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## Effect of weight training and circuit training on selected health related physical fitness component among post graduate students of S.R.T.M. University Nanded

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### Abstract

**Background:** The purpose of study was to find out the effect of weight training and circuit training on selected health related physical fitness component among post graduate students of Swami Ramanand Teerath Marathwada University Nanded and one variable was selected that is Flexibility.

**Materials and Methods:** Data was collected on individually through 30 control and 30 experimental group of subjects of Swami Ramanand Teerath Marathwada University Nanded on athletic track. The age range between 18±28 years was selected as the subject for the study. The instruction of training was given by researcher every day before starting the training in Swami Ramanand Teerath Marathwada University Nanded Maharashtra. Simple random sampling was used for collection of data. The data was analyzed using descriptive and t test. Only one variable of health related Physical fitness component was selected that is Flexibility and Sit and Reach test was used in this study.

**Results:** The mean value of control group and experimental group in relation to flexibility of post graduate students was (1.75pr #2.01ps) and (2.21pr# 4.11ps) respectively in relation to Flexibility. Calculated t-ratio of control group was 0.257 and experimental group was 2.054 in relation to Flexibility.

**Conclusions:** Significant effect of weight training and circuit training on selected health related physical fitness component was found among post graduate students of Swami Ramanand Teerath Marathwada University Nanded, in relation to Flexibility.

**Keywords:** health related physical fitness, flexibility, weight training, circuit training and post graduate students

### Introduction

The definition of health-related fitness involves exercise activities that you do in order to try to improve your physical health and stay healthy, particularly in the categories of cardiovascular endurance, muscular strength, flexibility, muscular endurance and body composition. Without adequate flexibility, daily activities, such as getting out of bed, lifting a child or squatting to pick something up can become more difficult to do. In addition, inadequate flexibility can affect your athletic performance by preventing you from reaching the full potential, strength and power of your muscles.

**Flexibility:** Flexibility is defined as the range of motion of your joints or the ability of your joints to move freely. It also refers to the mobility of your muscles, which allows for more movement around the joints. Range of motion is the distance and direction your joints can move, while mobility is the ability to move without restriction.

**Circuit training:** Circuit training is a form of conditioning combining resistance training and high-intensity aerobics. It is designed to be easy to follow and target strength building as well as muscular endurance. An exercise "circuit" is one completion of all prescribed exercises in the program. When one circuit is complete, one begins the first exercise again for another circuit. Traditionally, the time between exercises in circuit training is short, often with rapid movement to the next exercise.

**Weight training:** Although weight training is similar to bodybuilding, they have different objectives. Bodybuilders use weight training to develop their muscles for size,

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shape, and symmetry regardless of any increase in strength for competition in bodybuilding contests; they train to maximize their muscular size and develop extremely low levels of body fat. In contrast, many weight trainers train to improve their strength and anaerobic endurance while not giving special attention to reducing body fat far below normal. (Westcott PhD, 2012) The bodybuilding community has been the source of many of weight training's principles, techniques, vocabulary, and customs. Weight training does allow tremendous flexibility in exercises and weights which can allow bodybuilders to target specific muscles and muscle groups, as well as attain specific goals. Not all bodybuilding is undertaken to compete in bodybuilding contests and, in fact, the vast majority of bodybuilders never compete, but body build for their own personal reasons. (Kitai TA, Sale DG (1989) [10].

**Materials and Methods**

The sample comprised of Total 60 post graduate students of

Swami Ramanand Teerath Marathwada University Nanded were selected as a subject for the presented study & their age ranged from 18 to 28 years. Subjects were divided into two groups, 30 in experimental group and 30 in control group of S.R.T.M University Nanded. The two samples may be treated as homogeneous with respect to age. For the present study, modified tools were used for data collection Sit and Reach test, Steel Scale, and wooden Table. To analysis the data, mean, standard deviation and t-ratio was used to significant value of 0.05 levels. Only one variable was selected as independent variables for the study.

- Flexibility

**Results and Discussions**

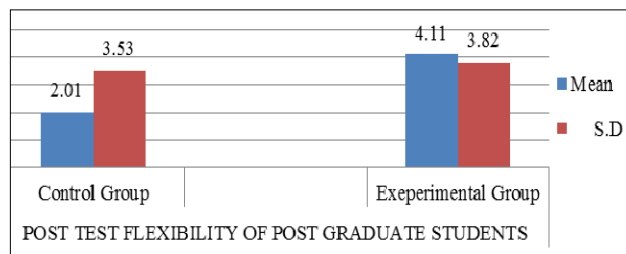
Mean and standard deviation of Health related physical fitness component of Control and Experimental Group of post graduate students of S.R.T.M. University Nanded with respect to Sit and reach test to measure the Flexibility variable.

**Table 1:** Comparison of control and experimental group in relation to flexibility

Variable	No	Group	Mean	SD	S.V(0.05)	T-ratio	
Flexibility	30	Control group	Pre-test	1.75	4.03	2.048	0.257
			Post-test	2.01	3.82		
	30	Experimental	Pre-test	2.21	3.53	2.048	2.054
			Post-test	4.11	3.82		

\*Significant at 0.05 level of significance

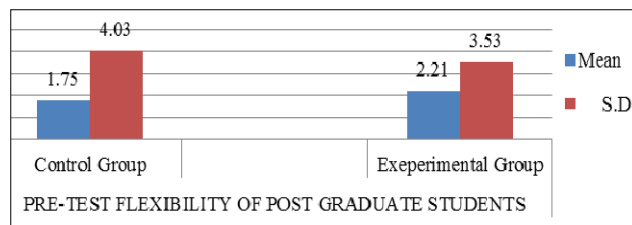
From the above table it was observed that the mean and standard deviation of Control and Experimental Group of post graduate students was (1.75#4.03pre) (2.01#3.82post) and (2.21#3.53pre) (4.11#3.82post) respectively. After applying “t” test it was found that the t- ratio of post graduate students of control group was found 0.257 and experimental group 2.054 in relation to Flexibility which was significant at the 0.05 level of significance. So the hypothesis may be accepted. Significant effect was found among post graduate students in relation to Flexibility. This significant effect can be attributed to the fact that nature of the training (Control and Experimental Group) demands more or less equal amount of effort. Moreover, the Control and Experimental Group of post graduate students both were from the same institution and followed not same routine of training. Experimental Group was better than Control group, because the experimental group was doing daily regular exercises. With the help of daily exercises, the flexibility level of the experimental group found increase. As a result, there was significant effect of weight training and circuit training on health related physical fitness of post graduate students of S.R.T.M. University Nanded in relation to Flexibility level.



**Fig 2:** Graphical representation of Mean and Standard Deviation of Post Test of Control Group and Experimental Group in relation to flexibility

**Conclusions**

In the light of the findings, it was concluded that significant difference exists between the mean of Control and Experimental Group of post graduate students of S.R.T.M. University Nanded in relation to Flexibility level. Significant effect was found that of the weight training and circuit training on selected health related physical fitness component among post graduate students of S.R.T.M. University Nanded in relation to flexibility.



**Fig 1:** Graphical representation of Mean and Standard Deviation of Pre-Test of Control Group and Experimental Group in relation to flexibility

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