



## EFFECT OF CONCURRENT WEIGHT AND SAND RUNNING ON SELECTED PHYSICAL FITNESS PARAMETERS

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### Abstract

*The purpose of the present study was to find the effect of concurrent weight and sand running on selected physical fitness parameters namely leg strength and strength endurance. For this purpose of the study, thirtymen students studying bachelor's s degree in Department of physical education and sports sciences, Annamalai university, Annamalai Nagar, Tamil nadu were selected as subjects. The age group of 18 – 24 years were selected. They were divided into two equal groups of fifteen subjects each. In which group – I underwent concurrent weight and sand running [weight training for first six weeks and sand running for second six weeks] and group – II acted as control, who did not participate in any special training. The following variables namely leg strength and strength endurance were selected as criterion variables. The selected criterion variables namely leg strength and strength endurance were tested by using leg lift with dynamometer and bend knee sit ups separately. The pre and post test data were collected with the subjects at prior to and after the training period on selected criterion variables. The analysis of covariance (ANCOVA) was used to find out the significant difference, if any among the groups separately. In all the cases .05 level of confidence was fixed to test the significance, which was considered as an appropriate. It was concluded from the results that the concurrent weight and sand running group have improved leg strength and strength endurance significantly.*

**Keywords:** Concurrent, Weight, Sand Running, Physical Fitness.

### INTRODUCTION

Training is the process of preparation for some task. The term “training is widely used in sports. But there is some disagreement among coaches and sports scientists regarding the meaning of the word. Sports training is a scientifically based and pedagogically organised process which through planned and systematic effect on performance ability and performance readiness aims at sports perfection and performance improvement as at the contest in sports competition. Butcher considers physical education as “an integral part of total education process which has its aim the development of physically, mentally, emotionally and socially fit citizen through the medium of physical activities which have been selected with a view of realizing these outcomes.

### METHODOLOGY

The purpose of the present study was to find the effect of concurrent weight and sand running on selected physical fitness parameters namely leg strength and strength endurance. For this purpose of the study, thirtymen students studying bachelor's s degree in Department of physical education and sports sciences, Annamalai university, Annamalai Nagar, Tamil nadu were selected as subjects. The age group of 18 – 24 years were selected. They were divided into two equal groups of fifteen subjects each. In which group – I underwent

concurrent weight and sand running [weight training for first six weeks and sand running for second six weeks] and group – II acted as control, who did not participate in any special training. The following variables namely leg strength and strength endurance were selected as criterion variables. The selected criterion variables namely leg strength and strength endurance were tested by using leg lift with dynamometer and bend knee sit ups separately. The pre and post test data were collected with the subjects at prior to and after the training period on selected criterion variables. The analysis of covariance (ANCOVA) was used to find out the significant difference, if any among the groups separately. In all the cases .05 level of confidence was fixed to test the significance, which was considered as an appropriate.

### ANALYSIS OF THE DATA

The influence of concurrent weight and sand running on each criterion variables were analyzed separately and presented below.

### LEG STRENGTH

The analysis of covariance on leg strength of the pre and post test scores of concurrent weight and sand running group and control group have been analyzed and presented in Table I.

**TABLE I**  
**ANALYSIS OF COVARIANCE OF THE DATA ON LEG STRENGTH OF PRE AND POST TESTS SCORES OF CONCURRENT WEIGHT AND SAND RUNNING AND CONTROL GROUPS**

Test	Concurrent Weight and Sand Running Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
<b>Pre Test</b>							
Mean	93.24	92.89	Between	0.81	1	0.81	
S.D.	2.94	2.96	Within	8.62	28	0.307	2.63
<b>Post Test</b>							
Mean	98.11	92.92	Between	2.47	1	2.47	
S.D.	2.71	2.95	Within	9.24	28	0.33	7.48*
<b>Adjusted Post Test</b>							
Mean	98.24	92.91	Between	3.11	1	3.11	
			Within	9.199	27	0.340	9.147*

\* Significant at .05 level of confidence.

(The table value required for significance at .05 level of confidence with df 1 and 28, 1 and 27 were 4.20 and 4.215 respectively)

The table I shows that the adjusted post-test means of concurrent weight and sand running group and control group are 98.24 and 92.91 respectively on leg strength. The obtained "F" ratio of 9.147 for adjusted post-test means is more than the table value of 4.215 for df1 and 27 required for significance at .05 level of confidence on leg strength. The results of the study indicated that there was a significant difference between

the adjusted post-test means of concurrent weight and sand running group on leg strength.

#### STRENGTH ENDURANCE

The analysis of covariance on strength endurance of the pre and post test scores of concurrent weight and sand running running group and control group have been analyzed and presented in Table II.

**TABLE II**  
**ANALYSIS OF COVARIANCE OF THE DATA ON STRENGTH ENDURANCE OF PRE AND POST TESTS SCORES OF CONCURRENT WEIGHT AND SAND RUNNING AND CONTROL GROUPS**

Test	Concurrent Weight and Sand Running Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
<b>Pre Test</b>							
Mean	32.88	33.01	Between	0.141	1	0.141	
S.D.	0.18	0.19	Within	15.241	28	0.544	0.259
<b>Post Test</b>							
Mean	39.14	33.12	Between	4.897	1	4.897	
S.D.	0.09	0.18	Within	15.684	28	0.56	8.744*
<b>Adjusted Post Test</b>							
Mean	39.21	33.11	Between	6.48	1	6.48	
			Within	16.241	27	0.601	10.78*

\* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 42 and 2 and 41 are 3.222 and 3.226 respectively).

The table II shows that the adjusted post-test means of concurrent weight and sand running group and control group are 39.21 and 33.11 respectively on strength endurance. The obtained "F" ratio of 10.78 for adjusted post-test means is more than the table value of 4.215 for df 1 and 27 required for significance at .05 level of confidence on strength endurance. The results of the study indicated that there was a significant difference

between the adjusted post-test means of concurrent weight and sand running group on strength endurance.

#### CONCLUSIONS

1. There was a significant difference between concurrent weight and sand running group and control group on leg strength and strength endurance.

2. And also it was found that there was a significant improvement on selected criterion variables such as leg strength and strength endurance due to concurrent weight and sand running.

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