

# EFFECTS OF PHYSICAL FITNESS RELATED EXERCISE ON WORK *EFFICIENCIES* OF COLLEGIATE STUDENTS

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**Abstract:** The primary aim of the research is to find out the effects of physical fitness related exercise programme on work efficiencies of collegiate students with Respect to Resting Herat Rate and Respiratory Rate . The data was collected through 40 collegiate students in the form of different tests. The demographic information about, age, height, weight etc. was obtained before seeking training. This study involves a cross sectional, comparative pre and post-test of experimental research, so this study was conducted in an experimental design. Resting heart rate and Respiratory Rate of each subject was recorded before & after training. Physical Exercise programme was design by the investigator and the reliability and validity find out by the researcher on the basis of pilot study. The Physical Exercise programme was planned for 4 days a week 60 minutes in a day for 12 weeks including 10 minutes warm up period and 05 minutes cooling down. the findings of the study revealed that there was insignificant difference of RHR was found between .The findings of the study revealed that there was significant Physical Fitness Exercise Programme on RHR was found between pre and posttest of experimental group. The findings of the study revealed that there was insignificant difference of Respiratory Rate was found between pre and post of Control group. The findings of the study revealed that there were significant effects of Physical Fitness related Exercise of Respiratory Rate was found between pre and post of experimental group.

**Keywords:** RHR, RR, Exercise, Fitness

## I. INTRODUCTION

Exercise related to physical fitness has played an important role in human life since ancient times. The development of societies depends in the hands of people who are healthy and physically fit. Every person should develop his fitness to live a happy and effective life. To get physical fitness a person has to engage in exercise. Exercise is essential to enhance the overall personality of an individual, which will depend on the opportunities provided for universal development of physical, psychological, material, social and spiritual aspects. Therefore a well organized and properly administered exercise is very essential for adults. Exercising is important for students because it helps students increase their cardiorespiratory fitness and build strong bones and muscles. Apart from this, it also controls weight and reduces the symptoms of anxiety and depression. Exercise is very important for health. By exercising, not only a person's health but also his mind remains healthy.

This is the best solution to cure every disease. Perhaps many of us seem to have forgotten the importance of exercise in human life. In this busy world, man neither has time for himself nor for others. While school going children are told more about the importance of education, they are told less about their health. For the last few years, it has been seen that small children have mobiles and tablets in their hands. Where these children should be going to the park to play and exercise, they are busy with their smartphones. Exercise can also help improve the quality of student's sleep. Exercise naturally tires your body, which helps you get a more restful sleep at night. This, in turn, will help you wake up every morning feeling refreshed and ready to tackle your studies with new energy.

## II. METHODS

This chapter explained the methodological details used to implement the study.

### Demographic Information

The data was collected through respondents in the form of different descriptive tests. The demographic information about, age, height, weight etc. was obtained before seeking training.

**Sampling Method:**

Purposive sampling method was used, as the researcher selected young adults with a specific purpose.

**Target of population**

Forty young students of veterinary college. Training was given to Experimental group .

**Research design:**

This study involves a cross sectional, comparative pre and post-test of experimental research. Since experimental group was taken by the investigator and there was control group so this study was conducted in an experimental design.

**Selection of variables:**

The following variables was selected as follows.

**a) Resting heart rate:**

Resting heart rate of each subject was recorded before & after training. Before recording Resting heart rate the subject was instructed to remain lying on their bed to record the heart rate, pulse rate was recorded by the palpation at radial artery per minute. The score was express in number of pulse rate per minute.

**b) Respiratory rate:**

The Respiratory rate of each subject was recorded before & after training. Before recording Respiratory rate, the subject was instructed to remain lying on their bed in supine lying position. The tester was then record rate of respiration in units per minute by carefully watching the movements of the subjects abdominal. Total number of respiratory movement per minute was finally recorded.

**Physical Exercise programme:**

**Physical Exercise programme** was design by the investigator and the reliability and validity find out by the researcher on the basis of pilot study. The **Physical Exercise programme** was planned for 4 days a week 60 minutes in a day for 12 weeks including 10 minutes warm up period and 05 minutes cooling down. The Health-related fitness programme includes running, waking, jumping, throwing, speed ply training, slight weight training. The training was performing in Departmental laboratory. All test measure in physical education department.

