

“Analysis of Physiological Fitness of Government and Private Residential Secondary School Girls”

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I. Introduction

Health filled life is the fundamental right of every child and they are the best asset on which a nation's development depends on. Though there is thoughtful actions being undertaken by not only the government and the school authorities but also by the parents in making the children involve in healthful fitness activities the ground truth of the children suffering from lack of health related fitness remains unchanged.

Involvement of students in physical activities especially in India with people obsessed with children scoring higher marks in academics and physical education not being the major integral part of our academic curriculum.

Fitness being an important aspect of health still remains the most neglected part. Though there is need for the all time Importance to be given for the individual's involvement in sports, games or any physical activity, tragically this concept gains momentum only after it comes as a prescription from the medical authority.

The parents and the whole society in general have laid too much importance only for the academic performance and too little has been done to inculcate the habit of involving in physical activities, sports and games among children becoming the major cause for deterioration of the quality of healthful life being led by them.

II. Physiology

Physiology is concerned of how the body adopts physiologically to acute stress of exercise or physical activity and the chronic state of physical training. Exercise physiology can be defined as the study, how exercise alters the structure and function of human body **Pralay Majumdar, 1**

Cardio -Vascular fitness

“Cardio-vascular fitness can be defined as your body's ability to get oxygen and blood to the **muscles**”.**2**

Respiratory rate

It is number of time an individual breathes in a minute which includes both an inhalation and an exhalation for one count.

Blood Pressure

The pressure exerted by the blood on the walls of the blood vessels is called blood pressure. **EMMES, 3**

Pulse Rate

Pulse is the throbbing sensation felt over the wall of arteries. It is defined as the pressure difference transmitted in the form of wave over the arterial walls. Pulse rate is almost the same as heart rate (**60 to 80 per minute**). **4**

Statement Of The Problem

“Analysis Of Physiological Fitness Of Government And Private Residential Secondary School Girls.”

Hypothesis

1. It is hypothesized that there exists no significant difference across the variables of physiological among different types of residential school girls.

2. It is hypothesized that the overall performance across some of the physiological variables are normal while some of them are varying which have to be given immediate attention.

III. Methodology

The study basically is a descriptive one which is designed to study the development of the prevailing physiological fitness of private residential school girls and governmental residential school girls. The various steps in the methodology followed are as follows:

a) Physiological variables:

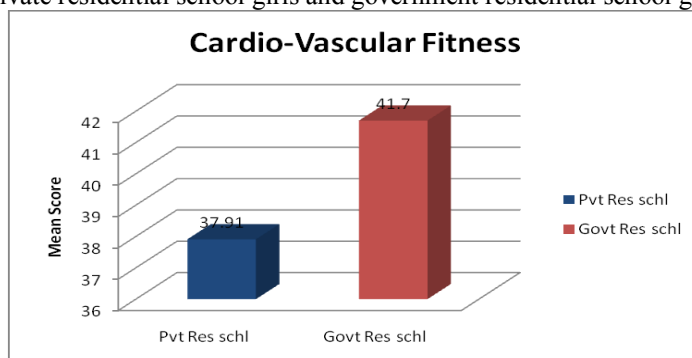
To assess the physiological performance the following tests are selected.

1. Cardio-respiratory fitness test through 1 mile walk test.
2. Respiratory rate
3. Pulse rate
4. Blood pressure by sphygmomanometer.

IV. Results And Findings Of Physiological Variables

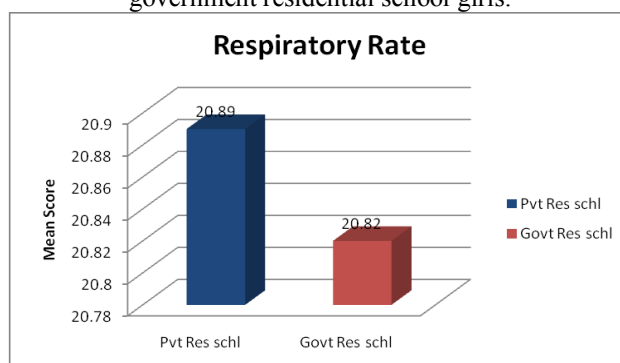
1. Government residential school girls had better cardio vascular fitness than private residential school girls. The average scores were 37.91 and 41.70 respectively. The standard deviations were 5.79 and 4.23 respectively. The ‘t’ test score was 6.47*. Government residential school girls had significantly better cardio-vascular fitness than the private residential school girls.

