean difference	Critical difference
A	B	C	D		
7.235	7.040			0.195*	0.128
7.235		7.329		0.093	
7.235			7.583	0.348*	
	7.040	7.329		0.289*	
	7.040		7.583	0.543*	
		7.329	7.583	0.254*	

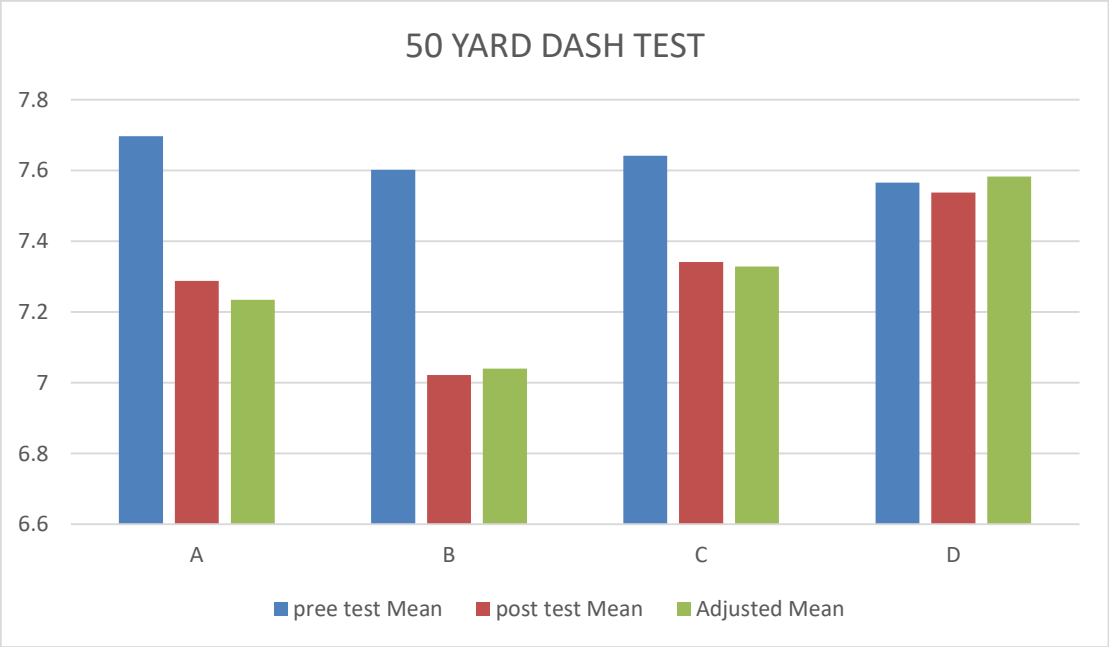
***Significant Level at 0.05**

It is evident from table – 2 that the difference of Adjusted Means of Group - A and Group - B is 0.195 which is greater than critical difference i.e. 0.128, the difference of Adjusted Means of Group - A and Group - C is 0.093 which is not greater than critical difference i.e. 0.128, the difference of Adjusted Means of Group - A and Group - D is 0.348 which is greater than critical difference i.e. 0.128, the difference of Adjusted Means of Group - B and Group - C is 0.289 which is greater than critical difference i.e. 0.128, the difference of Adjusted Means of Group - B and Group - D is 0,543 which is greater than critical difference i.e. 0.128, the difference of Adjusted Means of Group - C and Group - D is 0.254 which is greater than critical difference i.e. 0.128.

7. Discussion of Findings:

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

Figure-1
Graphical Representation of Different Training on 50 Yard Dash Test
Comparison of Means of 50 Yard Dash Test



	A	B	C	D
Pre test mean	**7.697**	**7.602**	**7.642**	**7.566**
Post test mean	**7.288**	**7.022**	**7.341**	**7.538**
Adjusted mean	**7.235**	**7.04**	**7.329**	**7.583**

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