**III. RESULTS**

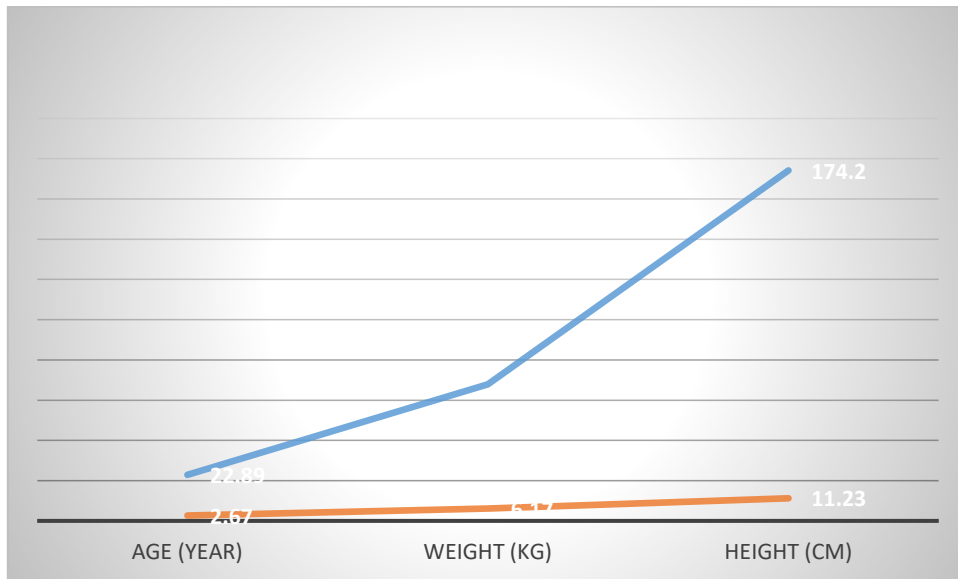
The results concerning this are presented in the form of tables and also clarified with the help of suitable figures, wherever was necessary. For the methodological presentation of the results, following order has been adopted.

Table – 1  
Table- 1 DEMOGRAPHIC INFORMATION OF CONTROL GROUP

Sr. No.	Components	Means Scores	Standard Deviations
1.	Age (Year)	22.89	2.67
2.	Weight (Kg)	67.91	6.17
3.	Height (cm)	174.20	11.23

Table-1 shows, Mean Scores and Standard deviations of Control Group of selected demographic information. With respect to age and standard deviation of control group was 22.89 and 2.67 years respectively. In addition the mean scores and Standard deviations of Control Group with respect to weight was 67.91 and 6.17 Kg. respectively. Whereas, the Mean Scores and Standard deviations of Control Group with respect to height was 174.20&11.23 cm Respectively

Figure-1 shows, Mean Scores and Standard deviations of Control Group of selected demographic information



**TABLE – 2**  
**DEMOGRAPHIC INFORMATION OF EXPERIMENTAL GROUP**

Sr. No.	Components	Means Scores	Standard Deviations
1.	Age (Year)	22.46	2.58
2.	Weight (Kg)	67.80	5.67
3.	Height (cm)	177.89	11.45

Table-2 shows, Mean Scores and Standard deviations of experimental group of selected demographic information.

Figure-2 shows, Mean Scores and Standard deviations of experimental group of selected demographic information.

