

INFLUENCE OF WEIGHT CIRCUIT TRAINING ON SELECTED PHYSIOLOGICAL VARIABLES AMONG COLLEGE MEN STUDENTS

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ABSTRACT

The purpose of the study was designed to examine the effect of weight circuit training on breath holding time and resting pulse rate of college men students. For the purpose of the study, thirty college men students from the colleges in and around Namakkal District were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent weight circuit training for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely breath holding time and resting pulse rate were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using holding the breath for time and radial pulse respectively at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate. The results of the study showed that there was a significant difference between weight circuit training group and control group on breath holding time and resting pulse rate. And also it was found that there was a significant change on breath holding time and resting pulse rate due to twelve weeks of weight circuit training.

KEYWORDS: WEIGHT CIRCUIT TRAINING, BREATH HOLDING TIME, RESTING PULSE RATE, COLLEGE MEN STUDENTS

INTRODUCTION

Circuit training is a form of training where participants rotate through a number of stations, performing different exercises to time or repetitions, back-to-back, with minimum rest until the circuit is completed. There are various ways of constructing a circuit, but they would normally contain several movements including body weight, weighted and dynamic exercises. The great thing about circuits is the adaptability available. They can be developed for cardiovascular improvement, strength, mobility, sport specific...virtually anything. They also don't need a lot of space or time and don't need to be overly complicated. circuits are very easy to set up and they need minimum space and equipment. They can be used with weights, kettlebells, boxes, TRX and various other bits of equipment, but in many cases, bodyweight is more than adequate.

METHODOLOGY

The purpose of the study was designed to examine the effect of weight circuit training on breath holding time and resting pulse rate of college men students. For the purpose of the study, thirty college men students from the colleges in and around Namakkal District were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent weight circuit training for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely breath holding time and resting pulse rate were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using holding the breath for time and radial pulse respectively at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate.

ANALYSIS OF THE DATA

Breath holding time

The analysis of covariance on breath holding time of the pre and post test scores of weight circuit training group and control group have been analyzed and presented in Table I.

TABLE I
ANALYSIS OF COVARIANCE OF THE DATA ON BREATH HOLDING TIME
OF PRE AND POST TESTS SCORES OF WEIGHT CIRCUIT TRAINING
AND CONTROL GROUPS

Test	Weight circuit training group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	43.20	42.80	Between	1.20	1	1.20	0.79
S.D.	1.28	1.06	Within	42.80	28	1.53	
Post Test							
Mean	47.93	43.07	Between	177.63	1	177.63	23.74*
S.D.	1.11	1.00	Within	209.50	28	7.48	
Adjusted Post Test							
Mean	47.84	43.16	Between	159.52	1	159.52	194.50*
			Within	22.14	27	0.82	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table I shows that the adjusted post-test means of weight circuit training group and control group are 47.84 and 43.16 respectively on breath holding time. The obtained "F" ratio of 194.50 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on breath holding time.

The results of the study indicated that there was a significant difference between the adjusted post-test means of weight circuit training group and control group on breath holding time.

Resting pulse rate

The analysis of covariance on resting pulse rate of the pre and post test scores of weight circuit training group and control group have been analyzed and presented in Table II

TABLE II
ANALYSIS OF COVARIANCE OF THE DATA ON RESTING PULSE RATE OF PRE AND POST TESTS SCORES OF WEIGHT CIRCUIT TRAINING AND CONTROL GROUPS

Test	Weight circuit training group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	72.53	72.07	Between	1.63	1	1.63	2.74
S.D.	0.72	1.14	Within	16.67	28	0.60	
Post Test							
Mean	69.67	71.47	Between	24.30	1	24.30	13.25*
S.D.	0.77	0.72	Within	51.37	28	1.83	
Adjusted Post Test							
Mean	69.55	71.58	Between	28.14	1	28.14	32.98*
			Within	23.03	27	0.85	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table II shows that the adjusted post-test means of weight circuit training group and control group are 69.55 and 71.58 respectively on resting pulse rate. The obtained "F" ratio of 32.98 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on resting pulse rate.

The results of the study indicated that there was a significant difference between the adjusted post-test means of weight circuit training group and control group on resting pulse rate.

CONCLUSIONS

1. There was a significant difference between weight circuit training group and control group on breath holding time and resting pulse rate.
2. And also it was found that there was a significant change on selected criterion variables such as breath holding time and resting pulse rate due to weight circuit training.

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