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Training Habitualization Study of Endurance Factor among Male Athletes

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Abstract

The purpose of this study was to find out the effects of aerobic training and continuous running on endurance factor of men athletes. The study was conducted on forty five men athletes from Vellore district of Tamilnadu and served as subjects. They were randomly assigned equally into three groups, Group –I underwent Aerobic Training (n = 15), Group II underwent Continuous Running (n=15) and Group-III acted as a control Group (n=15). Endurance was selected as dependent variable which was assessed by 1500 meters run in the standard track. The data collected prior and immediately after the training period and was assessed by Analysis of covariance (ANCOVA). The statistical analysis revealed a significance difference between pre and post training scores.

Keywords: Aerobic Training, Continuous Running, 1500 meter Run.

Introduction

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. Aerobic exercise refers to exercise that involves or improves oxygen consumption by the body. To obtain the best results, 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. 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, of 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 etc, because it means that their endurance levels will increase, and it is the way which they would normally compete. Continuous training is a good 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.

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Methodology

The purpose of this study was to find out the effects of aerobic training and continuous running on endurance factor of men athletes. The study was conducted on forty five men athletes from Vellore district of Tamilnadu and served as subjects. They were randomly assigned equally into three groups, Group –I underwent Aerobic Training (n = 15), Group II underwent Continuous Running (n=15) and Group-III acted as a control Group (n=15). Endurance was selected as dependent variable which was assessed by 1500 meters run in 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.

Results and Discussion

The Analysis of covariance (ANCOVA) on 1500 meters run performance of experimental groups and control group have been analyzed and presented in table - I.

Table I. Analysis of Covariance on 1500 Mts runs Performance of Experimental groups and Control groups

Adjusted Post - Test			SOV	SS	Df	MSQ	"F" ratio
Group-I	Group-II	Group-III					
4.39	4.33	4.47	**Between**	0.07	2	0.07	14.22*
			Within	0.20	41	0.005	

** Significant at.05 level of confidence / *1500 Meters Run Scores in Minutes*
**The table value required for Significance at .05 level with df 2 and 41 is 3.23*

Table I shows that the adjusted post test mean value of 1500 meters run performance for Aerobic training, Continuous running group and Control group were 4.39, 4.33 and 4.47 respectively. The obtained F-ratio of 14.22 for the adjusted post test mean is more than the table value of 3.23 for df 2 and 41 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 and Continuous running group on the development of 1500 meters run performance. To determine which of the paired means had a significant difference, Scheffe's test was applied as Post hoc test and the results are presented in Table II.

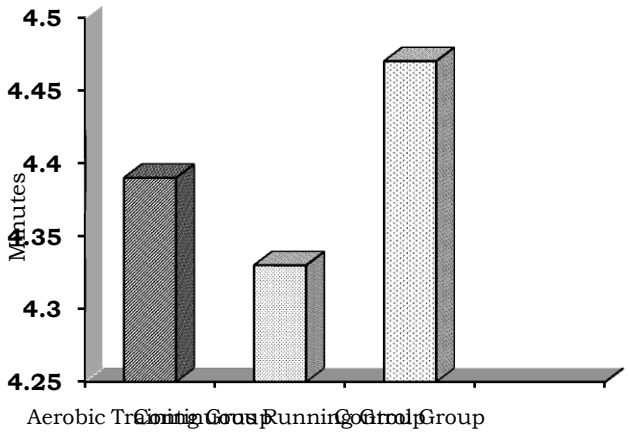
Table II. Scheffee's Test for the difference between the Adjusted Post-Test paired means on 1500 Mts run Performance

Adjusted Post – Test Means			MD	Conf. Interval
Group-I	Group-II	Group-III		
4.39	4.33	---	0.06*	0.06
4.39	---	4.47	0.08*	0.06
---	4.33	4.47	0.14*	0.06

** 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 0.06, 0.08 and 0.14 respectively. The values are greater than the confidence interval value 0.06, 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 1500 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 1500 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 group on 1500 meters run performance are graphically represented in the figure -1.

Figure I. Adjusted Post- tests values of Aerobic training, Continuous running on Experimental and Control group on 1500 meters run performance



Conclusions

The results of the study showed that there is a significant difference among the groups. It was concluded that Continuous running group is better than Aerobic Training Group and Control Group in improving 1500 meters Run performance.

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