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Comparison of selected physiological parameters and anthropometric measurements between college level students of two regions of Jammu and Kashmir

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Abstract
This paper sheds light on the comparison of selected physiological parameter and anthropometric measurements between college level students of Kashmir region and college level students of Jammu region. The subjects were taken from 30 colleges of Jammu and Kashmir, 15 colleges from Kashmir region and 15 colleges from Jammu region were selected randomly. 1200 male college level students of age group 18-23 were selected randomly as subjects. Among them 600 college level student were selected from 15 colleges of Kashmir region and 600 college level students were selected from 15 colleges of Jammu region. Data collected was analyzed at 0.05 level of significance and 't'test was computed for comparison of selected physiological parameter and anthropometric measurements between college level students of Kashmir region and college level students of Jammu region. The study showed significant difference was found among physiological parameter i.e. vital capacity and anthropometric measurements i.e. arm length, leg length and chest girth between college level students of Kashmir region and college level students of Jammu region.

Keywords: arm length, leg length and vital capacity

Introduction
The mechanical approach to life assumes that all phenomena, no matter how ultimately descriptive in terms of physical and chemical laws, do not require any significant force other than matter and energy to explain life. The human is a device, a very complex device, but still a device. This view has become prevalent in the twentieth century because virtually all information gathered from observation and experiment agrees with it. Most physiologists believe that this field will eventually lead to physico-chemical analysis, but it would be unscientific to rule out this problem based on current knowledge.
The human body is a complex machine. Our state-of-the-art system has attracted scientists to its complex form. With the advancement of technology, numerous sophisticated devices have been developed to enable scientists to gain more insights into the functioning of the human body. Despite extensive research and discovery, there is a huge demand for scientists to find the right answers to some questions about the functioning of the human body. Therefore, it is important to understand the corresponding changes that occur during rest or when the body comes in contact with different intensities of bodily movements. You may feel that you are not working while lying or reading a book or sleeping. In fact, it is not true. Even in this state, your body is physically active. If this is the case during the resting phase, imagine how much your body needs to cooperate with the body during strenuous physical activity or when its duration is longer, then the physical activity of your muscles is greater. Therefore, finding out how the body responds to different intensities of physical activity becomes a broader aspect of exercise physiology.
The most important task of a physical educationist is to measure the different parts and components of the human body. The scientific term given to human measurements is anthropometry, a word derived from two Greek words anthropos meaning man and metreein meaning measurement. So anthropology is the measurement of the human body.

Methodology
The investigator had randomly chosen 1200 male college level students. The age of the subjects ranges from 18-23 years. The comparison of selected physiological parameter and anthropometric measurements between college level students of Kashmir region and college level students of Jammu region, from 30 colleges in Jammu and Kashmir, 15 colleges in Kashmir region and 15 colleges in Jammu region. Out of them, 600 college level students were selected from 15 colleges in Kashmir region and 600 college level students from 15 colleges in Jammu region. The collected data was analyzed at 0.05 level of significance and 't'test' was used to calculated the compare selected physical parameters and anthropometric measurements between college level students in Kashmir region and college level students in Jammu region. The study found a significant difference in the physiological parameter and anthropometric measurements between the college level students in the Kashmir

region and the college level students in the Jammu region. The collected data were analyzed by using (SPSS) statistical package for social sciences.