Fig.1 Comparison of Average Scores of 1 mile walk test measuring the cardio-vascular fitness among the private residential school girls and government residential school girls.



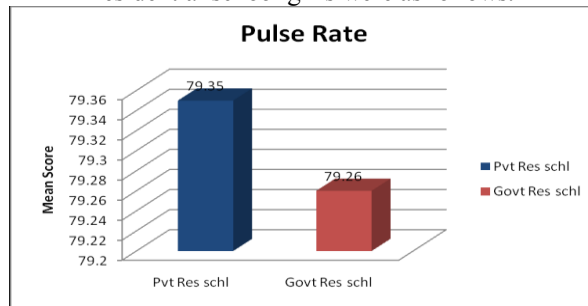
2. The average score across the physiological fitness test respiratory rate, among the private residential school girls and government residential school girls were 20.89 and 20.82 respectively. the standard deviation were 2.35 and 2.33 respectively. The ‘t’ test score was 0.25. There was no significant difference as per the ‘t’ test at 0.05 level.

Fig. 2 Comparison of Average Scores of respiratory rate among the private residential school girls and government residential school girls.



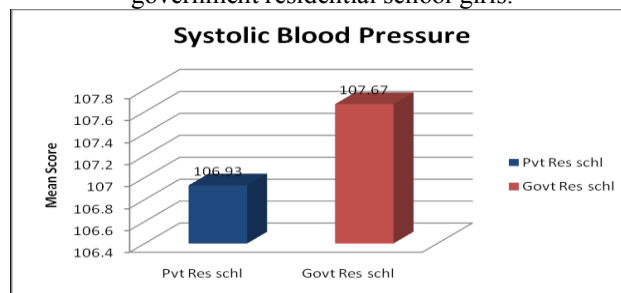
3. The average score across the physiological fitness test pulse rate were 79.35 and 79.26 respectively. The standard deviation was 6.20 and 4.76 respectively. The ‘t’ test score was 0.14. There is no significant difference as per the ‘t’ test at 0.05 level.

Fig. 3 Comparison of Average Scores of pulse rate among the private residential school girls and government residential school girls were as follows.



4. The average score across the physiological fitness test systolic blood pressure is 106.93 and 107.67 respectively. The standard deviation were 8.11 and 7.37 respectively. The 't' test score was 0.82. There was no significant difference as per the 't' test at 0.05 Level.

Fig. 4. Comparison of Average Scores of systolic blood pressure among the private residential school girls and government residential school girls.



5. The average score across the physiological fitness test diastolic blood pressure were 70.73 and 71.53 respectively. The standard deviation are 4.50 and 3.62 respectively. The 't' test score was 1.70. There was no significant difference as per the 't' test at 0.05 level.

Fig. 5 Comparison of Average Scores of diastolic blood pressure among the private residential school girls and government residential school girls.

