

# Comparative Effect of Aerobic and Yogic Exercises on the Selected Physical, Physiological and Academic Performance of Non-Participants of Sports at Secondary Secondary School Level

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**Abstract:** *Physical activity has a direct effect on well-being and health. To be fit and healthy we need to be physically active. Regular physical activity can help protect us from serious diseases like obesity and mental illness among children. The recent study reveals that 60% of the Secondary School going children suffers obese. Physical exercise, particularly continuous aerobic exercises such as running, cycling and swimming, has many cognitive benefits and effects on the brain include increases in neurotransmitter levels, improved oxygen and nutrient delivery. The effects of exercise on memory have important implications for improving children's academic performance, maintaining mental abilities among children Riding bicycle regularly is none of the best ways to tackle the health problems associated with a sedentary lifestyle. Physical fitness and health are the integral part of human life. Fitness and wellness of person are correlated to each other. In fitness body proportion and composition are important parameters and which has roles relevance with health related fitness. Maintenance of physical fitness is needed of the day in human society. In this age of stress and tension, low level of fitness leads towards, the exposure of degenerative and psychosomatic disorders including other in effective suffering. A lot of people live with fitness myths, having their own concepts and theories of fitness and health when it comes to fitness there are many that believe strongly in the dictum 'ignorance is bliss'.*

**Keywords:** Secondary School

## I. INTRODUCTION

Aerobics is a physical exercise combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements (flexibility, muscular strength and cardio-vascular fitness) it is usually performed to music and may be practiced in a group setting led by an instructor, although it can be done solo and without musical equipment with the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of difference dance like exercise formal aerobics classes are divided into different level of intensity and complexity.

Aerobics classes may allow participants to select their level of participation according to their fitness level. Physiologically then term aerobic means the activities with oxygen gradual practice facilities oxygen and nutrients to the extremities and heart. So that demands of the body are satisfied. Muscles become stronger and more enduring whereas body becomes more agile and flexible by following over loading principals in aerobic dance and combination of other aerobic activities leads to favorable change in circular-respiratory system body composition and certain fitness factors. Research reports also revealed that aerobics training has favourable influence on psycho-hormonal developments.

Aerobic training is a non specific activity that improves physical and respiratory capacities. It is simple to carry out and includes jogging in place, knee ups, short kick, running, marching and so on. The aim of this study was to find out the effect of yoga and aerobics on physical, physiological, psychological and academic performance among secondary Secondary School children.

### 1.1 Statement of the Problem

The purpose of the study will be to know the impact of aerobic exercises and yogic practice on the selected physical, physiological, psychological variables of secondary Secondary School children under the topic entitled:

### 1.2 Delimitations:

1. The study will be delimited to secondary Secondary School students of Tumkur District, Karnataka state.
2. The study will be further delimited to subjects from secondary Secondary School students who are studying in secondary Secondary Schools of Tumkur district.
3. The study will be delimited to physical, physiological and psychological and academic performance variables.
4. The study will be delimited to experimental method.

### 1.3 Limitations

1. The students were from different social, cultural and economical status which was taken as a limitation for this proposed study.
2. Heredity and environmental factors which contribute to performance have not been controlled.
3. No effect would be made either to control or to assess the quality of the food ingested, life style, effect of metabolic functions as these are recognized as a limitation of this proposed study.
4. No other motivational technique will followed to asses selected physical, physiological, psychological and performance variables.

### 1.4 Hypotheses

1. It will be hypothesized that there would be significant difference in the physical fitness, physiological, psychological and academic performance among secondary Secondary School students after intervention of aerobic training.
2. It will be hypothesized that there would be significant difference in the physical fitness, physiological, psychological and academic performance among secondary Secondary School students after intervention of yogic training.
3. It will be hypothesized that there would be significant difference in the physical fitness, physiological, psychological and academic performance among experimental groups.
4. It will be hypothesized that combined group had better effect in the physical fitness, physiological, psychological and academic performance than yoga and aerobic groups.

### 1.5 Significance of the Study

1. The study may help the policy makers in educational department to implement the motivational policy which benefits the pupils.
2. The study may help coaches and physical education teachers to understand health related physical fitness, physiological, psychological and academic performance among secondary Secondary School students.
3. The study may help the coaches and physical education teachers to adopt different motivational techniques, means and methods to enhance health related physical fitness, motor fitness, psychological variables and academic performance among secondary Secondary School students.
4. This finding of this might act as guide to the coaches, experts to select the players who will be more suited or competent towards the particular game.
5. This study may help to the Secondary School This study administrators, teachers and coaches about the bicycle benefits.