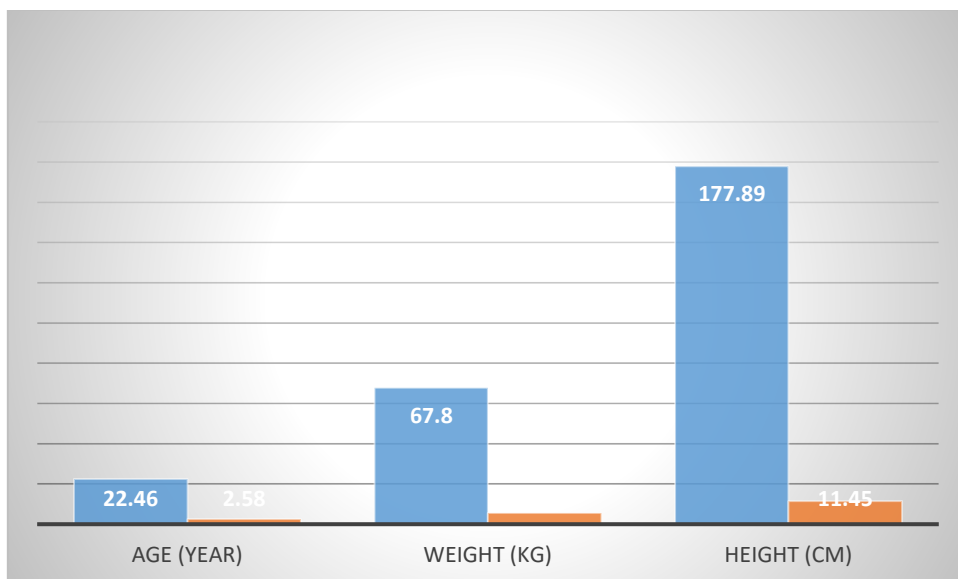


Table – 3  
 Mean scores and SDs of pre and post- test of Selected Work Efficiency with respect to RHR of Control group.

Work Efficiency	Stages	Number	Mean Scores	Standard Deviations	T-test
<b>RHR</b>	<b>Pre Test</b>	<b>40</b>	<b>81.80</b>	<b>5.10</b>	<b>1.24 NS</b>
	<b>Post Test</b>	<b>40</b>	<b>80.78</b>	<b>5.03</b>	

Table-3, Shows selected Work efficiency with respect to RHR of Control.

Figure-3, Shows selected Work efficiency with respect to RHR of Control

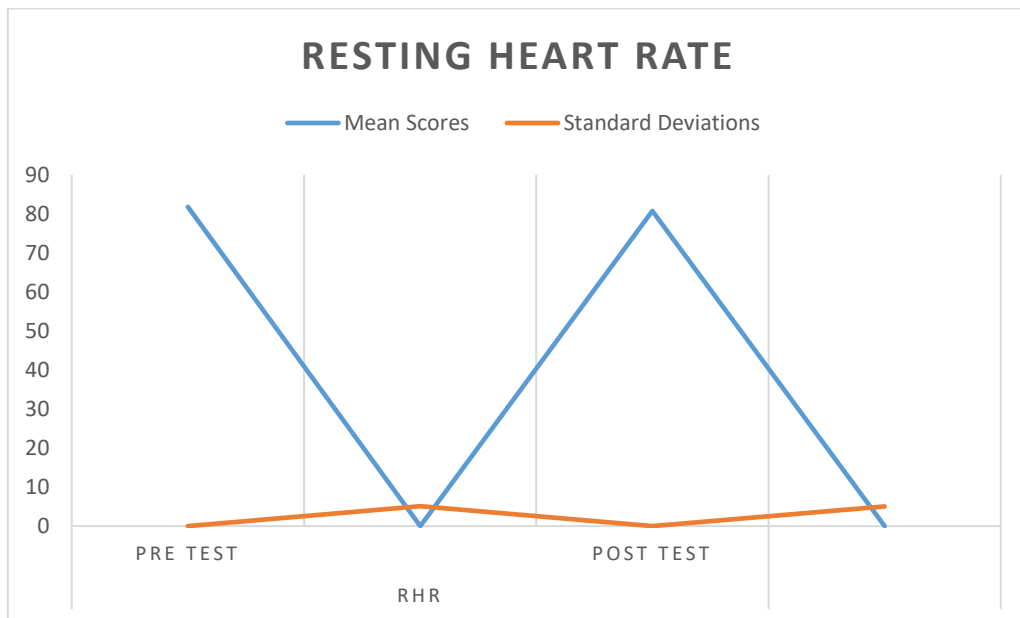


Table – 04  
 Mean scores and SDs of pre and post- test of Selected Work Efficiency with respect to RHR of Experimental group.

Work Efficiency	Stages	Number	Mean Scores	Standard Deviations	T-test
<b>RHR</b>	<b>Pre Test</b>	<b>40</b>	<b>81.11</b>	<b>5.31</b>	<b>2.78*</b>
	<b>Post Test</b>	<b>40</b>	<b>76.10</b>	<b>4.67</b>	

Table-04, Shows selected Work efficiency with respect to RHR of **Experimental**.