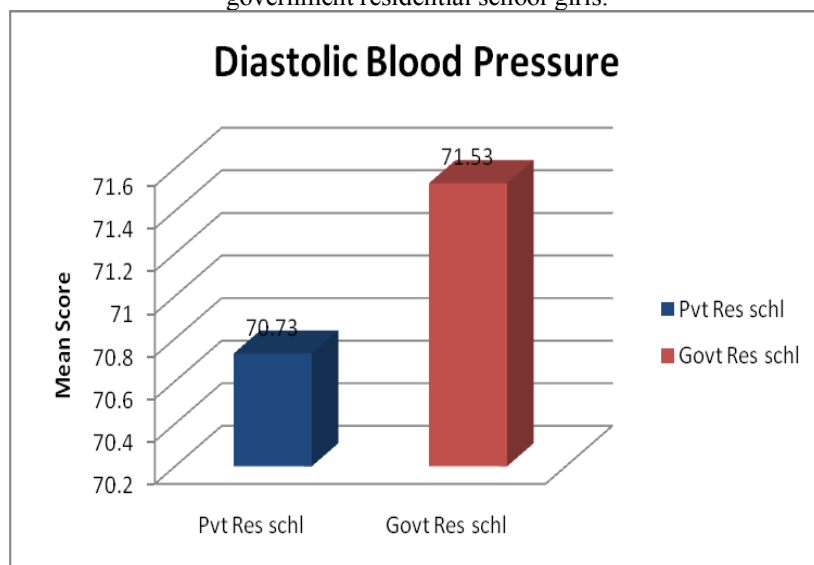
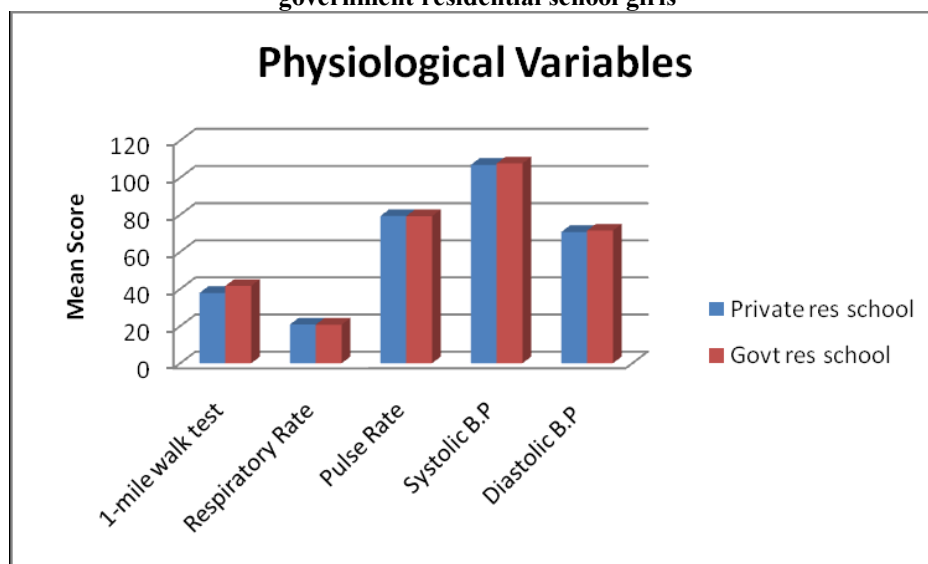


TABLE – 6 Average scores of physiological variables among the private residential school and government residential school girls.

Type of the schools	1-mile walk test	Respiratory Rate	Pulse Rate	Systolic B.P	Diastolic B.P
Private res school	37.91*	20.89	79.35	106.93	70.73
Govt res school	41.70	20.82	79.26	107.67	71.53

When the average scores of selected physiological variables are analyzed it can be noticed that government residential school girls had significantly better cardio-vascular fitness than the private residential school girls. Where as only marginal insignificant difference was observed among all other selected physiological variables, between the private residential school girls and government residential school girls.

Fig .6. Comparison of Average scores of physiological variables among the private residential school and government residential school girls



V. Conclusion:

The data obtained regarding Physiological test of residential secondary school girls was statistically analysed and logically interpreted. On the basis of the results obtained the following conclusions are drawn.

1. The government residential school girls had better cardio-vascular fitness and among the other entire physiological variables- respiratory rate, pulse rate, systolic and diastolic blood pressure though not much difference was found between the two types of schools the scores of the government residential school tended towards the normal scores when compared to the scores physiological variables of private residential school girls.
2. There existed significant difference in physiological test 1mile test. Government residential school girls had significantly better cardio-vascular fitness than private residential school girls.

References

- [1]. Pralay Majumdar, “Physiology of Sports and Exercise”, (New Central Book Agency Pvt., Ltd., October, 2002), p.1.
- [2]. <http://www.fitstep.com>.
- [3]. EMMES, “UGC NET-JRF National Educational Test for Junior Research Fellowship”, (EMMES Publication), p 18.
- [4]. Ibid., p. 95.