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Body Mass Index of Government and Public School Students: A Comparative Study

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Abstract

Body mass index (BMI), as an important indicator of an individual's physical quality, is used to measure the total amount of body fat. And it is commonly used internationally to judge the degree of obesity, wasting and health of the human body.Fifty Government and fifty public school students from various schools of Lucknow, U. P., who were regularly participating Sports Competition were selected as the subject for present study. The Independent 't' test was used to assess overall differences between Government and Public school students. The level of significant set up at 0.5 level of confidence. The result reveals that there is a statistically significant difference of body mass (t = 3.1151 > .05) was found between Government and Public School students. The Government school students incur significantly less obese as compare than their counterparts.

Keywords: BMI, Government and Public School Students.

INTRODUCTION

Body mass index (BMI), as an important indicator of an individual's physical quality, is used to measure the total amount of body fat. And it is commonly used internationally to judge the degree of obesity, wasting and health of the human body. The World Health Organization reports that the number of obese adolescents worldwide will continue to rise in the next decade. Adolescence is a period of rapid change in body composition (location and amount of body fat) and physical fitness, and obesity at this stage may lead to a variety of physical and mental health problems in adulthood. Physiologically, obese adolescents may suffer

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from somatic symptoms, such as asthma, fatigue, arthralgia and dyssomnia due to excess weight (Ronghua and Xiaonan, 2006), and present a range of risk factors for chronic diseases, such as cardiovascular disease, diabetes, chronic kidney disease, cancer and musculoskeletal disorders (Afshin et al., 2017).

Psychologically, overweight obesity can impede normal Self-Perception and interpersonal interactions, and most obese adolescents have mental health problems highly associated with high-risk behaviors, such as low Self-Esteem, depression, anxiety, stress, and loneliness (Paradise and Kernis, 2002). It has also been found that children with high BMI have corresponding changes in gray matter volume in brain regions, such as the fusiform gyrus, postcentral gyrus and hippocampus, which severely affects cognitive function and is detrimental to high academic achievement.

Academic achievement is the knowledge and skills acquired by students through learning and training (McCoach et al., 2017). Embodied Cognition Theory addresses the influence of the physical structure of the body on the cognitive abilities of individuals. According to Ye et al. (2019), the way and steps in which cognitive processes are carried out are actually determined by the physical properties of the body. A view of learning based on this theory states that the body is not an irrelevant or obstructive factor in the learning process; the body is the subject of learning and physical health has an important role in shaping the mental activities of learners, such as thinking, judgment and memory (Jiayi and Haosheng, 2018).

The scientific approach by physical education is characterized by a profound substantiation of all its initial propositions and of the entire process of physical education by the achievement of science and by the inseparable unity of science and advanced practice. The traits of this man's nature and the scientific approach to physical combine to make a single entity on the basis of the following principles universality, the link with social practice, the comprehensive development of the personality and the efficiency of improvement of public health.

Physical fitness is recognized as an important component of health (Lamb et. al. 1988; Twisk et. al. 2002) and a may be important for the performance of functional activities and quality of life (Noreau and Shephard 1995; Stewart et al. 1994). Low physical fitness may result in high physical strain during the performance of activities (Bruinings et. al. 2007). As a consequence, activity levels may decrease due to fatigue and discomfort, exacerbating low physical fitness. Caspersen and co-workers defined several health-related components of physical fitness, i.e. aerobic capacity, muscle strength and endurance, flexibility and body composition (Caspersen et. al. 1985). Keeping in view the fact that childhood physical fitness has important health consequence during adulthood (Sallis et. at, 1992) a large number of studies on physical fitness have been reported form different countries of the world.

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METHODS

Subjects: Fifty Government and fifty public school students from various schools of Lucknow,U. P.,who were regularly participating Sports Competition were selected as the subject for present study, exclusion criteria were the presence of chronic medical conditions such as asthma& cardiac problems. The BMI of all subjects measured in in their respected schools.

In the total of 100 students have signed up of which 51 are male and 49 are female students. The weight in kilograms of each student was calculated using a high precision digital balance scale. The use of digital scale has two advantages. Firstly it provides high precision data; secondly it reduces parallax errors. The heights have been measured using a wall measure tape of Average 0.01 inch precision and converted into centimeters. During this step the maximum stretching of the body was insured without any shoes. And also the Body Mass index (BMI) of the students was calculated to compare the health status of male and female studentsIn the total of 100 students have signed up of which 51 are male and 49 are female students. The weight in kilograms of each student was calculated using a high precision digital balance scale. The use of digital scale has two advantages. Firstly it provides high precision data; secondly it reduces parallax errors. The heights have been measured using a wall measure tape of Average 0.01 inch precision and converted into centimeters. During this step the maximum stretching of the body was insured without any shoes. And also the Body Mass index (BMI) of the students was calculated to compare the health status of male and female students b

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BMI Ranges	
BMI	**Category**
< 16.0	Severely Underweight
16.0 - 18.4	Underweight
18.5 - 24.9	Normal
25.0 - 29.9	Overweight
30.0 - 34.9	Moderately Obese
35.0 - 39.9	Severely Obese
> 40.0	Morbidly Obese

Statistical Analysis

The Independent 't' test was used to assess overall differences between Government and Public school students. The level of significant set up at 0.5 level of confidence.

Result of Study:

Table-1:

Mean scores, standard deviation & t-ratio on BMI ofGovernment and PublicSchool students

Variable	School	N	Mean	S.D.	SEM	df	t-ratio
BMI	Government.	50	22.3	4.68	0.6619	98	3.1151
	Public	50	25.8	6.42	0.9079		

*Significant at 0.05 level.

Table – 1 Show that mean scores, standard deviation and t-ratio on body mass index between Government and Public school students.

With regards to mass index the Government and Public School students they have obtained mean value were 22.3and 25.8 respectively, the Government School students obtained mean value was 22.3 which means they have normal BMI range, the Public School students obtained mean value was 25.8 which means they are overweight on BMI range,the result also reveals that there is a statistically significant difference of body mass (t=3.1151>.05) was

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found between Government and Public School students. Government School was found to get more body index as compare that Public School students, which means that Government students incur significantly less obese as compare than their counterparts.

Discussion

The results of present study reveal that, significant were found in body mass index (t = 3.1151> .05), between Government and PublicSchool. Students. Public school students were found to have got less strong than GovernmentSchool students. This result supported Tsimeas et al (2005) conduct a study on Greek Government. students to find out "Does living in Public or rural setting effect aspect of physical fitness in children". A similar type of result was obtained in the work of method and Ozdirenc M. et al (2005). Who conducted a study on physical fitness in Government. children compared with Public children in turkey and found that children living in the Public areas were more inactive and obese than Government children. We can conclude that, Public students incur significantly low muscular ability as compared to Government. children.

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