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Analytical Study of Body Mass Index and selected Physical fitness Variables between Rural and urban School going Girl students

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ABSTRACT

The purpose of the study was in relation to rural and urban students where the body mass index and selected physical fitness variables were analyse. A total of 50 girl students 25 rural and 25 urban school going girl students which were selected from the Govt. middle school Shahbad(batala) ,H.P.P.girls school dhariwal ,and S.G.A.D.khalsa senior secondary school (burj sahib) dhariwal (gurdaspur) (Punjab) India. They were not given any physical training before taking body mass index and physical fitness variables test. After the selection of 50 girl students who had their age ranging from 12-15 years studying in different classes i.e. 6th, 7th, 8th, 9th they were administered tests on selected criterion variables. The body mass index and selected Physical Fitness variables were speed, agility, strength (right and left hand grip, leg strength). Which were tested on rural and urban school going girl students. To compare body mass index and selected Physical fitness variables among rural and urban school going girl students mean, standard deviation and t-test were employed with the help of statistical package of SPSS. To test the hypothesis the significance level was set at 0.05 percent.

KEYWORDS : Rural, Urban, Body mass index, physical fitness.

INTRODUCTION

The human body is the only machine that breaks down when not used. And it is the only mechanism that functions better and healthier the more it is put to use. Kuper and Simon (2009), "after all health is something dispensed like pills at the drug store, nor is it eating an average e everyday or getting eight hours sleep every night. Rather, it is based upon sound knowledge of how to take care of our mind and bodies in such a way that we live most happily and fully." Grydeland M et al. (2013) Studied a 20-month interventions was evaluated in a cluster randomized, controlled study of 1324 11-year-olds. Outcome variables were body mass index (BMI), BMI-for-age z-score (BMIz), waist circumference (WC), waist-to-weight ratio (WTHR) and weight status (International Obesity Task Force's cut-offs). Furthermore, children of higher educated parents seemed to benefit more from the intervention, and this needs attention in future interventions to avoid further increase in social inequalities in overweight and obesityAndersen Gary J (1998) assessed participation in vigorous activity and television watching habits and their relationship to body weight and fitness in U.S children. Researcher concluded that many U.S children watch a greater deal of television and are inadequately vigorously rural . Vigorous activity levels are lowest among girls. Non-Hispanic blacks and Mexican American. Intervention strategies to promote lifelong physical activity among U.S Children are needed to stem the adverse health consequences of inactivity.

METHODOLOGY

SUBJECTS: A total 50 girl students 25 rural and 25 urban school going girl students which were selected from the Govt. middle school Shahbad(batala) , H.P.P.girls school dhariwal and S.G.A.D.khalsa *senior secondary school* (*burj sahib*) *dhariwal* (gurdaspur) (Punjab) India

VARIABLES AND CRITERION MEASURES:

I. Body Mass Index (BMI):

Body mass index is used for assessing the ideal desirable body weight for adults.Body mass index is a weight to height ratio and was calculated by formula. BMI= Weight in kg/height in $(m)^2$ In earlier administration the body weight and body height of the subjects had been taken. The scores taken with the help of anthropometric rod and weighing machine should be calculated while applying the formula of B.M.I i.e. body weight divided by height in meter square $kg/m^{2.}$

II. Physical Fitness Variables

1) Speed: The score is determined by the minimum time taken by the subject to complete 50 yard dash.

2) Agility: The subject is asked to start run in between or crossing the zigzag cones behind the starting point and stop at the finishing point. Task competed in minimum time in minutes or seconds is determined as the score.

3) Strength: (a) Grip Strength Test: (Dynamometer:) The resistance overcome in nearest half of kilogram in a leg dynamometer for hand grip strength test.

(b)Leg strength test: (Dynamometer):The resistance overcome in nearest half of kilogram in a leg dynamometer for a leg strength test

STATISTICAL CONSIDERATION: The 't' test was applied to compare the mean scores of the two groups.

RESULTS: To find out the effect of selected Body mass index and Physical fitness variables on rural and urban school going girls student. t-Test was applied at students the level of significance .05

DISCUSSION AND FINDINGSDISCUSSION AND FINDINGS

Table-4.1

Body Mass Index variable of Rural and urban school girls student.