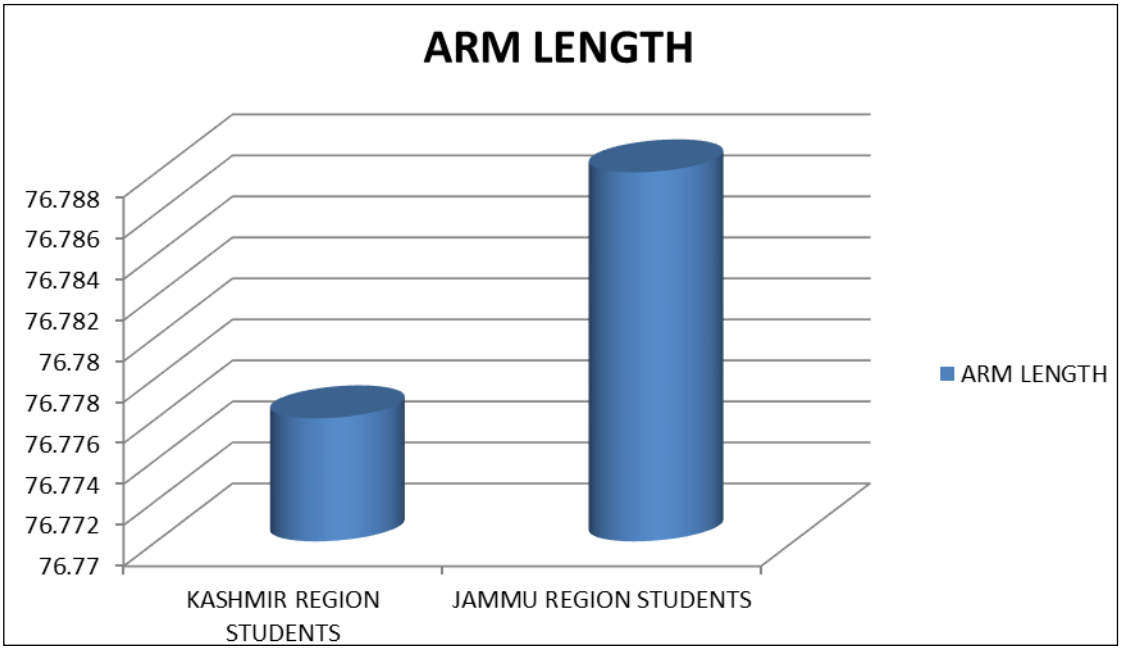
Results

Table 1: Comparison of Arm Length among Kashmir region college students and Jammu region college students

Students	No. of students	Mean	S.D	M.D	O 't'	t t
Kashmir	600	76.776	4.526	0.012	0.96	1.96
Jammu	600	76.788	3.699			

Level of significance= 0.05

Table 1 shows that there is no difference between means of Kashmir region students and Jammu region students because mean of Kashmir region students is 76.776 which is lesser than the mean of Jammu region students which is 76.788 and therefore mean difference is 0.012. To check the significant difference between Kashmir region students and Jammu region students the data was analyzed by applying't' test. Before applying't' test, standard deviation was calculated where standard deviation of Kashmir region students was found as 4.526 and standard deviation of Jammu region students was found as 3.699. Therefore no significant difference were found between Kashmir region students and Jammu region students because value of calculated 't' was 0.96 which is lesser than tabulated 't' was 1.96 at 0.05 level of significance. Which shows no significant difference was found between Kashmir region students and Jammu region students.



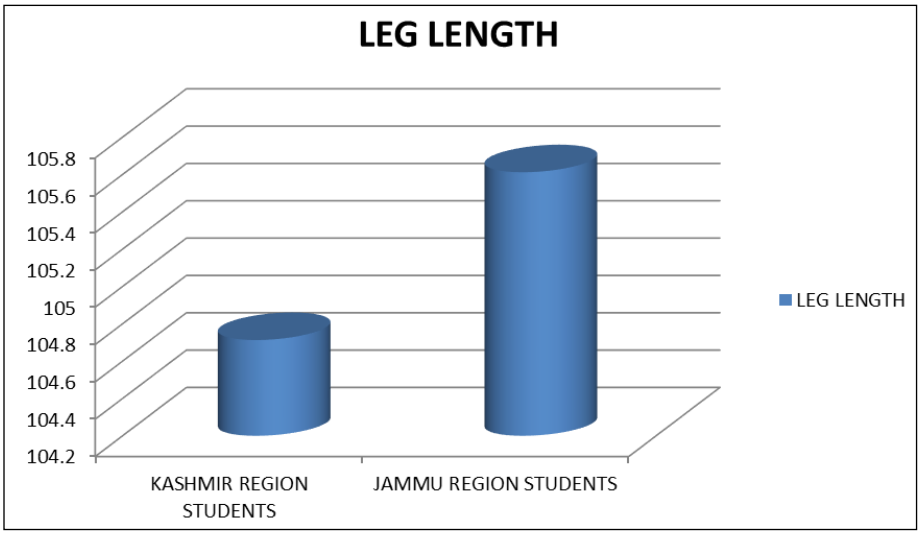
Graph 1: Graphical Representation of Arm Length Mean Difference between Kashmir region college students and Jammu region college students

