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Comparative study of leisure time physical activities and body mass index of public and private school youth

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Abstract

Introduction: The rising prevalence of chronic diseases in India is partially attributable to factors such as decreased physical activity and fitness levels. With this in mind, the present study was conceived with the intention of determining the extent to which BMI is correlated with different levels of leisure-time activity.

Method: The total sample included two thousand two hundred and ten (N=2210) subjects, of which eight hundred and five (N=805) were from the government and fourteen hundred and five (N=1405) were from the general population. All of the subjects for this study were chosen using a random sampling technique.

Results: The findings showed that there were substantial variances throughout the group, with the exception of those who reported moderate weekly activities. According to the findings of this research, increasing the amount of time spent on physical activities during free time leads to a larger overall engagement by school students in organised physical activity as well as an increased amount of physical activity overall.

Conclusion: We can draw the conclusion that increased physical activities during leisure time leads to greater overall participation by school children in structured physical activity. In today's lifestyle, it is very important to involve the youth in physical activities while they are engaged in their leisure time.

Keywords: Body mass index, leisure time, physical activities

Introduction

The amount of time that young people spend participating in sedentary behaviours has increased over the past few years, according to research. While this does include time spent watching television, it appears that a dramatic increase in other types of screen time, such as time spent using computers and playing video games, is what is driving the trend. There has also been a rise in the number of children who participate in sedentary behaviours for an excessive period of time, which is defined as two hours or more on a daily basis. Multiple studies have shown a correlation between watching television and an increased risk of overweight and obesity in children and adolescents (Robert Wood Johnson Foundation, 2014) [1]. There is a substantial amount of research examining the advantages of exercise, and being physically active plays an important part in guaranteeing one's health and well-being. The heart, the skeletal muscles, the bones, the blood (for example, cholesterol levels), the immunological system, and the brain system all benefit from regular physical exercise, and it also has the potential to lower a large number of the risk factors for non-communicable diseases (NCDs). These potential dangers include the following: bringing down your blood pressure; lowering total cholesterol levels in the blood; a reduction in the body mass index (BMI). Due to the fact that physical exercise has a role in a wide variety of illnesses, including type 2 diabetes, heart disease, and several malignancies, the World Health Organization (WHO) estimates that Lack of physical exercise is the fourth most important risk factor for death in the world (World Health Organization, 2004) [4]. Physical inactivity is the cause of 6% of all fatalities worldwide, or around 3.2 million deaths each year; of these, 2.6 million occur in countries with low and intermediate incomes, and 670,000 of these deaths occur at an earlier age than they should (WHO, 2011) [5]. Recent research has shown that engaging in even the recommended minimum amount of physical activity is associated with a 19% lower risk of death from any cause compared to doing nothing at all. This risk reduction increases to 24% if one hour per day is spent engaging in physical activity.

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There are many reasons why physical activity is beneficial to one's health (Woodcock *et al.*, 2011) [3]. In addition, persons who engage in physical activity had a 31% reduced chance of passing away from any reason (Warburton *et al.*, 2010) [2]. This illustrates that there is a positive dose-response, or, to put it another way, that the advantages of physical exercise rise both in terms of the quantity of activity and the intensity of the activity (C₃ Collaborating for Health, 2011) [5]. The findings of previous study make it clear that the value of physical activity cannot be overstated; nonetheless, this topic does not get nearly as much attention as it should. The current research was developed with the intention of determining the disparities between the school students of Haryana state in terms of their BMI and the activities they participate in during their free time. On each of the factors, one could anticipate seeing significant disparities.

Method
Sample

A total of 2,210 children from public and private schools throughout Haryana were used as subjects for the research. Of them, 805 were from public schools and 1 450 were from

private schools. The ages of the people in the sample were between 13 and 19. Random sampling was used to choose all of the participants in this research.

In order to do this, we used the following instruments and tests:

Table 1: Showing the variables, Tests / Tools and unit of measurements for Anthropometric variable

S.No	Sub-Variables	Test/Tools Administered	Unit of Measurement
1	Height	Stadio- Meter	Centimeters
2	Weight	Weighing Machine	Kilograms

In order to measure a person's level of physical activity, the 1985 Godin Leisure-Time Exercise Questionnaire (GLTEQ) was used. The number of times a week that participants engaged in mild, moderate, and strenuous exercise for at least 15 minutes was collected.

The variables were compared using an independent t-test.

