

Effects of Purcourse and Fartlek Trainings on Selected Endurance Parameters

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Abstract

The purpose of the study was to find out the effects of purcourse and fartlek training on selected endurance parameters namely cardio respiratory endurance and strength endurance. To achieve this purpose of the study, thirty men students studying in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar, Tamil Nadu and India were selected as subjects at random. Their age ranged between 18 to 24 years. The selected subjects were divided into three equal groups of fifteen each namely purcourse training group, fartlek training group and control group. The experimental groups have undergone twelve weeks of respective trainings, whereas the control group maintained their daily routine activities and no special training was given. The subjects of the three groups were tested on selected endurance parameters namely strength endurance and cardio respiratory endurance using standardized tests namely bent knee sit-ups and cooper's 12 min run/walk test at before and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant difference, if any among the groups. The .05 level of confidence was fixed to test the level of significance which was considered as an appropriate. The results of the study showed that purcourse training and fartlek training groups showed significant improvement on strength endurance and cardio respiratory endurance compared to control group.

Key words: Purcourse Training, Fartlek Training, Cardio respiratory Endurance, Strength Endurance, ANCOVA.

Introduction

Physical fitness is the natural outcome of a rich programme of physical education. It is the some total of the condition of one's body judged in terms of age, height, weight and chest expansion in terms of freedom from disease, constitutional affection or bodily in firming, full physical development, vigour, vitality and radiant health should be seen in one who is physically fit. In terms of usefulness physical fitness has been defined as "total functional capacity of an individual to perform a given test.

Methodology

The purpose of the study was to find out the effects of purcourse and fartlek training on selected endurance parameters namely cardio respiratory endurance and strength endurance. To achieve this purpose of the study, thirty men students studying in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar, Tamil Nadu and India were selected as subjects at random. Their age ranged between 18 to 24 years. The selected subjects were divided into three equal groups of fifteen each namely

purcourse training group, fartlek training group and control group. The experimental groups have undergone twelve weeks of respective trainings, whereas the control group maintained their daily routine activities and no special training was given. The subjects of the three groups were tested on selected endurance parameters namely strength endurance and cardio respiratory endurance using standardized tests namely bent knee sit-ups and cooper's 12 min run/walk test at before and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant difference, if any among the groups. The .05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

Training Programme

During the training period, the experimental group I underwent purcourse training and experimental group II underwent fartlek training for three days per week (alternative days) for twelve weeks. Every day the workout lasted for 45 to 60 minutes approximately including warming up and warming down periods. Group III acted as control who did not participate in any strenuous physical exercises and specific training throughout the training period. However, they performed activities as per their curriculum.

Analysis of The Data

The analysis of covariance on selected physical fitness variables of purcourse training, fartlek training and control groups have been analyzed separately and presented below.

Strength Endurance

The analysis of covariance on strength endurance of the pre and post test scores of purcourse training, fartlek training and control groups have been analyzed and presented in Table I.

Table-I

Analysis of Covariance of the Data on Strength Endurance of Pre and Post Tests Scores of Purcourse Training, Fartlek Training and Control Group

Test	Purcourse Training Group	Fartlek Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test								
Mean	37.40	37.60	37.27	Between	0.018	2	0.0009	1.80
S.D.	0.95	0.80	0.998	Within	0.21	42	0.005	
Post Test								
Mean	43.53	40.73	37.40	Between	0.013	2	0.0065	32.50*
S.D.	0.98	0.77	0.88	Within	0.007	42	0.0002	
Adjusted Post Test								
Mean	43.19	40.42	37.39	Between	4.51	2	2.25	17.31*
				Within	5.49	41	0.13	

*Significant at .05 level of confidence.(The table value required for significance at .05 level of confidence with df 2 and 42, 2 and 41, were 3.22 and 3.226 respectively).

