

COMPARISON OF TRAINING EFFECTS OF CONTINUOUS AND INTERVAL CIRCUIT TRAINING METHODS

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ABSTRACT

Introduction: Commonly the term ‘Training’ is used as a process of systemic instruction or activity for the purpose of physical, psychological and intellectual improvement. To get achievement in each and every sector there require adequate training for execute accurate skill on their specified demands. Similarly in the field of sports for improvement of sports performances there require scientific and systematic training. Generally sports’ training is the well structured systematic and scientific instruction or activity according to demands of individual capability for the enhancement of sports performance. There are different training methods in the field of sports training such as continuous training, interval training, circuit training, interval circuit training, continuous circuit training etc. The study investigates different anthropometrical, physical fitness and physiological variables as a mark of improving sports training. The experts of the field were formulated the training programs applied by the investigator with the help of number of assistants to comparison and Investigating the effects of continuous and interval circuit training on anthropometric, physical fitness & physiology variables.

Methodology: This study involved a total of sixty boys ($N = 60$) as subjects. The subjects were randomly selected after medical screening from purulia cricket academy, Purulia district of West Bengal. Subjects in the research were between the ages of 13 to 16 years. After primary selection of sixty (60) boys as subjects they were distributed into three equal groups using a simple random grouping technique, each group was consisted of twenty ($N = 20$) students. The two experimental groups in this study were the Continuous Circuit Training group (CCT), the Interval Circuit Training group (ICT) and another was Control group (CG). Both of experimental Groups underwent circuit training following continuous and interval method respectively for twelve (12) weeks, three (3) days in a week. The CG they were stopped from participating in specified training methods but involved in their regular routine schedule. Before and after the training, each subject underwent testing on selected variables. The study was under experimental type of research and for this investigation pre-test post-test control group design was applied. After reviewed the literatures and discussed with professional coaches, expert and supervisor

researcher selected following variables in three heads namely anthropometric, Physical fitness and Physiological variables. From the area of anthropometrical perspective following parameters were considered- BMI, Body-weight, Percentage of body fat, Calf girth, and Thigh girth. On physical fitness perspectives following parameters were considered- Speed, Agility, Flexibility, Leg explosive strength, and Cardio respiratory Endurance. On view of Physiological perspectives of human body following parameters were considered- Heart rate and Blood lactic acid. Mean, SD and 't' test was calculated for the score on the pre and post-test for each parameter and comparison among post test score among means of each parameters within three group's analysis of variance (one way ANOVA) was used. For determine the exact location of difference among three groups least significant difference (LSD) was applied as a Post Hoc test.

Result: On anthropometric parameters Percentage of body fat (%), Calf and Thigh girth were significant for ICT and CCT groups on pre test and post test score after training but CG was not significant. BMI was not significant for three groups on pre test and post test score after the training. Body weight was not significant for ICT and CCT groups on pre test and post test score but CG was significant after training. In comparison among three groups were not significant for all the anthropometrical parameters on post test score after training. **All the physical fitness parameters** were significant on pre test and post test score for CCT and ICT groups after training. Without speed no significant result observed on all the physical fitness parameters for control group (CG), wherein speed was significant for control group. In comparison among three groups were significant for all the physical fitness parameters on post test score after training. **On Physiological Parameters** all phases of HR and BLA were significant on pre test and post test score for CCT and ICT groups after training. Wherein after completion of seven minutes of exercise was significant for control group without this phase all phases of HR and BLA were not significant for CG. In comparison among three groups were significant for all the phases of HR and BLA on post test score after training.

Conclusion: Findings of the study concluded that both the training is effective and comparatively CCT & ICT groups were better than CG on selected anthropometrical, physical fitness and physiological parameters. Whereas inter group analysis CCT is better than ICT on cardio respiratory endurance, resting HR, HR Before Exercise, HR after completion of seven minutes of exercise and BLA after completion of fifteen minutes of exercise. Wherein observed the effects on all the other parameters were more or less equal on CCT and ICT groups. Conversely, adverse effects were noted in the control group on body weight, percentage of body fat, speed, HR after completion of seven minutes of exercise and BLA

after completion of seven minutes of exercise. Whereas, no significant changes were observed to any of the other parameters in CG.

Keywords: Sports Training, circuit training, continuous circuit training, interval circuit training, Physical Fitness, Heart Rate, Blood Lactic Acid.

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