Figure -04, Shows selected Work efficiency with respect to RHR of Experimental

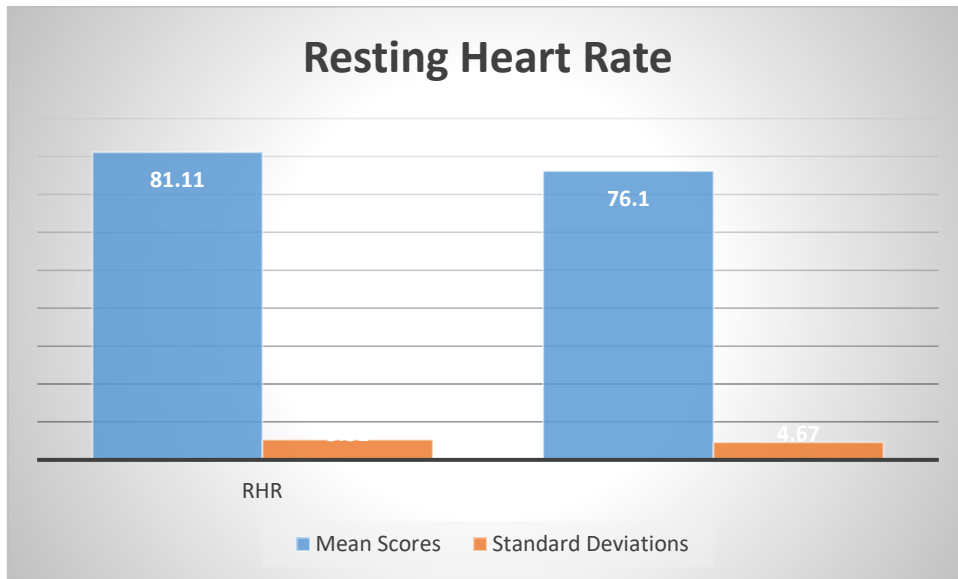


Table – 05

Mean scores and SDs of pre and post- test of Selected Work Efficiency with respect to RR of Control group.

Work Efficiency	Stages	Number	Mean Scores	Standard Deviations	T-test
Respiratory Rate	Pre Test	40	19.78	4.54	1.65 NS
	Post Test	40	19.59	5.33	

Table-05, Shows selected Work efficiency with respect to Respiratory Rate of Control.

Figure-05, Shows selected Work efficiency with respect to Respiratory Rate of Control.

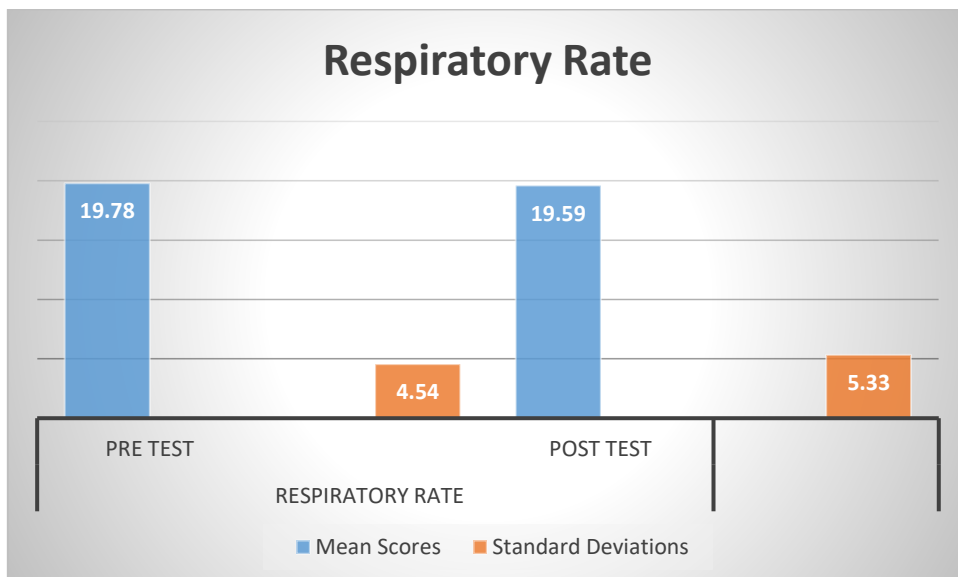
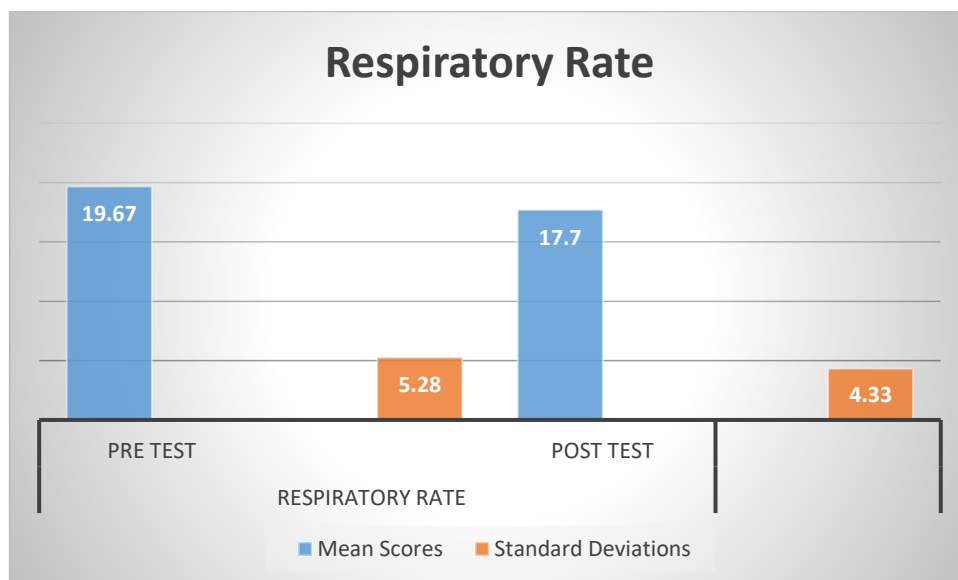


