

COMPARISON OF FAT PERCENTAGE BETWEEN PROFESSIONAL AND NON PROFESSIONAL STUDENTS

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ABSTRACT

The purpose of the study was to compare the fat percentage between B.Sc. and B. Ed students. To fulfill the purpose a total of 40 male (20 B.Sc. and 20 B.Ed students) subjects were selected as subjects from L.C.C., Lucknow. The mean age of the subjects was 22 years. Fat percentage of the subjects was assessed through Skin-fold measurement. Four sites i.e., biceps, triceps, supra-iliac and sub-scapular were measured with the help of skin-fold caliper. For the assessment of fat percentage table made by Durenin and Rehman was used. For the analyzing data, t test was used. It showed that there was a significant difference between B.Sc. and 20 B. Ed students. It was concluded that B.Sc. students have greater amount of fat percentage in comparison of B. Ed students.

Keywords – Skin-folds, Students, Professional, Non-professional, Education

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INTRODUCTION

Essential fat is the level below which physical and physiological health would be negatively affected. Controversy exists as to whether a particular body fat percentage is better for one's health; athletic performance may also be affected. The leanest athletes typically compete at levels of about 6–13% for men or 14–20% for women. Bodybuilders may compete at ranges even lower than these levels (Womersley, 1974).

The skin-fold estimation methods are based on a skin-fold test, also known as a pinch test, whereby a pinch of skin is precisely measured by calipers at several standardized points on the body to determine the subcutaneous fat layer thickness. These measurements are converted to an estimated body fat percentage by an equation. Some formulas require as few as three measurements, others as many as seven. The accuracy of these estimates is more dependent on a person's unique body fat distribution than on the number of sites measured. As well, it is of utmost importance to test in a precise location with a fixed pressure. Although it may not give an accurate reading of real body fat percentage, it is a reliable measure of body composition change over a period of time, provided the test is carried out by the same person with the same technique (Sodhi, 1986).

The body fat percentage of a human or other living being is the total mass of fat divided by total body mass; body fat includes essential body fat and storage body fat. Essential body fat is necessary to maintain life. The percentage of essential fat is 3–5% in men, and 10–14% in women. Storage body fat consists of fat accumulation in adipose tissue, part of which protects internal organs in the chest and abdomen. The minimum recommended total body fat percentage exceeds the essential fat percentage value reported above. A number of methods are available for determining body fat percentage, such as measurement with caliper or through the use of impedance method. The body fat percentage is a measure of fitness level, since it is the only body measurement which directly calculates a person's relative body composition without regard to height or weight (Sinning, 1996).

Body mass index (BMI) is employed globally to classify humans as normal, overweight and obese [World Health Organization, 1995]. Even though BMI has several limitations as an assessment method of body composition (e.g., it cannot identify sarcopenic obesity [Stokic, et.al., 2002], it is expensive and easy to administer. However, its application in sport population has been questioned [Ode, et. al., 2007], because it is associated with fat mass as well as with fat free mass. For instance, as BMI is increased by high amounts of both fat and fat free mass, a very muscular athlete with low BF could be classified as overweight. Recent studies have shown that the relationship between BMI and BF is influenced by sex, age and sport [Srdic, et.al., 2011; Mak et. al. 2010]. Such relationship has not yet been identified in adolescent soccer players. If BMI was in strong correlation with BF, it would offer the coach, trainer or other allied health care professional engaged in soccer training an important tool to develop proper exercise program

BMI is often overlooked in studies on sport populations and there are many studies on team handball players which present data on stature and body weight, but not on BMI

(Cavala & Katic, 2010; Chelly, Hermassi and Shephard, 2010; Kalinski, et.al., 2010; , Mohamed, et.al., 2009; Sibila and Pori, 2009).

There is evidence from research conducted chiefly on general young populations that BMI is associated with reduced physical fitness (Artero, et.al., 2010; Bovet P, Auguste and Burdette, 2007; Chen, et.al., 2006; Duvigneaud, et.al., 2008; Mak, et. al., 2010) and the same has recently been shown on sport populations (Nikolaidis, 2012; Nikolaidis, 2012).

MATERIALS AND METHODS

Selection of Subjects:

For the purpose of the study, 40 male (20 B.Sc. and 20 B. Ed students) studying in L.C.C., Lucknow were selected as subject for the study. The mean age of the subjects was 22 years.

