

Comparative study of body composition between government and private physical education teachers of Jammu

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Abstract

The aim of this study to find out the difference in Body fat percentage and Body Mass Index between government and private male physical education teachers of Jammu. Fifty male physical education teachers (25 government + 25 private) were selected from Jammu for this study. The age of the subjects was ranged between 30 to 40 years. Selected variable Body fat percentage was measured by standardized tool 'Body Composition Analyzer' and Body Mass Index was calculated using Height and Weight of the subjects. Descriptive statistics and comparative statistics (t-test) was employed by 'SPSS Version-23'. The results showed that there was a significant difference in Body fat percentage and Body Mass Index between government and private male physical education teachers of Jammu.

Keywords: Body composition analyzer, body mass index, body fat percentage

Introduction

Physical fitness is that condition of the body which will permit the youngster to maintain good health, respond favorably to physical effort and physical stress, enjoy the sensation of his/her own body and function at an optimal mental and physical level. (Martin, 1978) ^[7] Fitness means the ability of an individual to live a happy and well balanced life. Physical fitness is the capacity of the heart, blood vessels, lungs and muscles to function at optimal efficiency. (Getchell, 1965) ^[4] Basically fitness means being in good physical condition and being able to function at one's best level. Total fitness for living involves spiritual, mental, emotional and social as well as physical qualities (Frank, 1973). Physical fitness is a term used to refer to the functional capacity of an individual to perform certain kinds of tasks requiring muscular activity (Bucher & Wiiliam, 1985) ^[2]. Physical fitness is the ability of the body to adopt and recovery from strenuous exercise. It is the relation of one's ability to work and play with vigor and pleasure without undue fatigue and with sufficient energy for unforeseen emergencies. Physical fitness is the ability to last to bear up and to preserve under difficult circumstances. Where an unfit person would give up. It is the opposite of being fatigued from ordinary efforts. (Fleishman, 1985) ^[3]. Health related physical fitness is important to everyone and should be stressed by physical educators and medical people alike. Health related fitness is defined as the ability to perform strenuous activity without excessive fatigue showing evidence of traits that limit the risks of developing diseases and disorders which affect a person's functional capacity. Components of health-related physical fitness are identified as muscular strength, endurance, flexibility, cardiorespiratory endurance and body composition (Nichol, 1986). To enjoy an optimum state of health and physical fitness, exercises are quite necessary. Exercises are helpful in maintaining the sound body throughout life. Health and fitness afford the people an opportunity to live longer and they add to the quality of everyday life (Greenberg & Pargnam, 1986) ^[5].

Physical education has long believed that exercise is essential to maintain good health. During the past twenty

years a great deal of evidence has been reported by the medical researches supporting the value of vigorous exercise for the promotion of health. Health-related physical fitness components are those, development of which enrich one's health and on the other hand which are related to certain diseases (Baumgartner & Jackson, 1987) ^[9].

Aim of Study

The aim of the present study was to find out the difference in body fat percentage and body mass index between government and private male physical education teachers of Jammu. It was hypothesized that there will be no significant difference in body fat percentage and body mass index between government and private male physical education teachers of Jammu.

Material and Methods

Total fifty male physical education teachers (25 government + 25 private) were selected as subjects from Jammu for this study. The age of subjects was ranged between 30-40 years. Selected variables: body mass index was calculated using height and weight. Weight was measured using digital weighing machine in kilograms. Height was measured using stadiometer in centimeters. Body fat percentage was measured by standardized tool 'Body Composition Analyzer'.

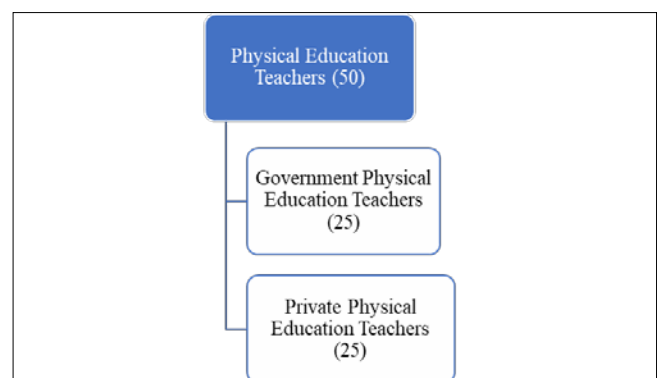


Fig 1: Description of Sampling Plan

Statistical Technique

Descriptive statistics i.e., mean and standard deviation were calculated. As per objective of the study, 't-test' was applied to find out the difference between various groups. All tests

were employed with the help of SPSS-software version 23. Level of significance was set at 0.05.

Results

Table 1: Descriptive Statistics and T-Value for Body Fat Percentage Variable

Group Name	Mean	SD	t-value	Sig.
Government Physical Education Teachers	26.50	2.74	2.45	.009*
Private Physical Education Teachers	25.10	2.65		

SD = Standard Deviation * Indicate significant at 0.05 level

Table-1 shows that values of mean and standard deviation for body fat percentage variable for government employee group and private employee group are 26.50 ± 2.74 and 25.10 ± 2.65 respectively. It also shows that p-value ($p =$

.009) is less than 0.05 which means that there exists a significant difference between government and private male physical education teachers in case of body fat percentage variable.