### 1.6 Definition and Explanation of Terms:

- **Physical Fitness:** The components of physical fitness have a relationship with good health. The components are commonly defined as body composition, cardiovascular fitness flexibility, muscular endurance and strength (Bouchart, Shephard & Stephens 1994)
- **Psychological Variables:** In the present study it was operationally defined "psychological variable can be pertained to the nervous system which is controlled by Human brain"
- **Academic Achievement:** Knowledge attained or skills developed in the Secondary School and college subjects, usually designated by test scores or by marks assigned by teacher or by both.

The performance of pupil in the so called "academic Subjects such as reading, arithmetic and history has contrasted with skills developed in such areas has industrial arts and physical education.

## II. REVIEW OF RELATED LITERATURE

A literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources and as such, do not report any new or original experimental work. Most often associated with academic-oriented literature, such as a thesis, a literature review usually precedes a research proposal and results section. Its ultimate goal is to bring the reader up to date with current literature on a topic and forms the basis for another goal, such as future research that may be needed in the area. A well- structured literature review is characterized by a logical flow of ideas; current and relevant references with consistent, appropriate referencing style; proper use of terminology; and an unbiased and comprehensive view of the previous research on the topic. Review of related literature decides, allowing the researcher to acquaint himself with current knowledge in the field or area in which he is going to conduct his research, serves the specific purposes. The researcher will be reviewing studies on health related physical fitness, psychological and academic performance of cycle beneficiaries and non-beneficiaries.

Awasare (July 2013) studied to find out the main purpose of the study was to see the effect of aerobics exercises on physical fitness and body composition of Secondary School boys. The selected 40 student were equally divided into two equal groups consisting 20 subjects in each group assigned in experimental and control groups.

## III. METHODOLOGY

The selection of subjects, selection of variables, collection of data and the statistical procedures to be adopted for the analysis of data will be described.

### 3.1 Selection of Subjects:

80 secondary Secondary School students each 20 group were selected as a sample of the study and they were arranged under the following four groups.

- |                                  |                                 |
|----------------------------------|---------------------------------|
| 1. Experimental Group - I        | underwent                       |
| aerobic exercises                |                                 |
| 2. Experimental Group - II       | underwent                       |
| yogic exercises                  |                                 |
| 3. Experimental Group - III      | underwent                       |
| both aerobic and yogic exercises |                                 |
| 4. Control Group-IV              | did not underwent any training. |

### 3.2 Selection of Variables

The following variables will be selected as criterion and independent variables for the proposed study as these variables are found to be very important for excelling in competitive sports.

#### Independent Variable:

A. Intervention (Training)

#### Dependent Variables:

B. Physical Fitness Variables

1. Muscular Endurance - Bent Arm Hang/ Curl Ups
2. Muscular Strength
  - a) Static Grip Strength (Static Grip Test)
  - b) Abdominal Strength (Bent Knee Sit Ups)
  - c) Leg Strength (Standing Broad Jump) Cardio Respiratory Fitness (1.5 Mile Distance Run Test)
4. Body Composition  
Skinfold measurements (Biceps, Triceps, Sub scapular and Superiliac)
  1. Flexibility (Sit and Reach Test)

**B. Physiological Variables:**

1. Resting Heart Rate
2. Expiratory Rate
3. Breath Holding capacity

**C. Psychological Variables**

1. Attention
2. Concentration
3. General Health

**D. Academic Performance**

**Intervention (Training)**

Yoga training consisted of warm up, breathing yogic exercises generally consisted of 15 to 20 different positions, relaxation and meditation. Aerobic training included warm up and activities such as jogging, jumping, stationery aerobics, strength, flexibility, and cool down. All of exercises on training had specific principals such as intensity, frequency, time, specificity and overload. For combined group both aerobic and yogic Exercises were included. The control group did not underwent any training.

**3.3 Collection of Data**

Standardized tests and training will be administered for collecting the data of the subjects personally by the investigator.

**3.4 Statistical Procedure:**

1. 't' test
2. One-way ANOVA

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