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Analytical Study of Body Mass Index and selected Physical fitness Variables between Active and Inactive School going

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Abstract

The purpose of the study was in relation to active and inactive students where the body mass index and selected physical fitness variables were analyze. A total of 50 girl students 25 active and 25 inactive school going girl students which were selected from the St. Lawrence Public School of Samna in Patiala (Punjab) India. They were not given any physical training before taking body mass index and physical variables fitness 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. In the beginning of data collection demographic profiles of all the selected samples were filled out he selected Physical Fitness and body mass index variables were speed, agility, strength (grip, leg and back strength) and body mass index. Which were tested on active and inactive school going girl students? The data was analyzed by applying't' test. The results of these body mass index and selected physical fitness variables leads to the insignificant difference between active and inactive school going girl students at 0.05 level of significance.

Keywords: Body mass index, selected, physical, fitness, variables, speed, agility, strength.

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. 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 fitness[1]. Determines the incidence of twelve weeks of physical activity on physical capacity and morphology of women over 60 yrs without disabilities in the district of Iquique, Chile. In conclusion, a program of physical activity lasting 12 weeks, improves physical capacity (balance, grip strength, leg strength and flexibility) and anthropometric parameters (waist-hip ratio and waist circumference), in healthy women over 60yrs of the district of Iquique, Chile. Establishes the relationship between the compliance with the governmental physical activity guidelines M[2] at least a minimum of one hour of moderate to vigorous physical activity, MVPA, five times a week, health-related physical fitness and different health related lifestyle variables in a representative sample of Spanish children. As a conclusion, this study emphasizes the need to promote an active lifestyle in which physical activity suppose a minimum of one hour of regular MVPA, at least five times a week, to achieve a healthy fitness status[3]. Carried out the research to compare the physical fitness status of government and non-Government school boys of Chandigarh. The finding lreveals that non- government school boys are superior in their physical fitness than their counterparts[4]. Compared body composition between 13 male paraplegic SCI patients (mean age = 33.8 years) and 13 age- and BMI-matched able-bodied males using DXA. The authors noted that these results were potentially due to a lack of gravity load experienced by the SCI individuals. On the other hand, the SCI group had a significantly higher FFM in the arms than did the able-bodied group, indicating the importance of physical movement on preserving FFM[5]. 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 active. 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 Andersen Gary[6].

Subjects: A total 50 girl students 25 active and 25 inactive school going girl students which were selected from the St. Lawrence Public School of Samana in Patiala.

Objectives of the Study: To observe body mass index and selected physical fitness variables of active and inactive school going girl students.

Hypotheses: It were hypothesized that there will be significant difference in Body mass index and Selected Physical fitness Variables of Active and Inactive School going girl students.

Methodology

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 $kg/m^{2.}$.

Physical Fitness Variables: Speed: The score is determined by the minimum time taken by the subject to complete 50 yard dash.

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.

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

Leg and back strength test: (Dynamometer): The resistances 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 and Discussion

Results: To find out the effect of Body mass index and Selected Physical fitness variables on active and inactive school going girl's student. T-Test was applied at students the level of significance .05.

Table-1
Body Mass Index variable of Active and inactive school girls student

BODY MASS INDEX					
Active Females (Group-1)		Inactive Females (Group-2)			
Mean	**S.D**	**Mean**	**S.D**	**Df.**	**t-value**
22.08	6.27	22.90	6.61	48.00	0.83

Significant at 0.05 Tabulated t values .05=1.96

Table-1 shows that the Mean and Standard Deviation with regard to active girl students is 22.08 and 6.27 where as in case of inactive 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 Active and inactive school going girl students.

Table-2
Physical Fitness Variable (Speed) of Active and Inactive school girl students

SPEED					
Active Females (Group-1)		Inactive Females (Group-2)			
Mean	**S.D**	**Mean**	**S.D**	**D.F**	**t-value**
10.53	1.06	11.26	1.70	48.00	0.08

Significant at 0.05, Tabulated t values .05=1.96

Table 2 shows that the Mean and Standard Deviation with regard to active girl students is 10.53 and 1.06 where as in case of inactive 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 there is insignificant difference between Active and inactive school going girl students.

