

Effects of Aerobic Training and Continuous Running on Athletic Performance of College Men Players



Physical Education

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ABSTRACT

The purpose of this study was to find out the effects of aerobic training and continuous running on the athletic performance of college men players. The study was conducted on thirty men athletes from various Education College in Kanyakumari District whom were randomly selected as subjects. Then they were randomly assigned equally into three groups. Group - I underwent Aerobic Training Group (n = 10), Group -II underwent continuous running Group (n = 10) and Group - III acted as control Group (n = 10). Among the various athletic performance factors only 5000 meters run was selected as dependent variable. The selected dependent variable was assessed by 5000 meters run test on the standard track. The data collected prior and immediately after the training period was assessed by Analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, the Scheffe's test was applied as post-hoc test to determine the paired mean differences. The level of confidence was fixed at 0.05 level for all the cases. 5000 meters running performance showed significant difference among the groups.

Introduction

Aerobic exercise refers to exercise that involves or improves oxygen consumption by the body. Aerobic means "with oxygen", and refers to the Use of oxygen in the body's metabolic or energy-generating process. Many types of exercise are aerobic, and by definition are performed at moderate levels of intensity for extended periods of time. To obtain a best result, an aerobic exercise session involves a warming up period, followed by at least 20 minutes of moderate to intense exercise involving large muscle groups, and a cooling down period at the end was designed.

Aerobic movement as a formal exercise has been popular since the late 1960's. The correlation between optimum physical activity and lowered incidence of cardiovascular disease gained wide medical acceptance. Exercise also appears to strengthen the immune system and ameliorate depression. Aerobic workout innovations from the 1980s to the early 2000s included such equipment as steps, weights, and elastic bands; cross-training programs, which involve two or more types of exercise; aerobic dances that combine yoga, martial arts, and other forms of movement with music including African, Caribbean, salsa, hip-hop, rock, and jazz; and adaptations of such traditional activities as bicycling and boxing into aerobic routines such as spinning and cardio-kickboxing.

Continuous training is a type of physical training that involves activity without rest. This type of training may be of high intensity to moderate intensity with an extended duration, or fartlek training. Continuous training means the person training uses 60-80% of their maximum heart rate for at least 30-60 minutes at least four or five times a week. This method suits long distance runners as well as tennis players. It means that their endurance levels will increase, and it is the way which they would normally compete. Continuous training is a best way for an athlete to build up their cardio-vascular endurance levels. Continuous forms the basis for all other training methods both anaerobic and aerobic.

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effects of aerobic training and continuous running on athletic performance of the college men players.

HYPOTHESIS

1. It was hypothesized that there would be a significant improvement on 5000 meters running performance due to the effect of aerobic training and continuous running.
2. It was hypothesized that there would be significant difference among aerobic training, continuous running and control groups on the performance of 5000 meters run among

college men players.

METHODOLOGY

The study was conducted on thirty men athletes from various Education College in Kanyakumari District, which were randomly selected as subjects. They were randomly assigned equally into three groups, Group - I underwent Aerobic Training Group (n = 10), Group - II underwent Continuous running Group (n=10) and Group-III acted as control Group (n=10). Among the various athletic performance factors only 5000 meters running performance was selected as dependent variable, the selected dependent variable was assessed by 5000 meters run test on the standard track.

The data collected prior and immediately after the training period was assessed by Analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, the Scheffe's test was applied as post-hoc test to determine the paired mean differences. The level of confidence was fixed at .05 level for all the cases. 5000 meters running performance showed significant difference among the groups.

Results and Discussion

The Analysis of covariance (ACOVA) on 5000 meters run performance of experimental groups and control group have been analyzed and presented in Table-I

TABLE - I
ANALYSIS OF COVARIANCE ON 5000 METERS RUN PERFORMANCE OF EXPERIMENTAL GROUPS AND CONTROL GROUP

Adjusted Post-test Means			Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
Aerobic Training Group(I)	Continuous Running Group(II)	Control Group (III)					
16.97	16.39	17.34	Between	2.41	2	1.205	13.24*
			Within	2.37	26	.091	

* Significant at .05 level of confidence (5000 Meters Run Scores in Minutes)

(The table value required for Significance at .05 level with df 2 and 26 is 3.37)

Table I shows that the adjusted post test mean value of 5000 meters run performance for aerobic training group, continuous running group and control group were 16.97, 16.39 and 17.34 respectively. The obtained F-ratio of 13.24 for the adjusted post

test mean is more than the table value of 3.37 for df 2 and 26 required for significance at .05 level of confidence.

The results of the study indicate that there are significant differences among the adjusted post test means of aerobic training group, continuous running group and control group on 5000 meters run performance. To determine the significant difference of the given adjusted post paired means, Scheffe's test' was applied as Post hoc test and the results are presented in Table II.

TABLE - II
THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED PAIRED POST TEST MEANS ON 5000 METERS RUN PERFORMANCE

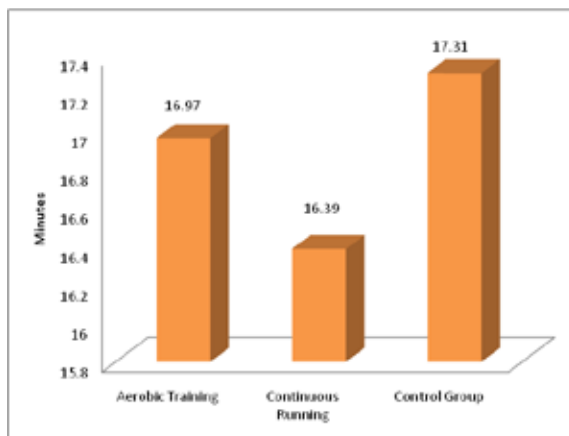
Adjusted Post-test Means			Mean Difference	Confidence Interval
Aerobic Training Group - (I)	Continuous Running Group - (II)	Control Group - (III)		
16.97	16.39	-	0.58	0.35
16.97	-	17.34	0.37	0.35
-	16.39	17.34	0.95	0.35

* Significant at .05 level of confidence

Table II shows that the adjusted post test mean difference on aerobic training group and continuous running group, aerobic training group and control group, continuous running group and control group are 0.58, 0.37 and 0.95 respectively. The values are greater than the confidence interval value of 0.35, which shows significant differences at .05 level of confidence.

It may be concluded from the results of the study that there is a significant difference in 5000 meters run performance between the adjusted post test means of aerobic training group and continuous running group, aerobic training group and control group, continuous running group and control group. However, the improvement in 5000 meters run performance was significantly higher for Continuous running group than aerobic training group and control group.

The adjusted post test mean values of Aerobic training, Continuous Running group and Control groups on 5000 meters run performance are graphically represented in the Figure -1.



Conclusions

1. It was found that there was significant improvement on 5000 meters running performance due to the effect of aerobic training and continuous running.
2. The results of the study showed that there is a significant difference among the groups.
3. It was concluded that Continuous running group is better than Aerobic Training Group and Control Group in improving 5000 meters Run performance.

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