Chapter V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The present study was designed to examine the relative effects of varied intensity interval training on physical and physiological such as speed endurance, cardio vascular endurance, muscular endurance, resting heart rate, breath holding time and vital capacity. To achieve the purpose of the present study, thirty six men intercollegiate athletes studying in St. Johns College of Physical Education, Veeravanallur, Tamil Nadu were selected as participants and their age ranged from 18 to 21 years.

The present chapter is organized in three main sections. The first section presents the summary and conclusions, the second section suggests implications for educators, and the third section proposes implications for future research. The selected participants were randomly (Simple Random Sample) assigned to one of three groups of twelve each (n=12) such as two experimental groups and a control group. The Group I underwent Moderate Intensity Interval Training and Group II
underwent High Intensity Interval Training for a duration of 12 weeks with alternative three days per week in addition to the regular schedule of the curriculum and Group III acted as control which was asked to refrain from any special training except their leisure time pursuit as college students.

Among the physical and physiological variables, the following dependent variables were selected for this study such as speed endurance, cardio vascular endurance, muscular endurance, resting heart rate, breath holding time and vital capacity.

The pre test and post test random group design was used as experimental design in which thirty six men participants were divided into three groups of twelve each at random. No attempt was made to equate the groups in any manner. The collected data from the three groups prior to and immediately after the training programme on selected criterion variables were statistically analyzed with dependent ‘t’ test to find out the significant improvement between pre and post- test means of both groups and analysis of covariance (ANCOVA) was used to find out the significant difference between experimental and control groups. Whenever the ‘F’ ratio for adjusted test was found to be significant, the Scheffe’s test was applied as post-hoc
test to find out paired mean difference. In all the cases 0.05 level of significant was fixed to test the hypotheses.

**Conclusions**

1. This study found that the Moderate Intensity Interval Training Group improved the participants’ speed endurance, cardiovascular endurance, muscular endurance, resting heart rate, breath holding time and vital capacity.

2. This study found that the High Intensity Interval Training Group improved the participants’ speed endurance, cardiovascular endurance, muscular endurance, resting heart rate, breath holding time and vital capacity.

3. The experimental groups namely Moderate Intensity Interval Training and High Intensity Interval Training Groups had significant difference towards improving the participants’ speed endurance, cardiovascular endurance, muscular endurance, resting heart rate, breath holding time and vital capacity.

4. High Intensity Interval Training outperformed than the Moderate Intensity Interval Training on speed endurance, cardiovascular endurance, muscular endurance, resting heart rate, breath holding time and vital capacity.
5. High Intensity Interval Training outperformed than the control group on speed endurance, cardio vascular endurance, muscular endurance, resting heart rate, breath holding time and vital capacity.

6. Moderate Intensity Interval Training outperformed than the control group on speed endurance, cardio vascular endurance, muscular endurance, resting heart rate, breath holding time and vital capacity.

7. There was no significant difference towards improving the resting pulse rate between Moderate Intensity Interval Training and high intensity intermittent endurance training.

**Implications for Educators**

From the discussion of the findings, it is evident in this study that High Intensity Interval Training was effective in supporting participants’ physical and physiological performance. A close examination of the results revealed that High Intensity Interval Training alone is insufficient as a form of training for selected variables. Also it is inferred that the High Intensity Interval Training was particularly effective in supporting physical and physiological variables. Therefore, High Intensity Interval Training can be integrated with endurance training to develop
physical and physiological variables in turn it will improve the overall aerobic and anaerobic capacity of the participants.

In this study, the findings showed that the High Intensity Interval Training was particularly effective in supporting physical and physiological variables. Therefore, Physical educators, trainers and coaches should give more attention high intensity intermittent endurance training.

**Implications for Future Research**

The following recommendations for future research are based on the results of this investigation and the related literature.

1. It is recommended that further research be designed to investigate the effects of training programmes based on gender.

2. It is recommended that further research be designed to investigate the effects of training in an elite subject population.

3. It is recommended that further research be designed to investigate the effects of training on both previously endurance and resistance trained subjects.
4. It is recommended that further research be conducted using more strenuous training programs.

5. It is recommended that future study include analysis of skeletal muscle morphology, skeletal muscle capillarization, muscle metabolic enzymes, hormone concentrations, as well as all the dependent variables measured in this investigation.