Significant at 0.05 Tabulated't' at .05=1.96

BODY MASS INDEX					
RuralGirl (Group-1)		Urban Girl (Group-2)			
Mean	S.D	Mean	S.D	Df.	t-value
22.080	6.27	22.90	6.61	48	0.830

Table 4.1 shows that the Mean and Standard Deviation with regard to rural girl students is 22.08 and 6.27 where as in case of urban girl students 22.90 and 6.61 respectively. The calculated t-value (0.83) which is less than tabulated t-value (1.96) at 0.05 levels. So, it indicates that there is insignificant difference between Rural and urban school going girl students.

Table-4.2

Physical Fitness Variable (Speed) of Rural and urban school girl students.

SPEED					
Rural Girl (Group-1)		Urban Girl (Group-2)			
Mean	S.D	Mean	S.D	df.	t-value

10.53	1.06	11.26	1.70	48	0.08947

Significant at 0.05 Tabulated' at .05=1.96

Table 4.2 shows that the Mean and Standard Deviation with regard to rural girl students is 10.53 and 1.06 where as in case of urban girl students 11.26 and 1.70 respectively. The calculated t-value (0.089) which is less than tabulated t-value (1.96) at 0.05 levels. So, it indicates that here is insignificant difference between Rural and urban school going girl students.

Table-4.3
Physical Fitness Variable (Agility) of Rural and urban school going girl students.

AGILITY					
Rural Girl (Group-1)		UrbanGirl (Goup-2)			
Mean	S.D	Mean	S.D	df.	t-value
9.88	0.937	10.67	1.41	48	0.0425

Significant at 0.05. Tabulated' at .05=1.96

Table 4.3 shows that the Mean and Standard Deviation with regard to rural girl students is 10.53 and 1.06 where as in case of urban girl students 11.26 and 1.70 respectively. The calculated t-value (0.08) which is less than tabulated t-value (1.96) at 0.05 levels. So, it indicates that there is insignificant difference between Rural and urban school going girl students.

Table-4.4
Physical Fitness Variable (Grip Strength right hand) of Rural and urban school going girl students.

GRIP STRENGTH (Right hand)					
Rural Girl Group 1		Urban Girl Group 2			
Mean	S.D	Mean	S.D	df.	t- value
26.7	10.81	24.00	8.13	48	0.6564

Significant at 0.05 Tabulated't' at .05=1.96

Table 4.4 shows that the Mean and Standard Deviation with regard to rural girl students is 26.7 and 10.8 where as in case of sedentary girl students 24.0 and 8.13 respectively. The calculated t-value (0.65) which is less than tabulated t-value (1.96) at 0.05 levels. So, it indicates that there is insignificant difference between Rural and urban school going girl students.

Table-4.5
Physical Fitness Variable (Grip Strength Left hand) of Rural and urban school going girl students.

GRIP STRENGTH (Left hand)					
Rural Girl Group 1		UrbanGirl Group 2			
Mean	S.D	Mean	S.D	df.	t- value
20.16	4.34	20.09	4.14	48	0.502

Significant at 0.05 Tabulated't' at .05=1.96

Table 4.5 shows that the Mean and Standard Deviation with regard to rural girl students is 20.1 and 4.34 where as in case of urban girl students 20.0 and 4.14 respectively. The calculated t-value (0.50) which is less than tabulated t-value (1.96) at 0.05 levels. So, it indicates that there is insignificant difference between Rural and urban school going girl students.

Table-4.6
Physical Fitness Variable (Leg Strength) of Rural and urban school going girl students

LEG STRENGTH					
Rural Girl (Group-1)		Urban Girl (Group-2)			
Mean	S.D	Mean	S.D	df.	t-value
45.8	18.05	35.4	10.51	48	0.0213

Significant at .05 Tabulated't' at .05=1.96

Table 4.6 shows that the Mean and Standard Deviation with regard to rural girl students is 45.8 and 18.0 where as in case of urban girl students 35.4 and 10.5respectively. The calculated t-value (0.02) which is less than tabulated t-value (1.96) at 0.05 levels. So, it indicates that there is insignificant difference between Rural and urban school going girl students.

CONCLUSION:

1. It was observed that there was insignificant difference between rural and urban school going girl students for their body mass index Variable.

2. There was insignificant difference between rural and urban school going girl students for their Physical Fitness Variable i.e. Speed.

3. Insignificant differences were observed between rural and urban school going girl students for their Physical Fitness Variable i.e. Agility.

4. It was observed that there was insignificant difference between rural and urban school going girl students for their Physical Fitness Variable i.e. Strength (right and left hand, leg strength)

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