



## **PERCENT OF FAT BETWEEN SPORTS AND NON-SPORTS STUDENTS: A COMPARATIVE STUDY**

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### **Abstract**

*The goal of the study was to compare the fat percentages of students who participated in sports and those who did not. A total of 50 male participants were chosen as subjects and divided into two groups to achieve the goal (Sports Students and non-Sports Students). The individuals were 21 years old on average. The Omron HBF-306 Body Fat Monitor was used to determine the subjects' fat percentage. The t-test was used to analyze the data. It revealed that there was a considerable difference between students who participated in sports and those who did not. There was a significant difference in fat percent between sports and non-sports students, test means in fat percentage, with a computed t-ratio of 5.24. It has been determined that non-sports students had a higher fat percentage than sports students.*

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**Keywords** – Percent of Fat, Sports Students.

### **Introduction:**

The level of necessary fat under which physical and physiological health is jeopardized. There is debate over whether a certain body fat percentage is beneficial for one's health, and sports performance may be influenced as well. The leanest athletes play at 6–13 percent body fat for males and 14–20 percent body fat for females. Weight lifters can participate at much lower levels than this.

The entire mass of fat divided by total body mass is the body fat percentage of a human or other living thing; body fat contains both necessary and store fat. Important body fat is required for survival. The percentage of essential fat in males is 3–5percent, and in females it is 10–14 percentage. The buildup of fat in adipose tissue, which protects internal organs in the chest and belly, is known as stored body fat. The minimum acceptable overall body fat percentage is

higher than the above-mentioned necessary fat percentage. Body fat percent can be calculated using a variety of methods, including caliper measurement or the impedance method. Because it is the only body measurement that directly assesses a person's relative body composition without consideration to height or weight, the body fat percentage is a measure of fitness.

There are numerous methods for calculating your body fat percentage. The only method that is fully exact is to do chemical analysis on a cadaver, but this is quite inconvenient for the majority of us. Hydrostatic body fat testing via immersion (that is, weighing under water) was the “gold standard” for many years, but Dual-energy X-ray absorptiometry has mostly replaced it. These are more handy than having chemical analysis performed on our bodies, yet they are out of reach for the majority of us.

Those of us without access to such testing facilities have traditionally measured our skinfolds using calipers and then calculated our body fat percentage from there. The percentage body fat is usually calculated by measuring the thickness of skin folds at several distinct spots on the body and using a formula. Calipers, on the other hand, are prone to a lot of inaccuracy due to the person performing the measurement's method, and they're also less precise at extremes. The caliper method, in particular, does not assess intramuscular fat but only subcutaneous fat. Bodybuilders who tend to maintain intramuscular fat may check in at 3% with calipers, but with hydrostatic weighing, they may test out at 12% to 18% body fat. Other athletes who exercise more aerobically and burn more intramuscular fat may find that calipers provide fairly accurate findings.

## **REVIEW OF LITERATURE**

Physical activity is critical for both healthy and obese children with chronic health conditions. Preparing physical activity regimens based on each child's unique health state is critical for both obesity prevention and treatment. (Bülbül, 2020) The goal of study was to see if attained educational level differs in young adults who were obese as children against the general population, and to see how obesity treatment affects achieved educational level. (Hagman et al., 2017) Physical fitness is rarely measured, despite the fact that it is the best predictor of the future and reduces mortality. (Matoulek et al., 2020)

Obesity is a chronic and progressive disorder that is one of the most common health problems in the Western world. (Mauro et al., 2008) Obese adolescents are more likely to carry their excess adiposity into adulthood, putting them at risk for obesity-related comorbidities such type 2 diabetes and cardiovascular disease, as well as significantly affecting their social and mental health.(Cardel et al., 2020) Obesity is a disorder marked by an abnormal buildup of body fat,

usually as a result of poor diet and a sedentary lifestyle. (Milano et al., 2020) Parents of 1,125 children and adolescents aged 3 to 22 years who were participating in a comprehensive childhood obesity treatment programme were included. (Trier et al., 2016)

## MATERIALS AND METHODS

### Bioelectrical Impedance Method

Muscles, blood vessels, and bones are high-water-content bodily components that transmit electricity well. Electric conductivity is poorer in fat tissue. To detect the quantity of fat tissue in your body, the Fat Loss Monitor transmits an extremely low-level electrical current of 50 kHz and 500 A through your body. While using the Fat Loss Monitor, this tiny electrical current is harmless and unnoticeable.

