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PHYSICAL EDUCATION

EFFECT OF ALTERNATE PACE RUNNING ON CARDIO VASCULAR ENDURANCE AND SPEED ENDURANCE AMONG UNIVERSITY MEN STUDENTS

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ABSTRACT

The purpose of the study was designed to examine the effect of alternate pace running on cardio vascular endurance and speed endurance of university men students. For the purpose of the study, thirty men students from the Department of Physical Education and Sports Sciences, Annamalai University were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent alternate pace running 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 cardio vascular endurance and speed endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables 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 alternate pace running and control groups on cardio vascular endurance and speed endurance of university men students. And also it was inferred from the results that there was a significant improvement on selected criterion variables due to alternate pace running.

Keywords: Cardiovascular Endurance, Speed Endurance, University Students.

INTRODUCTION

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. J.P. Thomas says that "physical education is education through physical activities for the development of total personality of the child and its fulfillment and perfection in body mind and spirit".

METHODOLOGY

The purpose of the study was designed to examine the effect of alternate pace running on cardio vascular endurance and speed endurance of university men students. For the purpose of the study, thirty men students from the Department of Physical Education and Sports Sciences, Annamalai University were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent alternate pace running 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 cardio vascular endurance and speed endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables 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

CARDIO VASCULAR ENDURANCE

The analysis of covariance on cardio vascular endurance of the pre and post test scores of alternate pace running group and control group have been analyzed and presented in Table I.

TABLE I

ANALYSIS OF COVARIANCE OF THE DATA ON CARDIO VASCULAR ENDURANCE OF PRE AND POST TESTS SCORES OF ALTERNATE PACE RUNNING AND CONTROL GROUPS

Test	Alternate Pace Running group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	1539.67	1541	Between	0.3	1	0.3	0.412
S.D.	20.04	20.99	Within	20.4	28	0.729	
Post Test							
Mean	1550	1542.3	Between	17.63	1	17.63	21.39*****
S.D.	20.25	22.20	Within	23.07	28	0.824	
Adjusted Post Test							
Mean	1549.3	1540.33	Between	22.11	1	22.11	172.73*****
			Within	3.46	27	0.128	

* 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 alternate pace running group and control group are 1549.3 and 1540.33 respectively. The obtained "F" ratio of 172.73 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 cardio vascular endurance. The results of the study indicated that there was a significant difference between the adjusted post-test means of alternate pace running group and control group on cardio vascular endurance.

SPEED ENDURANCE

The analysis of covariance on speed endurance of the pre and post test scores of alternate pace running group and control group have been analyzed and presented in Table II

TABLE II
ANALYSIS OF COVARIANCE OF THE DATA ON SPEED ENDURANCE OF PRE AND POST TESTS SCORES OF ALTERNATE PACE RUNNING AND CONTROL GROUPS

Test	Alternate Pace Running group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	16.21	16.32	Between	0.004	1	0.004	0.032
S.D.	0.35	0.33	Within	3.52	28	0.125	
Post Test							
Mean	15.92	16.31	Between	119.56	1	119.56	52.67*****
S.D.	0.38	0.33	Within	63.56	28	2.27	
Adjusted Post Test							
Mean	15.84	16.30	Between	117.69	1	117.69	37.48*****
			Within	84.72	27	3.14	

* 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 alternate pace running group and control group are 15.84 and 16.30 respectively. The obtained "F" ratio of 37.48 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 speed endurance. The results of the study indicated that there was a significant difference between the adjusted post-test means of alternate pace running group and control group on speed endurance.

CONCLUSIONS

1. There was a significant difference between alternate pace running group and control group on cardio vascular endurance and speed endurance.
2. And also it was found that there was a significant improvement on selected criterion variables such as cardio vascular endurance and speed endurance due to alternate pace running.

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