



Research article

COMPARATIVE EFFECT OF TRAINING AND BREAK IN TRAINING ON THE SELECTED PHYSICAL FITNESS COMPONENTS

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Abstract

*The purpose of the study was to find out the comparative effect of training and break in training on the selected physical fitness components. For this study, thirty students, with age ranging between 15 to 20 years and studying in 11 & 12 standard were randomly selected as subjects from Central School, Sultanpur, (U.P.). Random group design was adopted for this study as all the subjects were randomly selected and randomly divided in to three groups. Further the experimental treatments were also assigned at random to the two experimental groups and the third group served as a control group. The experimental groups participated in two training programmes (Break in training and without break in training). The training programme was carried out for a total duration of six weeks. The training break was of three weeks. The two experimental groups (A & B) were administered both the types of practices, without break in training & break in training and group C did not participate in any kind of practice except the regular school programme. Both the experimental group also participated in regular school programme. The training was carried out for a period of six weeks, five days a week excluding the time consumed for conducting pretest and posttest. In order to study the comparative effects of without break in training and break in training on selected physical fitness components, analysis of Co-Variance was applied at .05 level of significance. The results concluded that 50 meters sprint performance was improved by without break in training & 600 meters performance was improved by both type of trainings i.e. break in training & without break in training. **Key words: 50 meters sprint, 600 meters performance, break in training, without break in training***

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INTRODUCTION

Physical fitness is very important component in the physical education and also very essential part of the human life. Without the physical fitness a man cannot able to work in his life. If a person is physically fit, naturally he will be motivated to do something. Kapil Dev says, "Behind my world records a great hand of the physical fitness was there, without the fitness I could not achieve this tremendous success." The physical fitness or condition is the sum total of five motor abilities namely strength, speed, endurance, flexibility & coordinative abilities. Therefore the sports performance in all sports depends to great extent on these abilities. To improve and maintain physical fitness is the most important aim of sports training. Regular practice without (as per schedule), is always emphasized for the athletes because muscular contraction will increase through regular training and that may lead to increase in their flexibility and agility, training causes a reduction of fatty tissue with in the muscles and that will result in a greater efficiency and faster contraction. The more motor units are involved, the greater is the strength and the resistance can be overcome more quickly. On the other hand break of regular practice will have some adverse effect on the performance of athletes.

Regular physical exercise and participation in games and sports help to improve physical fitness, which includes strength, speed, agility flexibility and endurance. Exercise helps in controlling obesity, specially a few grams of fat from

the wrong places such as in the walls of the coronary and other important arteries. It aids digestion by reducing nervous tension and has a favorable effect on the level of function. It also improves the function of the lungs. One can improve his agility and the activities.

METHODOLOGY

Thirty students, with age ranging between 15 to 20 years and studying in 11 & 12 standard were randomly selected as subjects from Central School, Sultanpur, (U.P.). Random group design was adopted for this study as all the subjects were randomly selected and randomly divided in to three groups. Further the experimental treatments were also assigned at random to the two experimental groups and the third group served as a control group. The experimental groups participated in two training programmes (Break in training and without break in training). The training programme was carried out for a total duration of six weeks. The training break was of three weeks. The two experimental groups (A & B) were administered both the types of practices, without break in training & break in training and group C did not participate in any kind of practice except the regular school programme. Both the experimental group also participated in regular school programme. The training was carried out for a period of six weeks, five days a week excluding the time consumed for conducting pretest and posttest. In order to study the comparative effects of

without break in training and break in training on selected physical fitness components, analysis of Co-Variance was applied at .05 level of significance.

RESULTS

SPEED

To determine which of the experimental treatment was most effective in bringing out a significant change in 50 meters performance analysis of co-variance was employed and analysis of data pertaining to this study is presented in the table I & II.

TABLE I
ANALYSIS OF COVARIANCE OF THE MEANS OF THE TWO EXPERIMENTAL GROUPS AND CONTROL GROUP IN SPEED

| Mean | Groups | | | Sources | Sum of square | df | Mean sum of square | F-ratio |
|-------------------------|------------------------------|-----------------------|-------------------|---------|---------------|----|--------------------|---------|
| | Without break in training(A) | Break in training (B) | Control group (C) | | | | | |
| Pretest Means | 8.980 | 8.200 | 8.490 | A | 3.109 | 2 | 1.554 | 1.262 |
| | | | | W | 33.265 | 27 | 1.232 | |
| Post test means | 8.480 | 8.510 | 8.490 | A | 0.005 | 2 | .003 | .009 |
| | | | | W | 24.834 | 27 | .920 | |
| Adjusted posttest means | 8.140 | 8.797 | 8.544 | A | 2.010 | 2 | 1.005 | 6.742* |
| | | | | W | 3.331 | 26 | 0.128 | |

* Significant at .05 level of confidence; N = 30

F ratio needed for significance at .05 level of confidence (2,27) 3.35, (2,26)3.37.

The analysis of co-variance for 50 meters performance indicated that the obtained F-Ratio of 1.262 which was not significant in case of pre-test means from which it is clear that the pre-test mean did not differ significantly and that the random assignment of subject to the two experimental groups and control group was quite successful. The post-test means of all the three group yielded a F-ratio of .009 which was not significant (3.35) at .05 level of confidence. The difference between the adjusted post-test means was

found highly significant as the obtained F-ratio was 6.742. The F-ratio needed for significance at 0.5 level of confidence was 3.37.