The table I shows that the adjusted post-test means of purcourse training, fartlek training and control group are 43.19, 40.42 and 37.39 respectively. The obtained "F" ratio of 17.31 for adjusted post-test means is more than the table value of 4.215 for df 2 and 41 required for significance at .05 level of confidence on strength endurance.

Since, three groups were compared, whenever the obtained 'F' ratio for adjusted post-test was found to be significant, the Scheffe's test to find out the paired mean differences and it was presented in Table I-A.

Table-IA

The Ordered Scheffe's Test for the Differences between Paired Means on Strength Endurance

Purcourse training group	Fartlek training group	Control group	Mean Differences	Confidence Interval Value
43.19	40.42	-	2.77*	1.18
43.19	-	37.39	5.80*	1.18
-	40.42	37.39	3.03*	1.18

* Significant at .05 level of confidence interval

The table I (A) shows that the mean difference values between purcourse training group and fartlek training group, purcourse training group and control group, and fartlek training group and control group are 2.77, 5.80 and 3.03 respectively on strength endurance which were greater than required confidence interval value 1.18 at .05 level of confidence. Hence, the above comparisons were significant.

Cardio Respiratory Endurance

The analysis of covariance on cardio respiratory endurance of the pre and post test scores of purcourse training, fartlek training and control groups have been analyzed and presented in Table II.

Table-II

Analysis of Covariance of the Data on Cardio Respiratory Endurance of Pre and Post Tests Scores of Purcourse Training, Fartlek Training and Control Group

Test	Purcourse Training Group	Fartlek Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test								
Mean	1536	1539.67	1541	Between	201.07	2	100.54	0.183
S.D.	26.41	20.04	20.99	Within	23093.3	42	549.84	
Post Test								
Mean	1564	1550	1542.3	Between	3621.07	2	1810.54	3.35*
S.D.	24.71	20.25	22.20	Within	22703.3	42	540.55	
Adjusted Post Test								
Mean	1563.99	1549.3	1540.33	Between	5302	2	2651	42.83*
				Within	2537.43	41	68.89	

* Significant at .05 level of confidence. (The table value required for significance at .05 level of confidence with df 2 and 42, 2 and 41, were 3.22 and 3.226 respectively).

The table II shows that the adjusted post-test means of purcourse training, fartlek training and control group are 1563.99, 1549.3 and 1540.33 respectively. The obtained "F" ratio of 42.83 for adjusted post-test means is more than the table value of 3.226 for df 2 and 41 required for significance at .05 level of confidence on cardio respiratory endurance.

Since, three groups were compared, whenever the obtained 'F' ratio for adjusted post-test was found to be significant, the Scheffe's test to find out the paired mean differences and it was presented in Table II-A.

Table-IIA
The Ordered Scheffe's Test for the Differences between Paired Means on Cardio Respiratory Endurance

Purcourse training group	Fartlek training group	Control group	Mean Differences	Confidence Interval Value
1563.99	1549.3	-	14.69*	7.82
1563.99	-	1540.33	23.66*	7.82
-	1549.3	1540.33	8.97*	7.82

* Significant at .05 level of confidence interval.

The table I (A) shows that the mean difference values between purcourse training group and fartlek training group, purcourse training group and control group, and fartlek training group and control group are 14.69, 23.66 and 8.97 respectively on cardio respiratory endurance which were greater than required confidence interval value 7.82 at .05 level of confidence. Hence, the above comparisons were significant.

Results

1. The results of the study showed that there was a significant difference among purcourse training group, fartlek training group and control group on cardio respiratory endurance and strength endurance.
2. And the results of the study showed that there was a significant improvement on cardio respiratory endurance and strength endurance due to purcourse training and fartlek training.

Conclusions

1. There was a significant difference between parcourse training group and control group on strength endurance.
2. There was a significant difference between parcourse training group and control group on cardio respiratory endurance.
3. And also it was found that there was a significant improvement on selected criterion variables such as strength endurance and cardio respiratory endurance due to parcourse training.

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