



Effects of Interval and Fartlek Trainings on Selected Power Parameters

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Abstract

The purpose of the study was to find out the effects of interval and fartlek trainings on selected power parameters namely elastic power and explosive power in terms of vertical. To achieve this purpose of the study, forty five men students studying in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar, Tamil Nadu, India were selected as subjects at random. The selected subjects were divided into three equal groups of fifteen subjects each, such as interval training group, fartlek training group and control group. The group I underwent interval training programme and group II underwent fartlek training programme for three days per week for twelve weeks. The control group did not participate any special training programmes apart from their regular physical education activities as per their curriculum. Among power parameters, the following variables such as elastic power and explosive power in terms of vertical were selected as criterion variables. All the subjects of three groups were tested on selected criterion variables at prior to and immediately after the training programme. The analysis of covariance (ANCOVA) was used to analyse the significant difference, if any among the groups. 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, if any. The level of significance to test the "F" ratio obtained by the analysis of covariance was tested at .05 level of confidence, which was considered as an appropriate. The results of the study revealed that there was a significant difference among interval training group, fartlek training group and control group on selected power parameters namely elastic power and explosive power in terms of vertical. And also it was found that there was a significant improvement on selected criterion variables due to interval and fartlek training.

Keywords: Power parameters, Elastic power, Explosive power in terms of vertical, Interval training, Fartlek training, Analysis of Covariance (ANCOVA).

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Introduction

Physical education is an integral part of education aims at all round development of man. It is education through physical activities for the development of the total personality of the child of its fitness and perfection in body, mind and spirit. Scientific training methods and application of basic principles of body mechanics in sports skill have been attributed to the higher level of performance in sports skills. Interval training is an exercise technique, which involves the use of set 'interval' that dictate the intensity of your training. The basic principle of interval training is that you exercise at a high intensity for the required distance or length of time and then lower your intensity briefly so that you can recover, before returning to the high interval again. These intervals can be measured in many different ways, by periods of time, distance or heart rates.

Methodology

The purpose of the study was to find out the effects of interval and fartlek trainings on selected power parameters namely elastic power and explosive power in terms of vertical. To achieve this purpose of the study, forty five men students studying in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar, Tamil Nadu, India were selected as subjects at random. The selected subjects were divided into three equal groups of fifteen subjects each, such as interval training group, fartlek training group and control group. The group I underwent interval training programme and group II underwent fartlek training programme for three days per week for twelve weeks. The control group did not participate any special training programmes apart from their regular physical education activities as per their curriculum. Among power parameters, the following variables such as elastic power and explosive power in terms of vertical were selected as criterion variables. All the subjects of three groups were tested on selected criterion variables at prior to and immediately after the training programme. The analysis of covariance (ANCOVA) was used to analyse

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the significant difference, if any among the groups. 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, if any. The level of significance to test the "F" ratio obtained by the analysis of covariance was

tested at .05 level of confidence, which was considered as an appropriate.

Elastic Power

The analysis of covariance on elastic power of the pre and post test scores of interval training group, fartlek training group and control group have been analyzed and presented in Table I.

Results

Table I. Analysis of covariance of the data on elastic power of pre and post tests scores of interval training, fartlek training and control groups

Test	Interval Training Group	Fartlek Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test								
Mean	9.61	9.56	9.61	Between	0.022	2	0.011	0.96
S.D.	0.11	0.08	0.11	Within	0.475	42	0.011	
Post Test								
Mean	9.73	9.85	9.62	Between	0.385	2	0.193	25.72*
S.D.	0.06	0.07	0.11	Within	0.315	42	0.007	
Adjusted Post Test								
Mean	9.73	9.86	9.61	Between	0.459	2	0.230	52.26*
				Within	0.180	41	0.004	

* 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 I shows that the adjusted post-test means on elastic power of interval training group, fartlek training group and control group 9.73, 9.86 and 9.61 respectively. The obtained "F" ratio of 52.26 for adjusted post-test means is greater than the table value of 3.226 for df 2 and 42 required for significance at .05 level of confidence on elastic power. The results of the study

indicated that there was a significant difference between the adjusted post-test means of interval training group, fartlek training group and control group on elastic power. 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.

Table II. The scheffe's test for the differences between paired means on elastic power

Interval Training Group	Fartlek Training Group	Control Group	Mean Differences	Confidence Interval Value
9.73	9.86	-	0.14*	0.06
9.73	-	9.61	0.11*	0.06
-	9.86	9.61	0.25*	0.06

* Significant at .05 level of confidence.

The table II shows that the mean difference values between interval training group and fartlek training group, interval training group and control group and fartlek training group and control group 0.14, 0.11 and 0.25 respectively on elastic power which are greater than the confidence interval value 0.06 at .05 level of confidence.

Explosive Power in terms of Vertical

The analysis of covariance on explosive power in terms of vertical of the pre and post test scores of interval training group, fartlek training group and control group have been analyzed and presented in Table III.

Table III. Analysis of covariance of the data on explosive power in terms of vertical of pre and post tests scores of interval training, fartlek training and control groups

Test	Interval Training Group	Fartlek Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test								
Mean	33.87	33.20	33.40	Between	3.51	2	1.76	0.13
S.D.	3.26	3.62	3.59	Within	549.73	42	13.09	
Post Test								
Mean	35.67	37.47	33.53	Between	116.31	2	58.16	4.86*
S.D.	3.40	2.90	3.69	Within	502.80	42	11.97	
Adjusted Post Test								
Mean	35.34	37.72	33.61	Between	127.37	2	63.69	28.13*
				Within	92.83	41	2.26	

* 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 III shows that the adjusted post-test means on explosive power in terms of vertical of interval training group, fartlek training group and control group 33.54, 37.72 and 33.61 respectively. The obtained "F" ratio of 28.13 for adjusted post-test means is greater than the table value of 3.226 for df 2 and 42 required for significance at .05 level of confidence on explosive power in terms of vertical. The results of the study

indicated that there was a significant difference between the adjusted post-test means of interval training group, fartlek training group and control group on explosive power in terms of vertical. 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 IV.

Table IV. The scheffe's test for the differences between paired means on explosive power in terms of vertical

Interval Training Group	Fartlek Training Group	Control Group	Mean Differences	Confidence Interval Value
35.34	37.72	-	2.38*	1.39
35.34	-	33.61	1.73*	1.39
-	37.72	33.61	4.11*	1.39

* Significant at .05 level of confidence.

The table IV shows that the mean difference values between interval training group and fartlek training group, interval training group and control group and fartlek training group and control group 2.38, 1.73 and 4.11 respectively on explosive power in terms of vertical which are greater than the confidence interval value 1.39 at .05 level of confidence.

Conclusions

1. There was a significant difference among interval training group, fartlek training group and control group on elastic power and explosive power in terms of vertical.
2. There was a significant improvement on selected criterion variable such as elastic power and explosive power in terms of vertical due to interval training

group and fartlek training whereas the improvement was in favour of fartlek training group on elastic power and explosive power in terms of vertical.

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