Table 2: Comparison of Leg Length among Kashmir region college students and Jammu region college students

Students	No. of students	Mean	S.D	M.D	O 't'	t t
Kashmir	600	104.713	5.565	0.899	0.005	1.96
Jammu	600	105.612	5.417			

Level of significance= 0.05

Table 2 shows that there is no difference between the students of Kashmir region and the students of Jammu region as the average of students in Kashmir region is 104.713 which is less than the average of students in Jammu region which is 105.612 and hence the average difference is 0.899. The data was analyzed by applying 'T' test to check the significant difference between students from Kashmir region and students from Jammu region. For the implementation of the 't' test, standard deviations were calculated where the standard deviation of students from Kashmir region was found to be 5.565 and standard deviation of students from Jammu region was found to be 5.417. Therefore, no significant difference was found between the students of Kashmir region and the students of Jammu region as the value of calculated 't' was 0.005 which is less than 1.96 tabulated 't' at 0.05 level. This shows that no significant difference was found between the students of Kashmir region and the students of Jammu region.



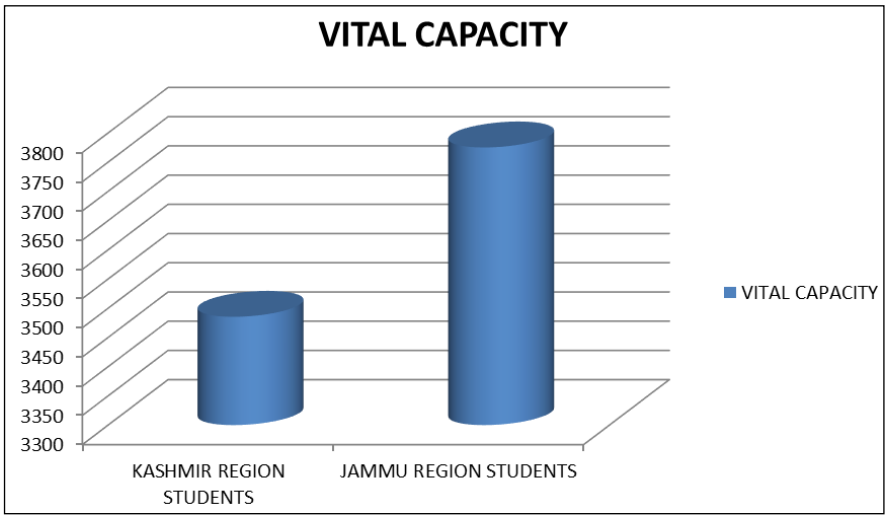
Graph 2: Graphical Representation of Leg Length Mean Difference between Kashmir region college students and Jammu region college students

Table 3: Comparison of Vital Capacity among Kashmir region college students and Jammu region college students

Students	No. of students	Mean	S.D	M.D	O 't'	t t
Kashmir	600	3485.333	384.152	289.834	5.892	1.96
Jammu	600	3775.167	416.209			

Level of significance= 0.05

Table 3 reveals that there is significant difference between means of Kashmir region students and Jammu region students because mean of Kashmir region students is 3485.333 which is lesser than the mean of Jammu region students which is 3775.167 and therefore mean difference is 289.834. To check the significant difference between Kashmir region students and Jammu region students the data was analyzed by applying't' test. Before applying't' test, standard deviation was calculated where standard deviation of Kashmir region students was found as 384.152 and standard deviation of Jammu region students was found as 416.209. Therefore no significant difference were found between Kashmir region students and Jammu region students because value of calculated 't' was 5.892 which is lesser than tabulated 't' was 1.96 at 0.05 level of significance. Which shows significant difference was found between Kashmir region students and Jammu region students.



Graph 3: Graphical Representation of Vital Capacity Mean Difference between Kashmir region college students and Jammu region college students

Conclusion

Within the limitation of the study and procedure following conclusion was drawn.

There was significant difference between Kashmir region students and Jammu region students in physiological parameter i.e. vital capacity.

There was no significant difference found between Kashmir region students and Jammu region students in anthropometric measurements i.e. arm length and leg length.

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