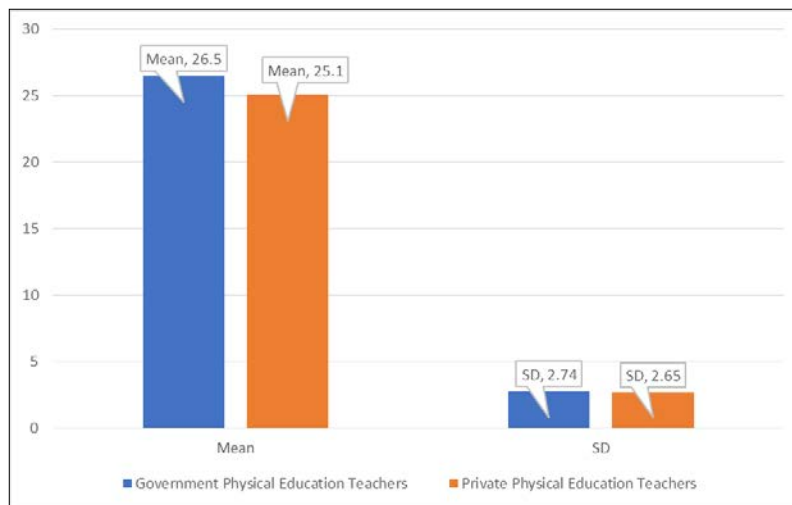


Fig 2: Graphical Representation of Descriptive Statistics for Body Fat Percentage Variable

Table 2: Descriptive Statistics and T-Value for Body Mass Index Variable

Group Name	Mean	SD	t-value	Sig.
Government Physical Education Teachers	24.32	1.45	2.11	.028*
Private Physical Education Teachers	23.32	1.95		

SD = Standard Deviation * Indicate significant at 0.05 level

Table-2 shows that values of mean and standard deviation for body mass index variable for government employee group and private employee group are 24.32 ± 1.45 and 23.32 ± 1.95 respectively. It also shows that p-value ($p =$

.028) is less than 0.05 which means that there exists a significant difference between government and private male physical education teachers in case of body mass index variable.

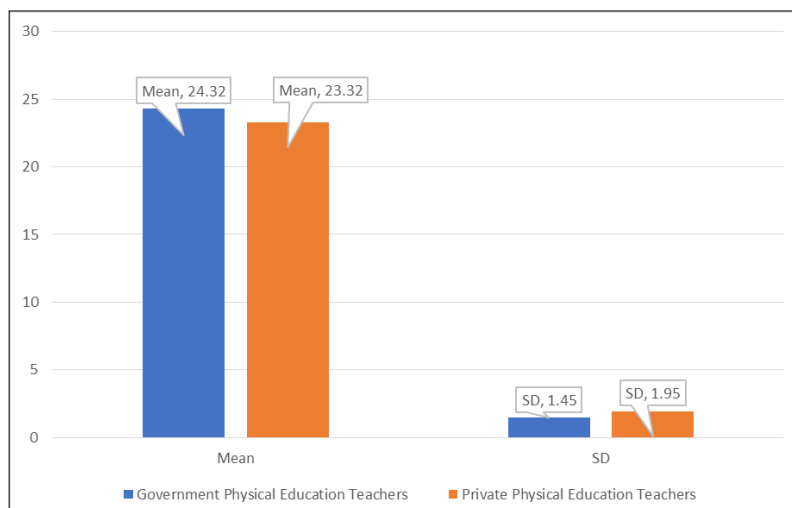


Fig 3: Graphical Representation of Descriptive Statistics for Body Mass Index Variable

Discussion

In the present study, the assumption was that there will be no significant difference in body fat percentage and body mass index between government and private male physical education teachers of Jammu.

The results of the study showed that there was a significant difference between government and private male physical education teachers of Jammu in case of body mass index variable. Body mass index is the ratio between height and weight. The reason behind significant statistical difference between government and private sector physical education teachers might be the life style of government employees. Government employees as compare to private sector employees so they might access better which might lead them towards more calorie intake which may enhance their body mass index score. The result of this finding is supported by the study conducted by Basumatary and Gogoi (2022) ^[1] who compared government school children and private school children for their BMI status. For this study they were selected 120 male participants with random sampling. For statistical purpose independent t-test used to compare the BMI between Government and Private school children. The results of the study found a significant difference among government school children and private school children in the case of their body mass index.

The results of the study showed that there was a significant difference between government and private male physical education teachers of Jammu in case of body fat percentage variable. Government physical education teachers had higher level of body Fat percentage than non-government physical education teachers. The reason behind significant statistical difference between government and non-government sector physical education teachers might be the lifestyle of government physical education teachers. Government teachers get more salary as compare to non-government teachers so there living standard is different especially in case of food intake. Food is a main factor that increases body fat percentage. The results of the present study are supported by the study conducted by Shah and Tiwari (2016) conducted a study for the assessment and comparison of body fat percentage among government and private school boys. For his study they were selected two hundred government school boys (n=200) and two hundred private school boys (n=200) from Delhi with random sampling. The age range of the subjects were 14 to 17 years. The skin fold caliper was used to gather data from the subjects. Triceps and calf skinfold sites were measured and body fat percentage was calculated using slaughter's equation, which is as follows: %body fat = $(0.735 \times \text{sum of skinfolds}) + 1.0$. The independent sample "t" test and descriptive statistics were used to analyze the data, with a significance level of 0.05. The findings show that there was a significant difference ($t(398) = 8.135, P = 0.001$, which is less than 0.05) in the body fat percentage of boys attending government and private schools. The average score of boys attending government schools ($M=11.22, SD=3.97$) differed statistically from boys attending private schools ($M=17.27, SD=9.75$). Thus, it could be said that boys attending government and private schools differed significantly in their percentage of body fat.

Conclusion

The present study concluded that male government and private teachers of Jammu significantly differ for their body fat percentage and body mass index.

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