### Sampling:

To achieve the purpose, a total of 50 male participants were chosen as subjects and divided into two groups (25 Sports Students and non-Sports Students). On average, the participants were 21 years old.

### Procedure:

A very mild electrical current is passed through the body to assess its resistance to the current in BIA. Body fat is extremely resistive to electricity, which means it conducts it less efficiently than other tissues and substances in the body. As a result, higher resistance values suggest a higher body fat mass. Scales can determine body fat percentage using this measurement as well as information regarding gender, age, and height. A 2016 study found that BIA can provide a reasonable estimate of body fat percentage.

## RESULTS AND DISCUSSION

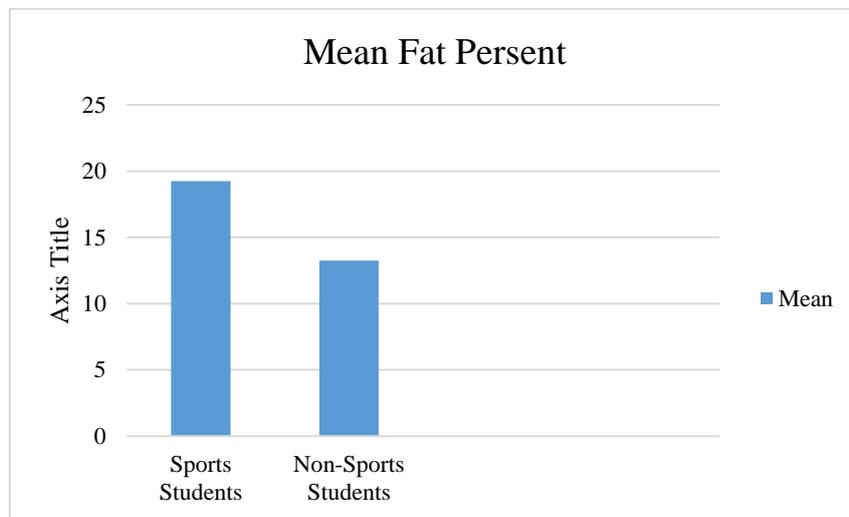
To find out the significance difference between of sports and non-sports male students in their percent of fat, descriptive statistics and t-test were computed and data pertaining to this have been presented in Table 1 and depicted in figure 1.

**Table 1 Significance of the Difference in Fat Percentage between Sports and Non-Sports Students**

Groups	N	Mean	Standard Deviation	t -value
Sports Students	25	19.24	2.85	-5.24*
Non-Sports Students	25	13.24	1.92	

\*Significant at .05 level

Table 1 shows that there was a significant difference in fat percent between sports and non-sports students, test means in fat percentage, with a computed t-ratio of 5.24\*.



**Figure: 1 Graphical Representation of Mean Scores of Body Fat Percentage of sports and non-sports male Students**

## DISCUSSION

The goal of this study was to examine the fat percentages of male students who participated in athletics and those who did not. The study's findings revealed that there is a substantial difference in fat percent mean values between the two groups; this significant difference may be related to the form of training course programs commonly followed by male students in sports and non-sports. Male students who participate in sports use more energy than male students who do not participate in sports.

## CONCLUSION

The study's findings revealed a substantial difference in fat percent mean values between the two groups. This considerable discrepancy can be linked to the structure of the program that sports male students pursue, as opposed to non-sports male students. It was also discovered that non-sporting male students have a higher fat percentage than sports male students.

## FUTURE SCOPE

Obesity is a prevalent issue that most college students are dealing with as a result of poor habits. Many facets of obesity will need to be investigated further in the future.

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