Chapter-5

Summary, Conclusion & Recommendations

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5.1 Summary

The effects of exercise on various body systems are felt both immediately and over time. When individual begins exercising, he will be aware of more frequently muscle contraction, an elevated body temperature and heart rate and an increase in his breathing rate. As his body adapts to a regular exercise regimen, he will be see longer term positive training effects, such as a larger heart, an ability to breathe more deeply, normal blood pressure, weight controlled, a lower resting pulse rate, improved hemoglobin% and reduced fat%.

Regular exercise improves the strength of muscle, tendons and ligaments. This in turn helps stabilize joints. It also improves and helps maintain joint flexibility. With training muscle endurance improves which means that it takes longer for muscles to fatigue when individuals are performing physical work, especially repetitive tasks. The longer term effects of exercise on performance related fitness parameters help to improve the agility, speed and reaction time.

Studies have been presented giving evidence that physical activity and exercise can also be used to control the state and trait anxiety level.

In this study fifty school going boy students, 14-17 years age group of Kanaknagar S.D. institution (H.S.), Hingalganj, North 24 Parganas, West Bengal, were considered as subjects. Basically they resided in own house. The researcher was interested to investigate the effects of conditioning on selected physiological, psychological and performance related fitness parameters of the subjects.
The fifty subjects used in this investigation. Subjects were divided into two groups. Thirty subjects were in experimental group and remaining twenty subjects were in control group. The subjects were tested on the following criterion measures:

**Physiological parameters:**
- a) Resting heart rate
- b) Systolic blood pressure
- c) Diastolic blood pressure
- d) Breathing hold capacity
- e) Hemoglobin%
- f) Fat%

**Psychological parameters:**
- a) State anxiety
- b) Trait anxiety

**Performance related Physical fitness parameters:**
- a) Speed
- b) Strength
- c) Endurance
- d) Agility
- e) Reaction time.

These tests were conducted in two different steps. First step was taken just before the starting of conditioning program and second step was taken after completion of conditioning program. The investigator was interested to know-
i) Whether 14 weeks conditioning program had any effect on selected physiological, psychological and performance related physical fitness parameters of the school going students.

ii) Whether 14 weeks conditioning program had any effect on weight of the school going students.

The difference in mean gain of performance in physiological, psychological and performance related fitness parameters on two tests were subjected to the statistical test of significance. t values were computed between tests. In order to find out the superiority or inferiority of one test over the test the significance was determined.

From the analysis of the data, it was observed that due to conditioning the performance of subjects gained significantly (at 0.05 level of confidence) in all selected physiological, psychological and performance related fitness parameters except in the measurement of systolic blood pressure of Experimental group.

It was observed that most of the over weight students lost some body weight after 14 weeks conditioning of Experimental group.

5.2 Conclusions

On the basis of results the following conclusions may be drawn –

5.2.1 Physiological Parameters

Conditioning of school going students caused beneficial physiological parameters such as heart rate, diastolic blood pressure, breath holding capacity, hemoglobin% and fat% adaptive changes except in the measurement of systolic blood pressure of Experimental Group. But there was no change of physiological parameters such as heart rate, systolic- diastolic blood pressure, breath holding capacity, hemoglobin% except in fat% of Control Group.
5.2.2 Psychological Parameters

a) Improvement of state anxiety of Experimental Group was highly significant but there was no improvement of Control Group.

b) Improvement of trait anxiety of Experimental Group was significant but trait anxiety of Control Group was no change significantly.

5.2.3 Performance Related Fitness Parameters

a) Significant change was observed of speed (50 meters) of school going students of Experimental Group but there was no improvement of Control Group.

b) In strength (standing broad jump) significant improvement was occurred of Experimental Group but strength of Control Group was also improvement.

c) Endurance ability of Experimental Group was improved and it was significant but there was no improvement of Control Group.

d) Significant change was observed on agility (shuttle run) of school going students of Experimental Group but there was no improvement of Control Group.

e) Reaction time of Experimental Group was improved and it was significant of school going students but Reaction time of Control Group was no change significantly.

5.2.4 Weight

Significant change was observed in weight of Experimental Group and the change was positive i.e., weight loss but significant change was observed in weight of Control Group; change was negative i.e., weight gain.
5.3 Recommendations

The following recommendations arising out of this study have been made:

1) The same problem may be studied on the girl subjects.

2) The present study is done on a small sample. The samples may not be considered as true representative of the whole population. To achieve a better result the study may cover a large population.

3) In order to get consistency of results and to draw firm conclusion, similar studies have to be conducted over a number of years.

4) One may find the results of different exercise conditioning program on same age group as well as different age group of both gender.

5) One may find the effect of conditioning program on other parameters of physiological, psychological and fitness parameters of school going students.

6) Similar studies can be conducted with the same parameters by selecting the subjects for other environmental aspects.

7) This study may be useful for the people to explore more about school physical education.

8) A similar study may be attempted by selecting the state or national level athletes or players as subjects.