Table-3
Physical Fitness Variable (Agility) of Active and Inactive school going girl students

AGILITY					
Active Females (Group-1)		Inactive Females (Goup-2)			
Mean	**S.D**	**Mean**	**S.D**	**DF.**	**t-value**
9.88	0.93	10.67	1.41	48.00	0.04

Significant at 0.05. Tabulated t value .05=1.96

Table-3 shows that the Mean and Standard Deviation with regard to active girl students is 10.53 and 1.06 where as in case of inactive 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 Active and inactive school going girl students.

Table-4
Physical Fitness Variable (Grip Strength right hand) of Active and Inactive school going girl students.

GRIP STRENGTH (Right hand)					
Active females Group 1		Inactive Females Group 2			
Mean	**S.D**	**Mean**	**S.D**	**DF.**	**t- value**
26.70	10.81	24.00	8.13	48.00	0.65

Significant at 0.05 Tabulated t values .05=1.96

Table-4 shows that the Mean and Standard Deviation with regard to active 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 Active and inactive school going girl students.

Table-5
Physical Fitness Variable (Grip Strength Left hand) of Active and Inactive school going girl students.

GRIP STRENGTH (Left hand)					
Active Females		**Inmactive Females**			
Mean	**S.D**	**Mean**	**S.D**	**DF.**	**t- value**
20.16	4.34	20.09	4.14	48.00	0.50

Significant at 0.05, Tabulated t value.05=1.96

Table-5 shows that the Mean and Standard Deviation with regard to active girl students is 20.1 and 4.34 where as in case of inactive 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.

Table-6
Physical Fitness Variable (Leg and Back Strength) of Active and Inactive school going girl students

LEG and BACK STRENGTH					
Active Females (Group-1)		**Inactive Females (Group-2)**			
Mean	**S.D**	**Mean**	**S.D**	**DF.**	**t-value**
45.80	18.05	35.40	10.51	48.00	0.02

Significant at .05, Tabulated t value 05=1.96

Table-6 shows that the Mean and Standard Deviation with regard to active girl students is 45.8 and 18.0 where as in case of inactive girl students 35.4 and 10.5 respectively. 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 Active and inactive school going girl students.

Discussion of findings: The present study was conducted on 50 girl students who were divided into active and inactive girl students. Demographic Profile helps us to divide the school going girl students into active and Inactive girl students which told us about their interest in games and sports and also in other activities of daily living. Cardoso Chaves O do Carmo Castro Franceschini S, Machado Rocha Ribera S, Ferreira Rocha Sant'Ana L, Garçon de Faria C[7] study on Public School students shows positive significant results in relation to weight, body mass index. But in our study of selected anthropometrical variables between sedentary and active school going girl students after calculating the statistical calculations shows an insignificant difference. But Maggioni and colleagues study shows insignificant difference in relation with weight and body mass index which tell us that the onset of obesity is in later age after the childhood. Physically inactive they will become obese in the absence of physical exercise. In case of physical fitness variables[8] study shows a significant result whose aim was to determine cognitive and motor status factors in female children aged 10-14 years. But in our study of selected physical fitness variable such as agility, speed, strength between sedentary and active school going girl students after statistical calculations this study shows an insignificant difference. So through this study we can conclude that there exist insignificant differences between sedentary and active school going girl students. This may be due to their own interest towards sports activities or they may be playing at their home in their peer groups. Although these results tally with the observation of Berger and Parodis[9] and Stone W[10]. These findings support the related study and the result. Their Psychological interest towards daily routine activities helps us to differentiate between active and inactive school going girl students. Activities such as daily routine of playing games in ground, time spending on watching T.V, video games, their daily nutritional diet pattern, sources of income of their parents. But these school going girl students had only one period of physical education of 40 min in a day in which they play for their recreational and enjoyment purpose. It was found that physical education period meant for their leisure time.

Conclusion

There had been found insignificant difference among active, and inactive school going girl students on body mass index and selected physical fitness variables.

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