



## EFFECT OF PARCOURSE TRAINING PROGRAMME ON CARDIO-RESPIRATORY ENDURANCE AND FLEXIBILITY

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### Abstract

*The purpose of the study was to find out the effect of parcourse training programme on cardio-respiratory endurance and flexibility among women students. To achieve this purpose, 20 women students were randomly selected as subjects from the Department of Physical Education and Sports Sciences, Annamalai University studying in various classes. The age of the subjects were ranged from 18 to 23 years. The subjects were further classified at random into two equal groups of 10 subjects each in which group - I underwent parcourse training programme for three days per week for eight weeks and group - II acted as control who were not undergo any special training programme. The selected criterion variables such as cardio-respiratory endurance and flexibility were assessed before and after the training period. Cardio-respiratory endurance was assessed by administering Cooper's 12 minutes run/walk test and flexibility was assessed by administering sit and reach test. The collected data was statistically analysed by using Analysis of Covariance (ANCOVA). From the results of the study, it was found that there was a significant improvement on cardio-respiratory endurance and flexibility for parcourse training group when compared with the control group.*

**Keywords:** Parcourse training programme, cardio-respiratory endurance, flexibility, ANCOVA.

### INTRODUCTION

In sports the word "Training" is generally understood to be a synonym of doing physical exercises. In a narrow sense, training is doing physical exercises for the improvement of performance. Sports training is a scientifically based and pedagogically organized process which through planned and systematic effect on performance ability and performance readiness aims at sports perfection and performance improvement as well as at the contest in sports competition. A new concept of circuit training developed in Europe has been adopted recently in the United States and Canada called 'parcourse'. It consists of a series of stations set up over a one to two and a half mile path, to provide a recreational exercise circuit for individuals of all ages and abilities.

Strength is a vital factor on which the sports performance depends. Depending upon the magnitude and type of resistance to be tackled in various sports, the sportsman of different sports and different level and type of strength to achieve good performance. Flexibility is generally defined as the ability to change the direction quickly and effectively while moving as nearly as possible at full speed. It is depended primarily on strength, reaction time, speed of movement and specific muscle co-ordination.

### METHODOLOGY

The purpose of this study was to find out the effect of parcourse training on cardio-respiratory

endurance and flexibility. To achieve the purpose of the present study, 20 college women students who were studying in the Department of Physical Education and Sports Sciences, Annamalai University during the academic year 2017-2018 were randomly selected as subjects. The age of the subjects were ranged from 18 to 23 years. The selected subjects were divided into two groups of ten subjects each. Group I considered as experimental group who underwent parcourse training and Group II considered as control that did not undergo any special training programme.

The experimental group underwent parcourse training programme for 3 days per week for 8 weeks. The control group did not participate in any special training programme on strenuous physical activities apart from their day to day activities. The experimental group underwent their parcourse training under the instruction and supervision of the investigators.

The data were collected on selected criterion variables such as cardio-respiratory endurance and flexibility were measured by using Cooper's 12 minutes run/walk test and sit and reach test at before and after the eight weeks of parcourse training as pre and post test. Analysis of covariance (ANACOVA) was applied to find out significant difference if any between the experimental and control group.

**TABLE – I**  
**ANALYSIS OF COVARIANCE FOR CARDIO-RESPIRATORY ENDURANCE AND FLEXIBILITY FOR**  
**PARCOURSE TRAINING GROUP AND CONTROL GROUP**

| Variable Name                                   | Group Name                                  | Parcourse Training Group | Control Group       | 'F' Ratio |
|---|---|--------------------------|---------------------|-----------|
| <b>Cardio-respiratory endurance (in meters)</b> | <b>Pre-test Mean <math>\pm</math> S.D</b>   | 1555.67 $\pm$ 11.35      | 1152.93 $\pm$ 11.45 | 0.859     |
|   | <b>Post-test Mean <math>\pm</math> S.D.</b> | 1692.13 $\pm$ 10.41      | 1155.73 $\pm$ 12.51 | 35.96*    |
|   | <b>Adj. Post-test Mean</b>                  | 1708.367                 | 1153.86             | 79.51*    |
| <b>Flexibility (in inches)</b>                  | <b>Pre-test Mean <math>\pm</math> S.D</b>   | 5.89 $\pm$ 0.051         | 5.76 $\pm$ 0.032    | 0.45      |
|   | <b>Post-test Mean <math>\pm</math> S.D.</b> | 6.38 $\pm$ 0.023         | 5.61 $\pm$ 0.026    | 12.39*    |
|   | <b>Adj. Post-test Mean</b>                  | 6.51                     | 5.71                | 31.26*    |

\* Significant at 0.05 level of confidence.

(The table values required for significance at 0.05 level of confidence for 1 and 18 & 1 and 17 are 4.41 and 4.45 respectively).

## RESULTS

Table-I showed that the results of the study there was a significant difference between experimental and control group on cardio-respiratory endurance and flexibility. Further the results of the study showed that there was a significant improvement in the performances of cardio-respiratory endurance and flexibility due to eight weeks of parcourse training programme. However the improvement was in favour of experimental group.

## CONCLUSIONS

1. There was a significant improvement in cardio-respiratory endurance and flexibility after the parcourse training programme. However this improvement was in favour of experimental group due to eight weeks of parcourse training.
2. There was a significant difference between experimental and control groups on cardio-respiratory endurance and flexibility.

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