Results and Discussion

Table 2: Comparison between government and Private on different variables among children

	Government school (n=805)		Private school (n=1405)		T value	Df	P value
	Mean	SD	Mean	SD			
Height	164.40	13.08	162.14	13.30	3.875	2208	0.00**
Weight	43.74	8.72	45.70	10.03	-4.629	2208	0.00**
Strenuous Activity weekly	173.78	88.50	161.47	85.57	3.214	2208	0.00**
Moderate Activity weekly	131.55	40.51	129.02	41.34	1.393	2208	0.16
light activity weekly	34.52	9.58	33.00	9.76	3.551	2208	0.00**
Total leisure time	339.86	116.04	323.50	112.44	3.253	2208	0.00**

** Significant at 0.01 level

Table 2 shows that, on average, pupils at Government schools are taller than those at Private schools, with a t value (3.875) that is statistically significant at the 0.01% level. With a mean of 45.70 and a mean of 43.74, respectively, the t-test found that students attending private schools tended to be heavier than those attending public schools (-4.629). Mean scores for Government school students were 173.78 on Leisure time activities (including vigorous leisure time, moderate leisure time, light leisure time, and Total leisure), whereas Private

School students averaged 85.57 on each of these measures. The t-test found statistically significant differences in the amount of time spent on vigorous weekly leisure (3.214), moderate weekly leisure (3.551), and total leisure time (3.551). (3.253).

The graphical representation of Mean comparison of all the variables of the students between Government and Private schools is shown in Figure 1.

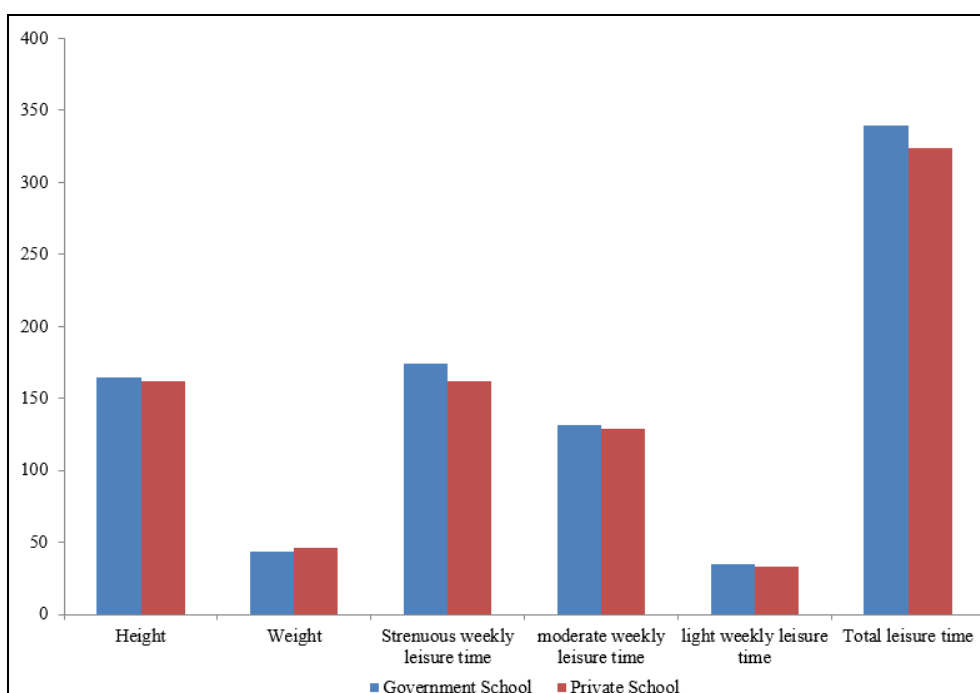


Fig 1: Showing the comparison on different variables of the children between government and private schools

Discussion

According to the findings of this research, increasing the amount of time spent on physical activities during free time leads to a larger overall engagement by school students in organised physical activity as well as an increased amount of physical activity overall. This is important because, in addition to its effect on youth weight, increased physical activity by youths is associated with a variety of health benefits, including those for the cardiovascular system (such as a reduction in low-density lipoproteins, also known as bad cholesterol) and the prevention or delay of hypertension; the musculoskeletal system (such as increased bone-mineral density, increased strength, and increased endurance); the mental and emotional system (such as a reduction in stress and anxiety); and the prevention of (IOM, 2005).

Conclusion

It has been shown that pupils who attended private schools had shorter heights on average than those who attended public schools. The pupils who attended private schools had a much higher mean weight than those who attended public schools, according to the analysis of their scores' distributions. The kids at Government schools scored better on leisure time activities such as strenuous weekly leisure time, moderate weekly leisure time, light weekly leisure time, and total leisure time. This was in comparison to the students at Private schools. We are able to draw the conclusion that increasing engagement in organised physical exercise during school hours leads to increased overall participation in physical activity among school-aged children who engage in more physical activity overall. Because of the way people live their lives in today's society, it is very necessary to engage young people in physically active pursuits during their free time.

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