Comparative study of cardiovascular efficiency between the students of Residential Public School and the students of Non Residential Public School at under Sen. Secondary Level.

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Abstract : The purpose of this study was to compare the cardiovascular efficiency between the students of Residential Public School and the students of Non Residential Public School at under Sen. Secondary Level. Thirty boys student of Residential Public School and thirty boys student of non Residential Public School.

The hypothesis that the students of Residential Public School may have better cardiovascular efficiency than the students of Non Residential Public School at the under Sen. Secondary Level was confirmed by the findings of the study.

Introduction:

Cardiovascular efficiency is an important quality to be developed by the sportsmen. Health, endurance, nutrition and general well-being, all depend upon a common dominator the circulatory fitness (GeneHooks, 1974).

Cardiovascular fitness mainly depends on the cardio output, the pulse rate, and blood pressure. Heart is the vital organ of our body. The muscle of the heart, and blood vessels must be strong enough to send the required amount of oxygen and nutrition, through the blood. So, it can be said that cardiovascular fitness represents one's whole health. Physical fitness is the capability of the heart, blood vessels, lungs, and muscles, to function at operative efficiency (Bud Getchell, 1976).

The immediate and long term effects of regular exercise, on the cardiovascular system, as outlined, demonstrate why the incidence of cardiovascular disease has consistently been found to be lower in physically active people than in those who led more sedentary lives (Frante Vctale, 1973). Cardiovascular tests have shown possible

relationship, sometimes, with functional manifestations of circulatory respiratory endurance (H. Clarke & D.H. Clarke, 1987).

Aim

To find out the cardiovascular efficiency between the boys student of Residential Public School and the boys student of Non Residential Public School at under Sen. Secondary Level.

Hypothesis

Students of Residential Public School may have better cardiovascular efficiency than the students of Non Residential Public School at under Sen Secondary Level.

Methodology

The purpose of this study was to compare the cardiovascular efficiency between the students of Residential Public School and the students of Non Residential Public School at under Sen Secondary Level. To achieve this 30 boy's student of Residential Public School M.N.S.S. Rai (Residential) Group I and 30 boys student of Sun Rise Public School Rai (Non Residential) Group II.

The students were explained about the purpose of the study apparatus used were a bench of 18 inches height stop watch metronome.

Harvard step test (H.H. Clarke & D.H. Clarke, 1987) was used to find out the cardiovascular efficiency. The subject steped up and down, 24 times, in a minute on a bench of 18 inches height. Each time, the subject steped up all the way upon the bench, with her body erect. Stepping was done, in four counts, as per the Skubic and Hodgkin's test, however, the subject was allowed lead off with the same foot, each time or change of feet as desired; as long as the four count step was maintained. Metronome was used to regulate the stepping counts.

The stepping exercise continued for exactly three minutes, until the subject was forced to stop sooner, due to exhaustion. In either case, the duration of the exercise, in seconds, was recorded. Immediately after completing the exercise, the subject was given one minute of rest, in a sitting position. The pulse was taken for 30 seconds, at the carotid artery, by palpation.

$$\text{Cardiovascular efficiency score} = \frac{\text{no. of seconds completed}}{5.6 \times \text{pulse count}} \times 100$$

The pulse rate was read by feeling the carotid artery. The atmospheric temperature being 30± 2ºc. The experimental conditions were observed in the administration of the tests, as follows.

The subjects was asked to perform the test according to the count, namely up, up down, down.

The pulse rate was counted as illustrated by Morehouse and Miller (1976) as follows:

In arteries that lie close the surface of the body such as caro artery, at the arrival of the wave of distention, and subsequently recoil may be felt as a distinct throb, the pulse, which affords a convenient method of counting the heart rate.

Statistical Procedure

Since the samples were small containing only thirty members, in each group, the testing for difference between the means of the two groups, the t-ratio was computed.

The means of the cardiovascular efficiency of group-I and group-II students was 113.13 and 97.47, respectively. The t-ratio obtained in significant, at 0.05 level of confidence. Hence, the hypothesis that group-I students have better cardiovascular efficiency, than group-II students, is accepted.

Results and Discussion

The means of cardiovascular efficiency for Group-I was 111.13 and for Group II 97.47.

The calculation of mean, standard deviation, standard error of the mean, standard error of the difference between the mean and t-ratio of group-I and group-II, on cardiovascular efficiency, are presented in Table 1.

Table 1: t-ratio of the difference between means of Group-I and Group-II Students.

Group	Mean	Difference between the mean	Standard error of the difference between the mean	t-ratio
I	111.13	13.66	3.96	3.45
II	97.47			

Significant at 0.05 levels, N1=30, N2=30 df = 30+30-2=58

The required 't' at 0.05 level of confidence was 2.00

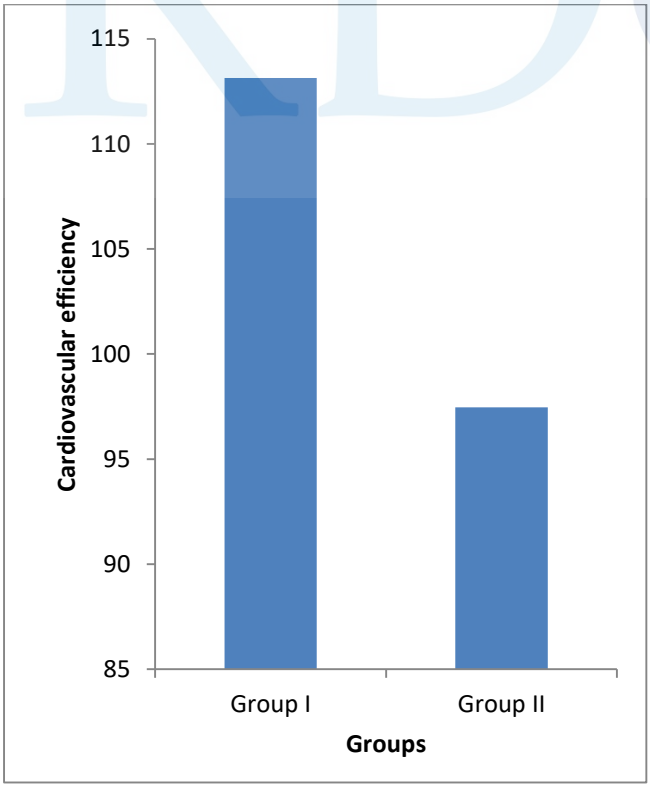

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Fig. 1: The mean of the cardiovascular efficiency of group-I and group-II students.

Conclusion

1. Students of Residential Public School (M.N.S.S.), Rai had better cardiovascular efficiency than the students of Non Residential Public School, Sun Rise.
2. The training is given to Boys of M.N.S.S. Rai Residential School is vigorous than the training is given to boys of Non Residential Public School.
3. As the boys of Residential Public School M.N.S.S. Rai are involved in playing of various game both time morning and evening regularly than their cardiovascular efficiency was better than the boys of Non Residential Public School.

The non Residential Public School Students may also be given some more training to improve their cardiovascular efficiency.

References

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