

## REVIEWS OF LITERATURE



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### COMPARATIVE STUDY OF PHYSIOLOGICAL PARAMETERS AS TESTED BY CARDIO PULMONARY INDEX OF SCHOOL STUDENTS BEFORE AND AFTER WARMING UP

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#### ABSTRACT:

*The purpose of the study was comparative study of physiological parameters as tested by cardio-pulmonary index of school students before and after warming up exercise. This study examined the effect of warming up exercises on school student. The main source of data for the present study was 40 school students. The subjects were selected randomly and have divided into two groups namely control group and experimental group. Each group is of 20 students. The training program was compressed general warming up exercises and it was given to the experimental group. Only some general exercises were provide during the training programme .The duration of training programme was three weeks and the duration of training was half an hour and six days in a week in morning session. To analyse the data the 't' test was employed on the ratio of 0.05 level of significance. On the basis of the findings the following conclusions are drawn. There is found significant mean difference in breath holding in different conditions i.e. before and after warming up on selected male students .There was also found a significant difference in selected physiological parameters namely Systolic blood pressure and Diastolic blood pressure among school students in different conditions of warming up i.e. before and after warming up.*



**KEYWORDS:** *Physiological parameters, Cardio-pulmonary index.*

#### INTRODUCTION:

Physiology is the branch of biology that deals with the normal functions of living organisms and there parts. Human physiology is the science of the mechanical, physical, bioelectrical and biochemical function of humans in good health, there organs and the cells of which the composed physiology focuses principally at the level of organs and systems. Most aspects of human physiology are closely homologous to corresponding aspects of animal physiology and animal experimentation has provided much of the foundation of physiological knowledge. Anatomy and physiology are closely related fields of study. Anatomy the study of form and physiology the study of function are intrinsically related and are studied in tandem as part of mechanical curriculum

Warming up is a period or act of preparation for a match, performance, or exercise session, involving gentle exercise and practice. It is universally accepted that warming up is essential for any vigorous for any sports activity exhibit optimum performance and prevent from injuries. Warming up is a preparatory phase that most athletes do or should undergo at the beginning of an exercise session or event. This will consists of light stretching, limbering and warming up the muscles getting the blood to flow around the body, limbering

body and stretching the muscles and connective tissue. Cooling down on the other hand consists of similar light exercises practised at the end of the workout or event, which gradually return the body to its resting state, helping to reduce soreness and fatigue.

**Systolic Blood Pressure:** - when the left ventricle contracts and pushes blood into the aorta. The pressure produced within the arterial system is called the systolic blood pressure.

**Diastolic blood pressure:** - When complete diastole occurs and the heart is resting following the ejection of blood, the pressure within the arteries is called diastolic blood pressure.

**Maximum Breath- holding:** - When you hold your breath, carbon dioxide builds up as your body uses up oxygen. After a minute or two most people, the result is an overwhelming breath. A component of some physiological tests of endurance (the cardio pulmonary index). The subject inhales fully, exhales completely, and then takes another full inhalation and holds the breath as long as possible.

#### MATERIAL AND METHODS:

The purpose of the present study was to identify the physiological parameters as tested by cardio pulmonary index of school students before and after warming up. The study was carried out with a sample of 40 school students. The students were selected randomly and divided into two groups, i.e. control group and experimental group of 20 students in each group. The participants were given the training programme was compressed general warming up exercises and it was given to the experimental group. No emphasis was given to the specific training or warming up exercises. Only some general exercises were provided during the training programme. A pre-test was conducted before training programme of warming up exercises on all subjects of control group and experimental group. After the conduction of pre-test three weeks training of general warming exercises were given to the subjects of experimental group. The duration of training was half an hour and five days in a week in morning session. After the completion of three weeks training programme of general warming exercises, the post test of control group and experimental group was conducted on all 40 subjects. The test was administered to the subjects in the morning period. For the effective administration of test all the subjects were briefed about the purposes of the study and the test to be administered was clearly explained and then the data was collected. For analysing the data the 't' test was employed on the ratio of 0.05 level of significances.

#### INTERPRETATION OF DATA:

The mean difference between the pre-test data and post test data of the both groups for maximum breath holding, Systolic blood pressure, Diastolic blood pressure and Resting pulse rate.

**TABLE NO: 1**  
**Gain Maximum Breath Holding**

Mean Groups		M.D	S.E DM	T-ratio
Control Group	Experimental Group	29.63	4.44	6.72*
1.20	28.43			

N=40. Significant at .05 level. Tabulated t.05 (38) =2.042

Table 1 indicates that the calculated value of t-ratio is 6.72 and a tabulated value at .05 level is 2.042. Hence the calculated value is greater than tabulated value. It indicates that significant difference was found between the control groups and experimental also it shows that general warming up exercises has improved the breath holding capacity.

**TABLE NO: 2**  
**Gain Systolic Blood Pressure**

Mean Groups		M.D	S.E DM	T-ratio
Control Group	Experimental Group	6.50	3.067	2.12*
4.00	10.50			

N=40. Significant at .05 level. Tabulated t.05 (38) =2.042

Table 2nd indicates that the calculated value of t-ratio is 2.12, and a tabulated value at .05 level is 2.042. Hence the calculated value is greater than tabulated value. It indicates that significant difference was found between the control group and experimental group also it shows that general warming up exercises has improved the systolic blood pressure.

**TABLE NO: 3**  
**Gain Diastolic Blood Pressure**

Mean Groups		M.D	S.E DM	T-ratio
Control Group	Experimental Group	11.50	2.45	4.70*
1.50	13.00			

N=40. Significant at .05 level. Tabulated t.05 (38)=2.042

Table third indicates that the calculated value of t-ratio is 2.12, and tabulated value at .05 levels is 2.042. Hence the calculated value is greater than tabulated value. It indicates that significant difference was found between the control group and experimental group also it shows that general warming up exercises has improved the systolic blood pressure.

### CONCLUSION:

**On the basis of findings the following conclusions are drawn.**

1. There is significant mean difference in Breath holding in different conditions i.e. before and after warming up on selected male school students.
2. There was also found a significant difference in selected physiological parameters namely systolic Blood pressure and Diastolic blood pressure among the school students in different conditions of warming up i.e. before and after warming up.
3. There is also found a significant difference in gaining maximum breath control in different conditions i.e. before and after warming up on selected male school students.

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