



ISSN: 2456-0057

IJPNPE 2020; 5(1): 278-280

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Received: 19-11-2019

Accepted: 30-12-2019

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## Effect of fartlek training on cardiovascular endurance and speed endurance among college men students

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### Abstract

The purpose of the study was designed to examine the effect of fartlek training on cardiovascular endurance and speed endurance of university men students. For the purpose of the study, thirty men students from Mother Teresa College of Physical Education, Mettusalai, Pudukottai, were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent fartlek training for three days per week for twelve weeks. Group II acted as a control and did not undergo any special training programme apart from their regular physical education programme. The following variables namely cardiovascular endurance and speed endurance were selected as criterion variables. All the subjects of the two groups were tested on selected dependent variables by using Cooper's 12 min run and walk test and 150 mts run respectively 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 appropriate. The results of the study showed that there was a significant difference between the fartlek training group and the control group on cardiovascular endurance and speed endurance. And also it was found that there was a significant improvement in cardiovascular endurance and speed endurance due to twelve weeks of fartlek training.

**Keywords:** Fartlek training, cardiovascular, lower-intensity, Endurance

### Introduction

Fartlek training is a type of interval training that involves alternating between periods of high-intensity effort and periods of lower-intensity effort or active recovery. The word "fartlek" is Swedish for "speed play," and the training method was developed in Sweden in the 1930 by cross-country runners looking to improve their performance.

During a fartlek workout, the athlete alternates between periods of running at a faster pace and periods of jogging or walking to recover. The duration and intensity of each interval can vary depending on the athlete's fitness level and goals, and the terrain of the training environment. For example, an athlete might run at a fast pace for 1-2 minutes, followed by a recovery period of slow jogging or walking for 2-3 minutes, and then repeat this cycle for a set number of repetitions or a set amount of time.

Fartlek training can be adapted to a variety of sports and activities and can help improve cardiovascular fitness, speed, and endurance. It is often used in distance running and team sports such as soccer and basketball, but can also be used in activities such as cycling, swimming, and rowing. The variability of the training can help athletes develop mental toughness and adaptability, as they are constantly changing the pace and intensity of their effort.

### Methodology

The purpose of the study was designed to examine the effect of fartlek training on cardiovascular endurance and speed endurance of university men students. For the purpose of the study, thirty men students from Mother Teresa College of Physical Education, Mettusalai, Pudukottai, were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent fartlek training for three days per week for twelve weeks. Group II acted as a control and did not undergo any special training programme apart from their regular physical education programme.

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significance to test the 'F' ratio obtained by the analysis of covariance, which was considered appropriate.

### Analysis of the data

#### Cardio Vascular Endurance

The analysis of covariance on cardiovascular endurance of the pre and post-test scores of the fartlek training group and control group have been analyzed and presented in Table.

**Table 1:** Analysis of covariance of the data on cardiovascular endurance of pre and post-test scores of fartlek training and control groups

Test	Fartlek training group	Control Group	Source of Variance	Sum of Squares	DF	Mean Squares	Obtain ed 'F' Ratio
<b>Pre-Test</b>							
Mean	1458.00	1463.33	Between	213.33	1	213.33	0.09
S.D.	47.50	37.10	Within	64373.33	28	2299.05	
<b>Post Test</b>							
Mean	1519.33	1464.67	Between	22413.33	1	22413.33	8.35*
S.D.	45.12	46.24	Within	75130.00	28	2683.21	
<b>Adjusted Post-test</b>							
Mean	1521.50	1462.50	Between	26028.09	1		69.80*
			Within	10068.41	27		
				372.90			

\* 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 1 shows that the adjusted post-test means of fartlek training group and control group are 1521.50 and 1462.50 respectively on cardiovascular endurance. The obtained "F" ratio of 69.80 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 in cardiovascular endurance.

The results of the study indicated that there was a significant difference between the adjusted post-test means of the fartlek

training group and the control group on cardiovascular endurance.

#### Speed Endurance

The analysis of covariance on speed endurance of the pre and post-test scores of fartlek training group and control group have been analyzed and presented in Table 2.

**Table 1:** Analysis of covariance of the data on speed endurance of pre and post-test scores of fartlek training and control groups

Test	Fartiels training group	Control Group	Source of Variance	Sum of Squares	DF	Mean Squares	Obtained 'F' Ratio
<b>Pre Test</b>							
Mean	16.38	16.33	Between	0.02	1	0.02	0.34
S.D.	0.25	0.21	Within	1.34	28	0.05	
<b>Post Test</b>							
Mean	15.56	16.30	Between	4.14	1	4.14	2
							1.72*
S.D.	0.17	0.19	Within	5.34	28	0.19	
<b>Adjusted Post Test</b>							
			Between	4.13	1	4.13	
			Within	1.19	27	0.04	
Mean	15.55	16.30					93.66*

\* 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 fartlek training group and control group are 15.55 and 16.30 respectively on speed endurance. The obtained "F" ratio of 93.66 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at 0.05 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 fartlek training group and the control group on speed endurance.

### Conclusions

1. There was a significant difference between the fartlek training group and the control group on cardiovascular endurance and speed endurance.
2. And also it was found that there was a significant improvement in selected criterion variables such as

cardiovascular endurance and speed endurance due to fartlek training.

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