Administration of Test:

For the administration test the subjects B.Sc. and B. Ed students were assembled on LCC ground. They were acquainted with the specific purpose of the study. The tester had done test trails on different subjects to ensure the tester reliability. The caliper was applied to measure the fat% of the subjects.

Subjects were asked to remove the clothes of upper body. The measurement for fat was taken from four sites i.e. Triceps, Biceps, Suprailiac, Sub-scapular. The investigator followed standardized testing procedure for measurement. The site on triceps and biceps was marked at mid acromial-radial and measurement was taken and at the suprailiac region the measurements were taken in the line of naval at side of body. The sub-scapular fat measurement was taken at proper site. Care was taken that subject maintained an ideal anatomical position at the time of measurement.

RESULTS AND DISCUSSION

To find out the significance difference between B.Sc. and B. ED students in their % of fat, descriptive statistics and independent t-test were computed and data pertaining to this have been presented in Table 1 and depicted in figure 1.

TABLE - 1

SIGNIFICANCE OF DIFFERENCE BETWEEN B.SC. AND B. ED STUDENTS IN THEIR % OF FAT

Groups	N	Mean	SD	MD	$\frac{6}{DM}$	t -value
B.Sc.	20	17.44	3.52	5.99	0.93	6.45*
B. Ed.	20	11.45	2.24			

*Significant at .05 level

$t_{.05(38)} = 2.02$

From table-1, it is evident that there was significant difference between B.Sc. and B. Ed students on fat percentage, test means in the fat percentage, where the calculated t- ratio

6.45 was greater than tabulated $t_{.05(38)} = 2.02$.

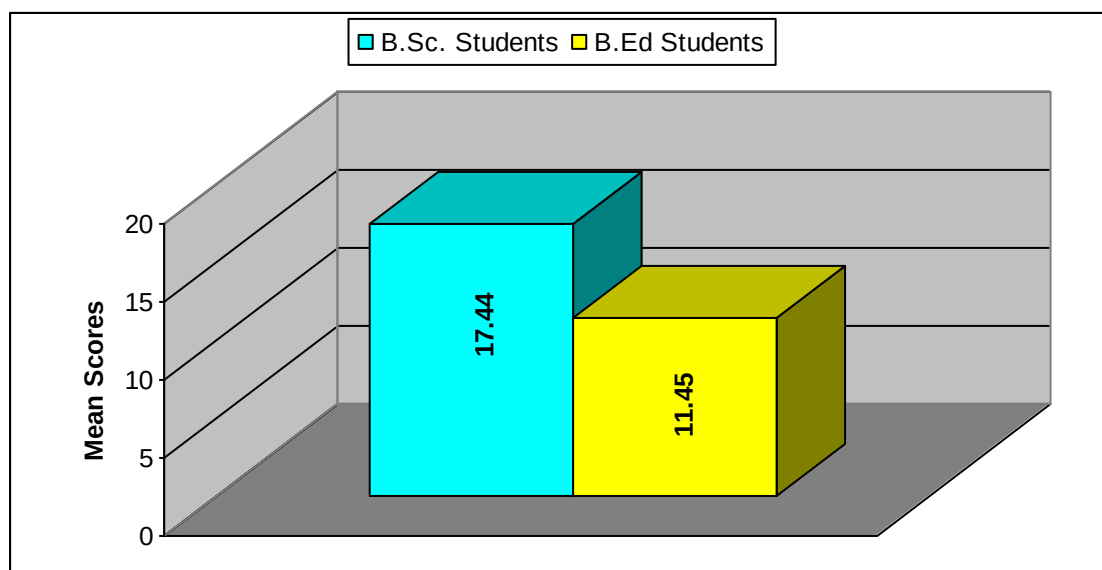


Figure: 1- Mean Scores of Body Fat Percentage of B.Sc. and B. Ed. Male Students.

DISCUSSION

The purpose of the present study was to compare the fat percentage of B.Sc. and B. Ed students. The result of the study indicated that there is a significant difference in the mean values of two groups in fat percentage; this significant difference may be attributed to the nature of training course programme generally followed by the B.Sc. and B. Ed students. While the energy expenditure by B.Sc. student is more than the B. Ed students. During B .Ed. course the amount of physical work done by them is quite more than the B.Sc. Students

CONCLUSION

Result of the study indicated a significant difference in the mean values of two group in fat percentage. This significant difference may be attributed to the nature of programme generally followed by the B. Ed student and not by B. Sc students. It is also concluded that B. Sc students have more amount of fat percentage in comparison of B. Ed students.

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