



ISSN: 2456-0057

IJPNPE 2022; 7(1): 354-357

© 2022 IJPNPE

www.journalofsports.com

Received: 12-01-2022

Accepted: 16-02-2022

Aarif Majeed

Ph.D., Research Scholar,
Research Center Shri Shivaji
College of Physical Education
Amravati, Maharashtra, India

Dr. PS Sayar

Assistant Professor, Shri Shivaji
College of Physical Education
Amravati, Maharashtra, India

A comparative study of Jammu and Kashmir college students regarding physiological components and physical fitness variables

Aarif Majeed and Dr. PS Sayar

Abstract

To achieve the purpose of comparative study of selected physiological variable and physical fitness components of college students of different regions of Jammu and Kashmir, from 30 different colleges of Jammu and Kashmir 1200 male college level students were selected, from 15 colleges of Kashmir region 600 college level students were selected and from 15 colleges of Jammu region 600 college level students were selected randomly as subjects. The age of students were ranging from 18-23 years. The data were collected on muscular endurance, resting heart rate and respiratory rate components. To find out the significant difference between the Kashmir region students and Jammu region students 't' test was used at 0.05 level of significance. There was significant difference in the physiology variables and physical fitness components between the college students of different regions of Jammu and Kashmir.

Keywords: Muscular endurance, resting heart rate and respiratory rate

Introduction

Contemporary professionals view physical fitness as a quality comprised of several different components, each with specific requirements for its development and maintenance. The terms health fitness and motor-performance fitness are currently used when discussing these two areas. Health fitness is important for all individuals throughout their lifespan. The achievement and maintenance of those qualities necessary for an individual to function efficiently and to enhance his or her health through the prevention and remediation of diseases and illness is the central focus of health fitness. An increasing body of research supports the contribution of regular appropriate physical activity to health and to one's quality of life. Motor performance fitness emphasizes the development of those qualities that enhance the performance of physical activities such as sports. Fitness be it health related or motor skill related must be viewed in relation to individual characteristics (e.g. age), needs, goals and tasks that must be performed. All individuals possess certain levels of each of the health and motor performances fitness components.

Breathing consists of two movements: inspiration, which is the drawing in of the air, and expiration, which is its expulsion. These two movements can be compared to the opening and closing of bellows. Within it are two elastic bags. Opening the bellows (inspiration) causes the bags to expand as the air rushes in through the nozzle. Closing the bellows (expiration) to the S position causes the partial deflation of the bags.

Breathing is controlled automatically by the brain. When we are passive, or at rest, our demands for oxygen are small and the breathing is slow and shallow. When there is an increased demand for oxygen, breathing becomes much deeper, but swifter. Under normal conditions we breathe at a rate of approximately 13 to 18 times a minute. The rate is increased by physical exertion, emotional state and elevated body temperature.

The heart, under normal conditions, beats about 70 times per minute. Exercise will make it beat faster. In one day, the heart at least 100,000 times, and in one year more than 40 million times. It will keep up this regular beat, without stopping, for roughly 70 years, the average life span of a person. Could you find a water pump that would function effectively, without stopping and without repair, for about 70years? The heart is certainly a tireless wonder pump.

Corresponding Author:

Aarif Majeed

Ph.D., Research Scholar,
Research Center Shri Shivaji
College of Physical Education
Amravati, Maharashtra, India

Methodology

To accomplish the study total 1200 male college level students from 30 different colleges of Jammu and Kashmir. 600 college level male students were selected from 15 college of Kashmir region and 600 college level male students were selected from 15 college of Jammu region. 18-23 years is the age of subjects. The necessary data on the variables of physiological and physical fitness were collected by administrating the test. 't' test was used for the analysis of

data and the level of significance was set at 0.05.

Table 1: Tests selection

S. No	Criterion Variables	Test items	Unit of measurement
1	Resting Heart Rate	Stop Watch	Numbers
2	Respiratory Rate	Stop Watch	Numbers
3	Muscular Endurance	Push Ups	Numbers

Results

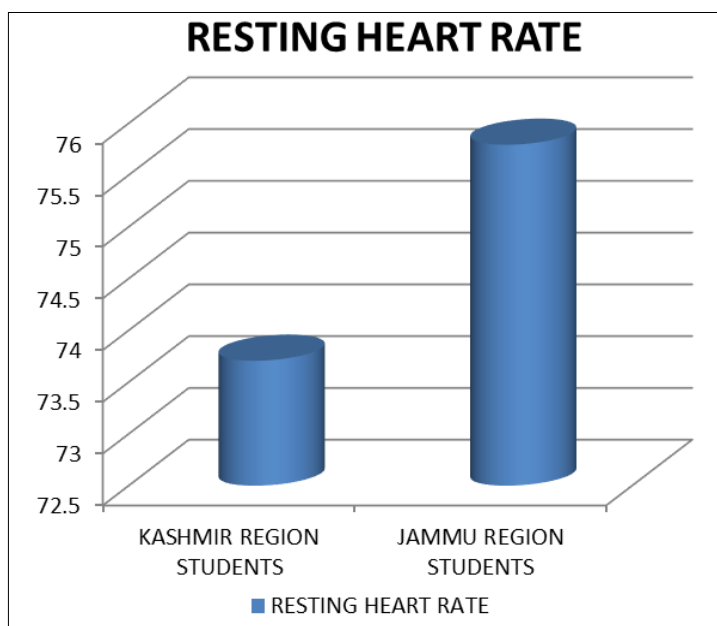
Table 2: Comparison of Resting Heart Rate among Kashmir region college students and Jammu region college students

