

# “Relationship of Hemoglobin Percentage and Resting Pulse Rate with Cardio Respiratory Endurance of Division Level of School Male Athletes”

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## Abstract

*The purpose of the present study was to determine the relationship in between selected physiological variables (Hemoglobin Percentage and Resting Pulse Rate) and Cardio Respiratory Endurance at Division Level School male athletes. The purpose of this study total 25 male athletes were randomly selected from Division Level School competition as subjects. The data pertaining to this study were collected on the selected subjects by administering test of 600 yards R/W for Cardio Respiratory Endurance and Physiological variables (Hemoglobin Percentage and Resting Pulse Rate).*

*To determine significant relationship statistical technique correlation( $r$ ) curve employed. Hemoglobin Percentage ( $r=0.9175$ ) and Resting Pulse Rate ( $r=0.9657$ ) shows significant correlation ship with Cardio Respiratory Endurance because obtained  $r$ -values are quite greater than tabulated  $r$ -values of 0.396 at 0.05 level for 23 degree of freedom.*

**Key Words:** Cardio Respiratory Endurance, Physiological variables, Hemoglobin a Resting Pulse Rate.

## **Introduction**

As sports has developed into a distinct scientific discipline in itself and each nation is vying with the other to produce top class players to win in international competition. It is important to understand the role of different sportive fact is that influence performance individually and in combination. For higher level performance capacity of heart, blood vessels, lungs and muscles to function at optimal level. In considering the pulse rate one must understand the difference between the average and normal. In general indicator of Cardio Respiratory Endurance is pulse rate and in children have faster Resting Pulse Rate than adults. To determination of blood constituents are of great importance. Hemoglobin Percentage attributes change in count under different situation in differs from region to region and age to age.

The factors upon which blood pressure depends are pumping action of the heart. During physical activity blood pressure is varies to provide an adequate blood supply. Singal stated in his study of body mass Index, blood pressure and hemoglobin percentage found significant different among Jat Sikh children of Patiala District, Bhowmik, found significant difference in Resting Pulse Rate between players.

## **Purpose of study**

The main purpose of the study was to determine the relationship in between selected physiological variables (Hemoglobin Percentage and Resting Pulse Rate) and Cardio Respiratory Endurance (600 yards R/W) of school athletes of division level.

## Hypothesis

On the basis of available literatures and scholars over understanding the problem, it is hypothesized that there would be significant relationship in between selected physiological variables and Cardio Respiratory Endurance of school athletes of Division level .

## Delimitations

- 1). The study was determined to subject belonging to up to 14 years age if athletes.
- 2). All the subject of the study were Division level school athletes.
- 3) The study was determined to physiological variables i.e Hemoglobin Percentage Resting Pulse Rate and Cardio Respiratory Endurance i.e 600yards R/W.
- 4) The data collection was done during competition period.

## Limitations

- 1) Selection of test variables were restricted to simplicity and suitability for the field study .
- 2) Selected subject habits were differently which was beyond the control of the research scholar.
- 3) Climate variations during the data collection process were out of control of investigator.
- 4) The baseline physical fitness of subject was unknown.

## Methodology

For the purpose of this study total 25 male athletes were selected as subject from division level of school competition by using random sampling method

## Collection of data

The data pertaining to the study were collected on the selected subject by administering the test of 600 yards R/W for cardio respiratory endurance and for physiological variables count Resting Pulse Rate and Hemoglobin Percentage of the athletes .Before collecting the data and research scholars explain the purpose of the study to the subject and also explain the procedure of testing so as the subjects put their best. The obtained score of each athlete were tabulated for further statistical treatment.

## Relationship of Selected Physiological Variable with Cardio Respiratory Endurance (600yard R/W) of Division Level of School Athlete

Variable co-related	Co-efficient of co-relation (r)
<b>Hemoglobin Percentage and Cardio Respiratory Endurance</b>	<b>0.9175*</b>
<b>Resting Pulse Rate and Cardio Respiratory Endurance</b>	<b>0.9657*</b>

\*Significant at 0.05 level

Tabulated  $r_{(0.05)}^{24}=0.396$

### Finding

It is evident that from the findings of above table that the cardio respiratory endurance of division level of school athletes has shown significant relationship with the Hemoglobin Percentage as calculated coefficient of correlation (r) value 0.39 at 0.05 level for the 23 degree of freedom.

The findings also reveal that there are significant correlation in between Resting Pulse Rate ( $r = 0.9657$ ) with Cardio Respiratory Endurance because obtained  $r$ -value are quite higher than the tab  $r$ -value of 0.396 at 0.5 level for the 23 degree of freedom.

### Discussion

Findings of present study shows that there was significant correlation between Physiological variables (Hemoglobin Percentage) and Cardio Respiratory Endurance (600 yards R/w) ( $r = 0.9175$ ) at Division level school male athletes as the reasons may be attributed to the fact that it depend upon the aerobic and anaerobic capacity of individuals ,again both these capacities rest of the lungs and heart's efficiency, percentage of Hemoglobin conception and metabolic function.

Further findings of the there was significant correlation between Resting Pulse Rate and Cardio Respiratory Endurance i.e.. pulse rate is an indicator of cardio vascular capacity of any athletes, decrease in pulse rate indicates better conditioning of heart and circulatory system .Thus decrease in pulse rate as a observed in a study is an indicator of effects of training on cardio vascular system of athletes. The higher the level of participation better the adaptation of athletes of training .

### Conclusion

With the limitations of the present study and on the bases of findings the following conclusions are drawn.

- 1) Significant relationship were observed with the Hemoglobin Percentage and Cardio Respiratory Endurance between Division Level of school Athletes .
- 2) Also significant relationship were find with the Resting Pulse Rate and Cardio Respiratory Endurance between Division level of School Athletes

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