Table-06 Mean scores and SDs of pre and post- test of Selected Work Efficiency with respect to RR of Experimental group.

Work Efficiency	Stages	Number	Mean Scores	Standard Deviations	T-test
Respiratory Rate	Pre Test	40	19.67	5.28	2.87*
	Post Test	40	17.70	4.33	

Table-06, Shows selected Work efficiency with respect to Respiratory Rate of **Experimental group**.

Figure--06, Shows selected Work efficiency with respect to Respiratory Rate of **Experimental group**.



#### IV. DISCUSSION

The aim of the present research is to find out the effects of physical fitness related exercise programme on work efficiencies of collegiate students with Respect to Resting Herat Rate (RHR) and Respiratory Rate (RR). With respect to age and standard deviation experimental group was 20.46 and 2.58 years respectively. In addition the mean scores and Standard deviations of experimental group with respect to weight was 67.80 and 5.67 Kg. respectively. Whereas, the Mean Scores and Standard deviations of experimental with respect to height was 177.89 & 11.45 cm Respectively. The mean scores and SDs obtained from table-3 the mean Pre-test was **81.80** and the post test was **80.78** obtained respectively of selected Work efficiency with respect to Resting Heart rate of Control group .Whereas, the standard deviations of Pre-test was 5.10 and post-test was 6.57 obtained respectively of selected Work efficiency with respect to RHR of Control group. the findings of the study revealed that there was insignificant difference of RHR was found between pre and post of Control group. The mean scores and SDs obtained from table-3 the mean Pre-test was **81.80** and the post test was **80.78** obtained respectively of selected Work efficiency with respect to Resting Heart rate (RHR) of Control group .Whereas, the standard deviations of Pre-test was 5.10 and post-test was 6.57 obtained respectively of selected Work efficiency with respect to RHR of Control group. the findings of the study revealed that there was insignificant difference of RHR was found between pre and post of Control group. The mean scores and SDs obtained from table-4 the mean Pre-test was **81.11** and the post test was **76.10** obtained respectively of selected Work efficiency with respect to Resting Heart rate of experimental group. Whereas, the standard deviations of Pre-test were 5.10 and post-test was 6.57 obtained respectively of selected Work efficiency with respect to RHR of **Experimental group**. the findings of the study revealed that there was significant Physical Fitness Exercise Programme on RHR was found between pre and posttest of experimental group.

The mean scores and SDs obtained from table-05 the mean Pre-test was **81.80** and the post test was **80.78** obtained respectively of selected Work efficiency with respect to Respiratory Rate of Control group .Whereas, the standard deviations of Pre-test was 4.54 and post-test was 5.33 obtained respectively of selected Work efficiency with respect to Respiratory Rate of Control group. the findings of the study revealed that there was insignificant difference of Respiratory Rate was found between pre and post of Control group. The mean scores and SDs obtained from table-6 the mean Pre-test was **81.11** and the post test was **76.10** obtained respectively of selected Work efficiency with respect to Respiratory Rate of experimental group .Whereas, the standard deviations of Pre-test was 5.10 and post-test was 6.57 obtained respectively of selected Work efficiency with respect to Respiratory Rate of experimental group. the findings of the study revealed that there was significant effects of Physical Fitness related Exercise of Respiratory Rate was found between pre and post of experimental group.

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