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INFLUENCES OF CIRCUIT TRAINING ON ATHLETIC PERFORMANCES AMONG SCHOOL BOYS

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ABSTRACT

The purpose of the present study was to find out the influences of circuit training on athletic performances among school boys. To achieve the purpose of this study, thirty boys from six higher secondary schools of Coimbatore District, Tamilnadu state, India were selected as subjects at random and their age ranged from 16 to 18 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent circuit training and Group 'B' underwent no training. The experimental group had undergone training for six weeks on alternate days. The variables namely 100 metres dash, Long jump and Shot put were calculated the data were subjected to analysis of covariance technique. It was found that the circuit training group showed significant improvement on 100 metres dash, Long jump and Shot put among school boys. It was also found that the experimental group shown significant improvement on 100 metres dash, Long jump and Shot put than the control group.

KEYWORDS: circuit training, 100 metres dash, Long jump and Shot put, School Boys.

INTRODUCTION

Sports training aims at education and performance enhancement based on scientific principles through physical exercise. It is a basic groundwork of sportsman for elite performance. The development of physical fitness includes organic functions and increasing the strength and stability of the musculo-skeletal system, Singh, H. (1991). Training and sports performances are closely interrelated with each other. Without training, there would be no prolific performances in sports and games at any level of competition. So all the coaches, physical trainers, physical education directors are really working hard to improve the performance of the athletes to earn many laurels for the clubs, the institution and the nations. Sports and games in the present world have become extremely competitive as it is not the mere participation that brings out victory to an individual. Therefore sports career of the athlete is affected by various factors like physical condition, facing the opponents, tactical preparation, balanced aptitude, selection of equipment's, creativity, appreciation from the society, perceiving tendency and methods of training etcetera.

Circuit training is an exercise program that develops overall fitness. Performed regularly, circuit training will simultaneously improve muscular strength, endurance, cardiovascular fitness, and flexibility, Stan Reents (2015). Circuit training was invented in 1953 as an efficient way for coaches to train many athletes in a limited amount of time with limited equipment. The exerciser moved through a series of weight training or calisthenics arranged consecutively. It was a fast-paced workout of 15 to 45 seconds per station with little (15 to 30 seconds) or no rest between stations. Today, this is known as "circuit weight training". Research has shown that it can increase muscular strength and endurance. There is a mild improvement in aerobic stamina but only if the rest periods are kept very short. Another variation is "aerobic circuit training". Aerobic stations like a treadmill, rower, bike, or stepper (one to five minutes per station) are interspersed with weight training stations. This protocol has been found to increase aerobic stamina and muscular endurance.

MATERIALS AND METHODS

The purpose of the present study was to find out the influences of circuit training on athletic performances among school boys. To achieve the purpose of this study, thirty boys from six higher secondary schools of Coimbatore District, Tamilnadu state, India were selected as subjects at random and their age ranged from 16 to 18 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent circuit training and Group 'B' underwent no training. The experimental group had undergone training for six weeks on alternate days. The variables namely 100 metres dash, Long jump and Shot put were calculated the data were subjected to analysis of covariance technique.

TABLE – I
TRAINING PROGRAMME

S.No	Exercises	Repetition	Sets	Recovery
1	Bicycle kicks	8	3	2-3 Mins
2	Front box jump			
3	Ricochets			
4	Burpee jump			
5	Short Sprints			
6	Hip thrusts			

RESULTS AND DISCUSSIONS

The results were presented in the following tables II to IV.

TABLE - II
DESCRIPTIVE ANALYSIS OF SELECTED ATHLETIC PERFORMANCES OF CIRCUIT TRAINING GROUP

Sl.No	Variables	Pre Test Mean	SD (±)	Post Test Mean	SD (±)	Adjusted Mean
1	100 metres dash	14.52	1.18	13.59	0.30	13.56
2	Long jump	4.20	0.41	4.61	0.11	4.60
3	Shot put	5.95	0.52	6.25	0.13	6.25

The above table documents the pre & post tests means, standard deviations and adjusted mean values of circuit training group on selected variables.

TABLE - III
DESCRIPTIVE ANALYSIS OF SELECTED ATHLETIC PERFORMANCES OF CONTROL GROUP

Sl.No	Variables	Pre Test Mean	SD (±)	Post Test Mean	SD (±)	Adjusted Mean
1	100 metres dash	14.57	1.30	14.50	0.36	14.51
2	Long jump	4.21	0.39	4.26	0.50	4.25
3	Shot put	6.05	0.15	6.08	0.30	6.08

The above table documents the pre & post tests means, standard deviations and adjusted mean values of control group on selected variables.