Students	No. of students	Mean	S.D	M.D	't' value
Kashmir	600	73.707	5.741	2.086	1.04
Jammu	600	75.793	5.339		

Level of significance= 0.05 tabulated 't'= 1.96

Table 2 reveals that there is insignificant difference between means of Kashmir region students and Jammu region students because mean of Kashmir region students is 73.707 which is lesser than the mean of Jammu region students which is 75.793 and therefore mean difference is 2.086. 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 5.741 and standard deviation of Jammu

region students was found as 5.339. Therefore insignificant difference were found between Kashmir region students and Jammu region students because value of calculated 't' was 1.04 which is lesser than tabulated 't' was 1.96 at 0.05 level of significance. Which shows insignificant difference was found between Kashmir region students and Jammu region students. Hence it is seems that the Kashmir region students and Jammu region students of Jammu and Kashmir are found to be similar in case of physiological parameters i.e.resting heart rate.



Graph I: Graphical Representation of Resting Heart Rate Mean Difference between Kashmir region college students and Jammu region college students

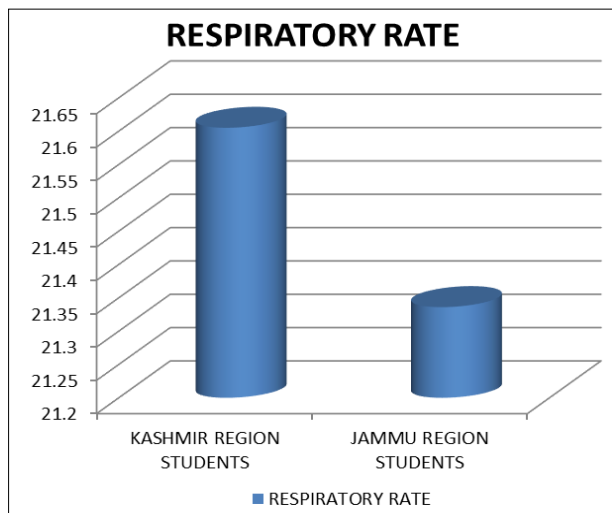
Table 3: Comparison of Respiratory Rate among Kashmir region college students and Jammu region college students

Students	No. of students	Mean	S.D	M.D	O 't'
Kashmir	600	21.605	2.796	0.269	0.082
Jammu	600	21.336	2.536		

Level of significance= 0.05 tabulated 't'= 1.96

Table 3 reveals that there is no difference between means of Kashmir region students and Jammu region students because mean of Kashmir region students is 21.605 which is lesser than the mean of Jammu region students which is 21.336 and therefore mean difference is 0.269. 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 2.796 and standard deviation of Jammu region students was found as 2.436. Therefore no significant difference were found between Kashmir region students and Jammu region students because value of calculated 't' was 0.082 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. Hence it is seems that the Kashmir region students and Jammu region students of Jammu and Kashmir are found to be similar in case of physiological parameters i.e. respiratory rate.



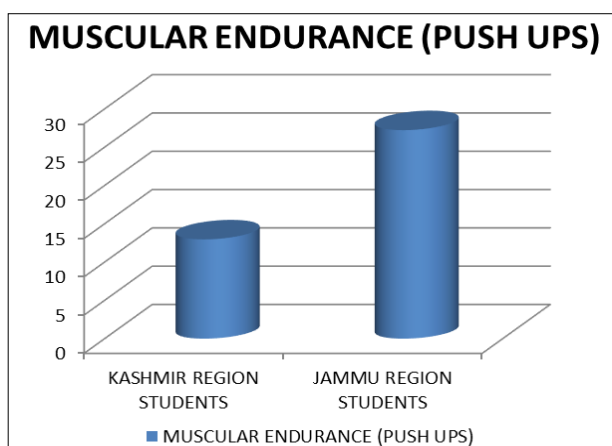
Graph 2: Graphical Representation of Respiratory Rate Mean Difference between Kashmir region college students and Jammu region college students

Table 4: Comparison of Muscular Endurance (Push Ups) among Kashmir region college students and Jammu region college students

Students	No. of students	Mean	S.D	M.D	't' value
Kashmir	600	12.963	3.401	14.262	8.897
Jammu	600	27.225	7.860		

Level of significance= 0.05 tabulated 't'= 1.96

Table 4 reveals that there was significant difference between means of Kashmir region students and Jammu region students because mean of Kashmir region students is 12.963 which are lesser than the mean of Jammu region students which is 27.225 and therefore their mean difference is 14.262. 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 3.401 and standard deviation of Jammu region students was found as 7.860. Therefore significant difference were found between Kashmir region students and Jammu region students because value of calculated 't' was 8.897 which is greater 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. Hence it seems that the muscular endurance (push-ups) Jammu region students is found to be better than the Kashmir region students of Jammu and Kashmir.



