



# SKELETAL MUSCLE MASS AMONG ACTIVE AND NON-ACTIVE COLLEGE GOING YOUTHS

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## ABSTRACT

The amount of skeletal muscles the individual is having, the more physical fit, healthy, less amount of fat and chances of obesity one is having and can perform daily work with vigor. The present study was conducted to compare the amount of skeletal muscles between 100 active and non-active college going youth's 50 each, who were purposively selected from different professional courses of Lovely Professional University. The data was collected using OMRON Body composition monitor with scale Model HBF-362 and statistical analysis was done using descriptive and student's t-test. The result of the study revealed insignificant in skeletal muscle mass between active and non-active group rejecting the hypothesis of active group will be having higher muscle mass. It is worthwhile to study whether skeletal muscle mass having any relation to physical activity or it has more genetic influence and is it alterable.

**KEYWORDS:** Skeletal muscle mass, student's t-tests.

## Introduction

Human muscular system is made of muscular tissue having three different types of muscles divided according to their location and function; these are most abundant skeletal muscles, smooth muscles, cardiac muscles. Skeletal muscles are attached to the bones hence called as skeletal muscles and their major role is movement maintaining the body tones healthy and able to perform the daily activity with vigor, there are over 650 skeletal muscles in the human body till identified. Smooth muscles or visceral muscles are present in internal visceral organs like intestine, kidney etc. and cardiac muscles are only presented in the heart they strengthen the heart helps in contraction and relaxation of the heart. There are lot of studies conducted till today about the types of muscle and effect of participating in regular physical activity on the strength and endurance of the muscle, but there is still unclear evidence regarding whether the amount of skeletal muscle mass present in an individual can be increased by physical activity or it is static and genetically determined. So the present study was designed to analyze the amount of skeletal muscles as influenced by exercise.

## Objectives:

- Analyzing Skeletal Muscle Mass among active and non-active college going Youths.
- Comparison of Skeletal Muscle Mass among active and non-active college going Youths.

## Research Question:

- Is active group having better skeletal muscle mass than non-active youths?

## Hypothesis:

- Active group should have higher amount of skeletal muscle mass than non-active youths.

## Delimitations:

- The study was delimited to both male and female youth of 18-25 years of age.
- The study was delimited to the 100 (50 active and 50 non-active) youth students from Lovely Professional University.
- The study was delimited to under-graduate and post-graduate students.

## Significance:

The amount of skeletal muscles one is having has direct impact on healthy leaving, performing regular specific and general activity vigorously. The study will give much needed information about the influence of participation in regular physical activity on skeletal muscle mass and consequences of non-participation in physical activity on the skeletal muscle mass.

## Limitations:

- Different ways of living, socio-economic conditions, nature of activity, daily routine & habits of subjects will not be under the control of research scholar which will be considered as a limitation of the study.

## Material and Methods

Survey method was used to collect the data on 100 samples mean age 22.090 + 2.17 sd. were purposively selected from Lovely professional University, Punjab, India from among different professional courses. Active group included the students of physical education and inactive samples were selected from (Education, M Tech, B Tech, EEE, ECE, MCA, BCA, BSC, and MSC courses those don't participate in regular physical activity) Data on Skeletal muscle mass was collected using OMRON Body composition monitor with scale Model HBF-362, utmost care was given during data collection data was collected in the early morning to counter any alteration in the findings. Data was statically analyzed using descriptive statistics and independent sample t-test.

## Results and Discussion

**Table-1**  
Comparison of skeletal muscle mass between active and non-active college youths

Sample	Levene's Test for Equality of Variances		Mean	SD	Sig. (2-tailed)	Df.	t-ratio
	F	Sig.					
Active group	F	Sig.	31.07	4.78	.047	74.323	-2.015
Non-active group	17.47	.000	32.72	3.06			

\*. Correlation is significant at the 0.05 level (2-tailed)

Levene's test for equality of variance assumed showed significant value means the variance is not equal, so the findings were interpreted by taking second option i.e. equal variance not assumed. The result of t-test for (2-tailed) found significant as the p-value .047 is smaller than 0.05 for 74.323 degree of freedom at 0.05 level of significance. To test one tailed test whether active group having better skeletal muscle mass than non-active group as assumed the calculated t-value -2.015 was compared to tabulated t-value for 74 df. At 0.05 level of significance for (one-tailed test 1.664). Calculated t-value is higher than the tabulated t-value but the mean for both the groups and minus sign of t-value revealed active group was having lower skeletal muscle mass than non-active.

## Discussions

The finding of the study rejects the assumption that the participation in regular physical activity will lead to the increase in the amount of skeletal muscle mass. Hence generate the discussion whether the amount of muscle can be increased or decreased by the consequence of being participating in regular physical activity or inactivity respectively. It has been prove that training has an impact on strength and endurance of the skeletal muscle mass and the conflicting arguments regarding amount of skeletal muscle mass still persists, now it is interesting to see for the coming researchers provide genetical base of skeletal muscle mass.

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