TABLE - IV
COMPUTATION OF ANALYSIS OF COVARIANCE OF BOTH THE GROUPS ON SELECTED ATHLETIC PERFORMANCES
AMONG SCHOOL BOYS

Sl. No	Skills	Source of Variance	Sum of Squares	df	Mean Square	F
1	100 metres	BG	**13.64**	1	**4.54**	**7.83***
		WG	**31.93**	27	**0.58**	
2	Long jump	BG	**2.52**	1	**0.84**	**4.23***
		WG	**14.28**	27	**0.26**	
3	Shot put	BG	**9.30**	1	**3.10**	**11.69***
		WG	**14.59**	27	**0.265**	

* Significant at 0.05 level *F 0.05 (1,27) = 4.21

In table-IV the results of analysis of covariance on 100 metres, Long jump and Shot put were 7.83, 4.23 and 11.69 was greater than the required value 4.21 at 0.05 level of confidence. Since the observed 'F' value was greater then the table 'F' value on all selected variables. Hence there exists significant difference among the groups.

FIGURE I
SHOWING THE MEAN VALUES OF CIRCUIT TRAINING AND CONTROL GROUPS ON 100 METRES AMONG SCHOOL BOYS

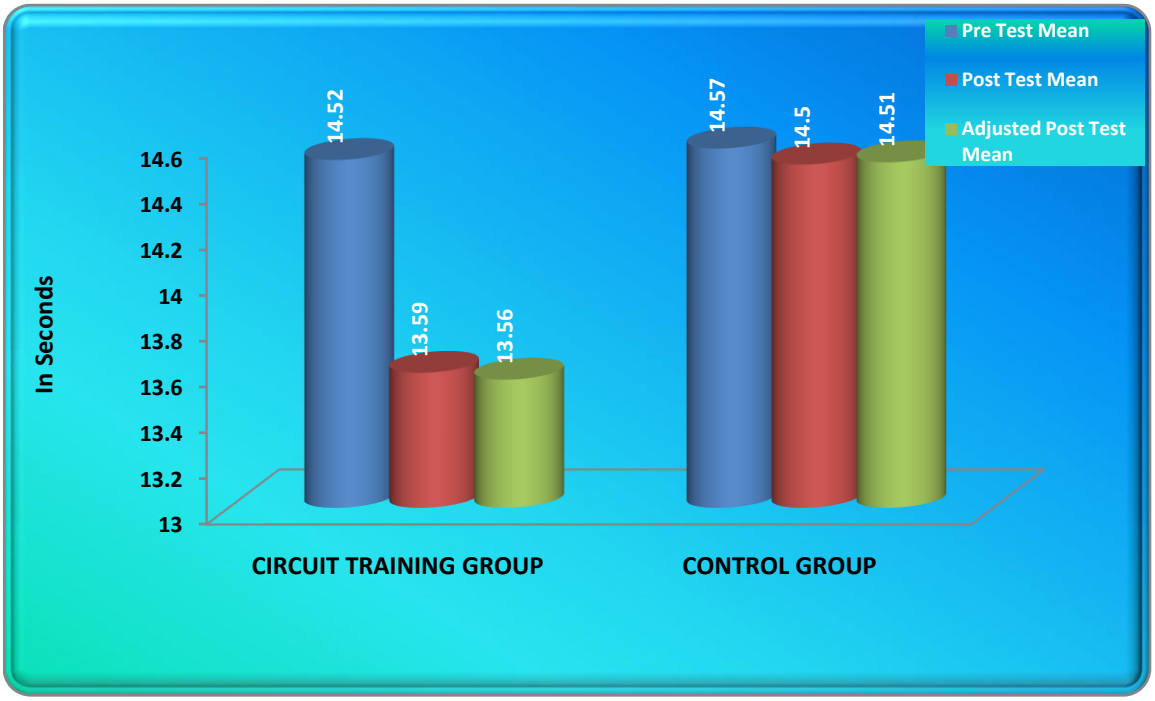


FIGURE II
SHOWING THE MEAN VALUES OF CIRCUIT TRAINING AND CONTROL GROUPS ON LONG JUMP AMONG SCHOOL BOYS

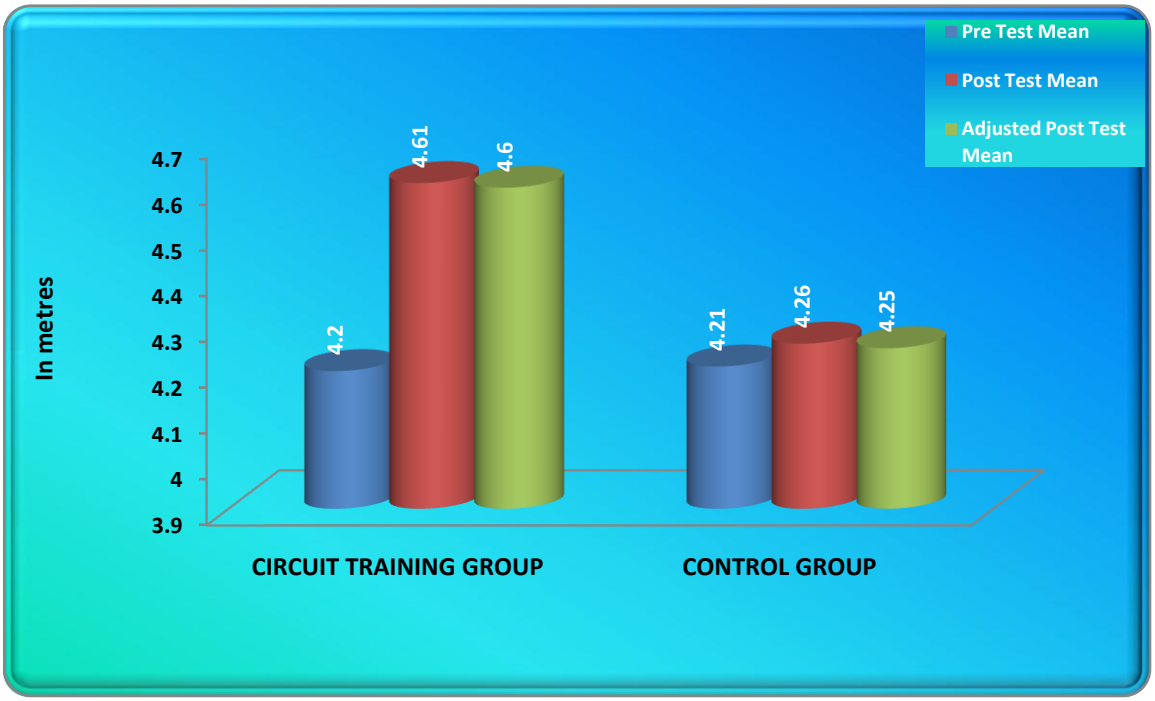
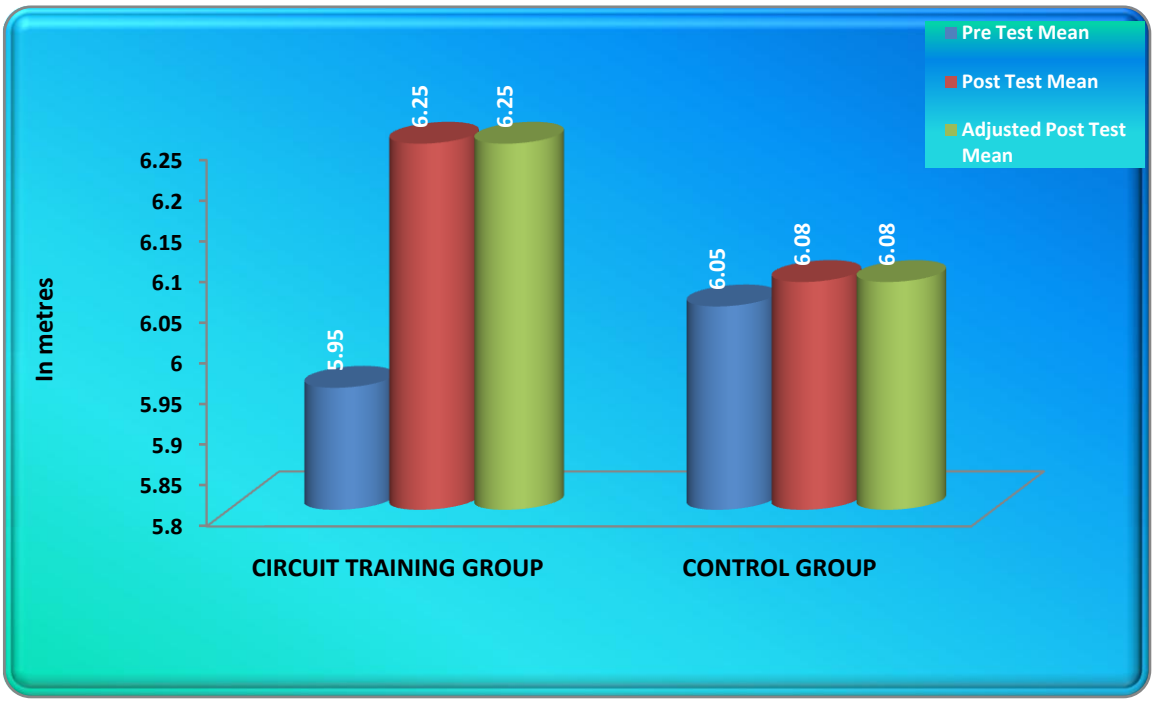


FIGURE III
SHOWING THE MEAN VALUES OF CIRCUIT TRAINING AND CONTROL GROUPS ON SHOT PUT AMONG SCHOOL BOYS



CONCLUSIONS

From the analysis of data, the following conclusions were drawn.

1. It was found that the circuit training group showed significant improvement on 100 metres, Long jump and Shot put among school boys.
2. It was also found that the experimental group shown significant improvement on 100 metres, Long jump and Shot put than the control group.

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