Graph 3: Graphical Representation of Muscular Endurance (Push Ups) Mean Difference between Kashmir region college students and Jammu region college students finding

From the above analysis and interpretation of the data collected by researcher the following findings may be concluded.

There was no significant difference in resting heart rate between students in Kashmir region and students in Jammu region.

There was no significant difference in respiratory rate between students in Kashmir region and students in Jammu region.

There was significant difference in muscular endurance between students in Kashmir region and students in Jammu region.

Discussion on Findings

It was seen from the above result that in case of the variable such as resting heart rate insignificant difference was found between Kashmir region students and Jammu region students because mean of Kashmir region students i.e. 73.707 which is less than mean of Jammu region students i.e. 75.793 and the calculated 't' value was found as 1.04 which is less than the tabulated 't' value 1.96 at 0.05 level of significance.

The above finding shows that there was insignificant difference in resting heart rate between Kashmir region students and Jammu region students. Hence the researcher stated hypothesis is partially rejected.

It was seen from the above result that in case of the variable such as respiratory rate no significant difference was found between Kashmir region students and Jammu region students because mean of Kashmir region students i.e. 21.605 which is greater than mean of Jammu region students i.e. 21.336 and the calculated 't' value was found as 0.082 which is less than the tabulated 't' value 1.96 at 0.05 level of significance.

The above finding shows that there was no significant difference in respiratory rate between Kashmir region students and Jammu region students. Hence the researcher stated hypothesis is partially rejected.

It was seen from the above result that in case of the variable such as muscular endurance significant difference was found between Kashmir region students and Jammu region students because mean of Kashmir region students i.e. 12.963 which is less than mean of Jammu region students i.e. 27.225 and the calculated 't' value was found as 8.897 which is greater than the tabulated 't' value 1.96 at 0.05 level of significance.

The above finding shows that there was significant difference in muscular endurance between Kashmir region students and Jammu region students. Hence the researcher stated hypothesis is partially accepted.

Conclusion

There was no significant difference in the physiological parameter of resting heart rate between Kashmir region students and Jammu region students.

The researcher initially pre assumed that there will be a significant difference in the physiological parameter of resting heart rate between the college students of Jammu and Kashmir regions. After the statistical analysis and interpretation of data it was found that there is no significant difference in resting heart rate between Kashmir region students and Jammu region students. Because the calculated 't' is less than the tabulated 't' at 0.05 level of significance. Hence the researchers pre assumed hypothesis have been rejected.

There was no significant difference in the physiological parameter of respiratory rate between Kashmir region students and Jammu region students.

The researcher initially pre assumed that there will be a significant difference in the physiological parameter of respiratory rate between the college students of Jammu and Kashmir regions. After the statistical analysis and interpretation of data it was found that there is no significant difference in respiratory rate between Kashmir region students and Jammu region students. Because the calculated 't' is less than the tabulated 't' at 0.05 level of significance. Hence the researchers pre assumed hypothesis have been rejected.

There was significant difference in the physical fitness variable of muscular endurance between Kashmir region students and Jammu region students.

The researcher initially pre assumed that there will be a significant difference in the physical fitness variable of muscular endurance between the college students of Jammu and Kashmir regions. After the statistical analysis and interpretation of data it was found that there is no significant difference in muscular endurance between Kashmir region students and Jammu region students. Because the calculated 't' is greater than the tabulated 't' at 0.05 level of significance. Hence the researchers pre assumed hypothesis have been accepted

References

1. Smt. Bhavya, *et al.* Comparative Study on Selected Physical Fitness and Physiological Variables Between Kabaddi and Kho-Kho Players, International Journal of Research and Analytical Reviews. 2021;8(2):40-44.
2. Devinder Kansal K. Test and Measurement in Sports and Physical Education, DVS Publication, Delhi, 1996.
3. Reet Howell, *et al.* Foundations of Physical Education, Friends Publications, Delhi, 1994.
4. Deborah Wuest A, Charles Bucher A. Foundations of Physical Education and Sport, B.I. Publications. New Delhi, 1992.
5. Harneet Singh. Comparative Study on Selected Physical Fitness and Physiological Variables between Volleyball and Handball Players, European Journal of Physical Education and Sports. 2015;10(4):206-211.
6. Anwar Aziz Dar, *et al.* Comparative Study of Some Physiological Variables and Physical Fitness of Swimmers, Athletes and Sedentary People, International Journal of Physical Education. 2013;6(2):70-77.