

**EFFECT OF ISOLATED AND COMBINED AEROBICS AND PROGRESSIVE  
MUSCULAR RELAXATION TRAINING ON SELECTED MOTOR FITNESS,  
PHYSIOLOGICAL AND PSYCHOLOGICAL VARIABLES  
AMONG COLLEGE WOMEN STUDENTS**

**DISSERTATION**

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**DOCTOR OF PHILOSOPHY IN PHYSICAL EDUCATION**

*By*  
**K. SELVI**

*Under the Guidance of*  
**Dr. S. INDIRA**



**DEPARTMENT OF PHYSICAL EDUCATION  
JUSTICE BASHEER AHMED SAYEED COLLEGE FOR WOMEN**

**(An Autonomous Institution affiliated to the University of Madras)  
College with Potential for Excellence-Reaccredited by NAAC in 2013 with  
An outstanding CGPA of 3.61 (out of 4) at 'A' Grade**

**TEYMAMPET, CHENNAI - 600 018  
TAMIL NADU, INDIA**

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## **CHAPTER - V**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 SUMMARY**

The purpose of the study was to find out the effect of isolated and combined aerobics and progressive muscular relaxation training on selected motor fitness, physiological and psychological variables among college women students. To achieve the purpose of this study One hundred college students from Thiruthangal Nadar College in Chennai city were randomly selected for the purpose of the study. The subjects were in the age group of 19 to 25 years. The selected subjects were assigned into four groups, namely, experimental group I, II, III and control group consisting of 25 in each. Subjects of control group didn't undergo any exercise but followed their routine diabetic treatment and diet prescribed by the physicians. Experimental Group I subjects along with their routine the subjects were provided with selected aerobic exercises such as brisk continuous walking, slow jogging and free hand exercises for 50 minutes. The aerobic exercises were performed thrice in a week for twelve weeks. Experimental group II subjects along with their routine the subjects were provided Progressive Muscular Relaxation for 50 minutes. The training were provided thrice in a week for twelve weeks. Experimental group III subjects along with their routine the subjects were provided with combination of selected aerobic exercises and progressive muscle relaxation training for 50 minutes. The following variables were selected.

#### **Motor Fitness Variables**

1. Cardio Respiratory Endurance
2. Muscular Endurance
3. Flexibility
4. Muscular Strength

#### **Physiological variables**

1. Breath Holding Time
2. Resting Pulse Rate
3. Systolic Blood Pressure
4. Diastolic Blood Pressure

## **Psychological Variables**

1. Anxiety
2. Stress
3. Self-concept
4. Achievement Motivation

A pilot study was conducted to assess the initial capacity of the subjects in order to fix the exercise load. For this purpose twelve college women students, who were not the subjects for this study were selected and selected aerobic exercises, progressive muscle relaxation training and combined aerobics and progressive muscle relaxation training were given to them. Based on the response of the subjects in the pilot study and during the training, the training schedules for experimental groups I, II and III were constructed. However the individual differences were not considered. This study followed random group pre and post tests research design was followed in this study. Randomly selected one hundred college women students (N=100) in the age group of 19 to 25 were grouped into four. The groups were considered as experimental group I, which underwent aerobic exercises, experimental group II which underwent progressive muscle relaxation training, experimental group III which underwent combined aerobics and progressive muscle relaxation training. Group IV was considered as control group which did not underwent any specialized training and they were strictly under control of the investigator. Pre tests were conducted for all the subjects on selected motor fitness, physiological and psychological variables such as cardio respiratory endurance, muscular endurance, flexibility, muscular strength, resting pulse rate, breath holding time, systolic blood pressure and diastolic blood pressure and anxiety, stress, self concept and achievement motivation. This formed initial scores of the subjects. The experimental groups participated in their respective exercises, namely aerobic exercises, progressive muscle relaxation training and combined aerobic and progressive muscle relaxation training for twelve weeks. Immediately after completion of the experimental period, the post tests were conducted on the above said dependent variables after a period twelve weeks on the subjects, which formed final scores of the subjects. The difference between initial and final scores was considered as the effect of respective treatment.

## 5.2 CONCLUSIONS

Within the limitations and delimitations of the study, the following conclusions were drawn.

1. It was concluded that isolated aerobic exercises and combined training significantly improved motor fitness variable on cardio respiratory endurance. The comparative effect of experimental treatments further proved that isolated aerobic training was significantly better than isolated progressive muscular relaxation training among college women.
2. It was concluded that isolated aerobic exercises, progressive muscular relaxation training and combined training significantly improved motor fitness variable on muscular endurance. The comparative effect of experimental treatments further proved that isolated aerobic training and combined training were significantly better than isolated progressive muscular relaxation training among college women.
3. It was concluded that isolated aerobic exercises, progressive muscular relaxation training and combined training significantly improved motor fitness variable on flexibility. The comparative effect of experimental treatments further proved that isolated progressive muscular training was significantly better than isolated aerobic exercise among college women.
4. It was concluded that isolated aerobic exercises, and combined training significantly improved physiological variable on breath holding time. The comparative effect of experimental treatments further proved that aerobic training and combined training were significantly better than isolated progressive muscular relaxation training among college women.
5. It was concluded that isolated aerobic exercises, and combined training significantly altered physiological variable on resting pulse rate. The comparative effect of experimental treatments further proved that there was no significant difference among treatment groups among college women.

6. It was concluded that isolated aerobic exercises progressive muscular relaxation and combined training significantly altered physiological variable on systolic blood pressure. The comparative effect of experimental treatments further proved that there was no significant difference among treatment groups among college women.
7. It was concluded that isolated aerobic exercises, progressive muscular relaxation and combined training significantly altered physiological variable on diastolic blood pressure. The comparative effect of experimental treatments further proved that there was no significant difference among treatment groups among college women.
8. It was concluded that isolated aerobic exercises, progressive muscular relaxation training and combined training significantly altered psychological variables, such as, anxiety, stress, self esteem and achievement motivation. The comparative effect of experimental treatments further proved that there were no significant differences among treatment groups on selected psychological variables among college women.

### **5.3 RECOMMENDATIONS**

The study proved that aerobic exercises, progressive muscular relaxation and combined training significantly altered selected motor fitness, physiological and psychological variables among college women students. In view of these findings, the following recommendations are made in this study.

1. The aerobic training, progressive muscular relaxation and combined training protocols suggested in this study may be included in the curriculum of college women students to improve their overall fitness, physically, physiological and psychologically.
2. The protocols suggested in this study may be used by college women students in their home physical activities.
3. Fitness trainers and physical directors may implement the training protocols suggested in this study may be prescribed for the benefit of women students for their healthful living.

#### **5.4 SUGGESTIONS FOR FURTHER RESEARCH**

During the course of the study, the investigator come across a number of new ideas, some which few important ones are listed for future researchers.

1. The effect of aerobic exercises, progressive muscular relaxation and combined training on menopausal disorders of college women.
2. A similar research may be undertaken among college women athletes to finding of the effects of experimental treatments suggested in this study.
3. The comparative effect of experimental protocols suggested in this study may be done among college men and women students.
4. A separate research may be undertaken to find out the effects of aerobics, progressive muscular relaxation and combined training on selected biochemical variables of college women students.