As the difference between the adjusted means for three groups were found significant, the critical difference for adjusted means was applied to find out which of the difference between the paired adjusted final means were most significant. Difference between the paired adjusted final means are shown in table II.

TABLE II
PAIRED ADJUSTED FINAL MEANS AND DIFFERENCES BETWEEN
MEANS FOR THE TWO EXPERIMENTAL GROUPS AND
CONTROL GROUP IN SPEED

| Without break in training group | Break in training group | Control group | Difference between means | Critical differences for adjusted means |
|---------------------------------|-------------------------|---------------|--------------------------|---|
| 8.140 | 8.797 | | .657* | 0.32 |
| 8.140 | | 8.544 | .404* | 0.32 |
| | 8.797 | 8.544 | .253 | 0.32 |

*Significant at .05 level

It is evident from table II that mean differences of break in training group and without break in training group; without break in training group & Control group was found to be significant at .05 level of significance. The mean gains made by break in training group and

control group did not revealed statistically significant differences among them. However the gain made by break in training group was significantly greater than the control group in 50 meters performance, at .05 level of confidence.

ENDURANCE

To determine which of the experimental treatment was most effective in bringing out a significant change in the 600 meters run

performance, an analysis of Co-Variance was used and analysis of data pertaining to this study is presented in the table III & IV.

TABLE III
ANALYSIS OF COVARIANCE OF THE MEANS OF THE TWO
EXPERIMENTAL GROUPS AND CONTROL GROUP IN ENDURANCE

| | Groups | | | Sum of square | df | Mean sum of square | F-ratio |
|--------------------------|--------------------------------|-----------------------|-------------|---------------|----|--------------------|---------|
| | With out break in training (A) | Break in Training (B) | Control (C) | | | | |
| Pertest Means | 2.089 | 2.120 | 1.907 | .265 | 2 | .132 | .972 |
| | | | | 4.688 | 27 | .174 | |
| Post test means | 2.019 | 2.128 | 2.064 | .060 | 2 | .030 | .261 |
| | | | | 5.301 | 27 | .196 | |
| Adjusted post-test means | 1.970 | 2.049 | 2.191 | .240 | 2 | .120 | 3.51* |
| | | | | .930 | 26 | .036 | |

* Significant at .05 level of confidence; N = 30

F ratio needed for significance at .05 level of confidence (2,27) 3.35, (2,26)3.37.

The analysis of co-variance for 600 meters run performance indicated that the obtained F-Ratio of 0.972 which was not significant in case of pre-test means from which it is clear that the pre-test mean did not differ significantly and that the random assignment of subject to the two experimental groups and control group was quite successful. The post-test means of the entire three group yielded a F-ratio of .261 which was not significant (3.35) at .05 level of confidence. The difference between the adjusted post means was

found significant as the obtained F-ratio was 3.51. The F-ratio needed for significance at 0.5 level of confidence was 3.37.

As the difference between the adjusted means for three groups were found significant, the critical difference for adjusted means was applied to find out which of the difference between the paired adjusted final means were most significant. Difference between the paired adjusted final means are shown in table IV.

TABLE IV
PAIRED ADJUSTED FINAL MEANS AND DIFFERENCES BETWEEN
MEANS FOR THE TWO EXPERIMENTAL GROUPS AND
CONTROL GROUP IN ENDURANCE

| Without break in training group | Break in training group | Control group | Difference between means | Critical differences for adjusted means |
|---------------------------------|-------------------------|---------------|--------------------------|---|
| 1.970 | 2.049 | | .079 | 0.13 |
| 1.970 | | 2.191 | .221* | 0.13 |
| | 2.049 | 2.191 | .142* | 0.13 |

*Significant at .05 level.

It is evident from table IV that mean difference of without break in training group & Control group; break in training and control group was found to be significant at .05 level of significance. The mean gains made by both the experimental groups (without break in training & break in training) did not show statistically significant differences among them however the gain made by the both the experimental groups were significantly greater than the control group in relation to endurance at 0.5 level of confidence.

DISCUSSION ON FINDINGS

Similar to this study James also studied the effect of Break in training on sprinting speed. He concluded that break in training of one week duration did not show marked change in sprinting speed of male students. The above findings supported the present studies as in present study no gain was made by break in training group.

Sajwan (1981) also conducted a study on the effect of Break in training on Cardio-respiratory Endurance and come to conclusion that the break of one week duration will not show marked change in cardio-respiratory endurance of girls

students. The finding of present study revealed that a break of three weeks duration shown change in cardio-respiratory endurance of the male students. Both the studies have difference in finding, this might be due to the duration in training break.

The above stated hypothesis was accepted in break of training in case of Endurance (600 meters run) and rejected in case of speed (50 meters dash), because break in training improved 600 meters run and did not improve 50 meters dash. On

the other hand without break in training results in improvements of speed & endurance both.

CONCLUSIONS

Within the limitation of the study the results conclude that 50 meters sprint performance was improved by without break in training & 600 meters performance was improved by both type of trainings i.e. break in training & without break in training.

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