International Journal of Academic Research and Development
ISSN: 2455-4197
Impact Factor: RJIF 5.22
www.academicsjournal.com
Volume 3; Issue 2; March 2018; Page No. 1456-1459

Analytical study of health related physical fitness of college level students among different communities in Jammu and Kashmir State

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Abstract
The main purpose of the study was to compare the Flexibility, Muscular Endurance and Cardiovascular endurance. A total of ninety (90) subjects, comprising 30 Muslims, 30 Christians and 30 Hindus, of college level students among different communities in Jammu and Kashmir State. The Subjects were selected by using simple random sampling. The age of the subjects ranged between 19-25 years. To analyze the flexibility muscular endurance and cardiovascular endurance of the subjects of all the groups I.e. Muslims, Christians and Hindus, of college level students among different communities in Jammu and Kashmir State. The following tests or equipments were used. Flexibility, it was measured with Goniometere or flexiometere, Muscular endurance, IT was measured by horizontal bar and Cardiovascular Endurance. IT is measured with the help of long duration activities like middle/long distance running cycling or swimming or Hardward step test of college level students among different communities. The analysis of data was done by using statistical technique 'f'- test for finding the significance difference of Flexibility, Muscular Endurance and Cardiovascular endurance Of college level students among different communities in Jammu and Kashmir state and the level of Significance was set at 0.05 levels ($p<0.05$).

Keywords: flexibility, muscular endurance, cardiovascular endurance, communities

Introduction
Physical fitness is the positive state of well-being allowing you enough strength and energy to participate in a full, active life-style of your choice. Physical fitness is the general capacity to adapt favorably to physical effort. Individuals are physically fit when they are able to meet both the usual and unusual demands of daily life, safely and effectively with undue stress or exhaustion. Physical fitness is the capacity to carry out reasonably well various forms of physical activities without being unduly tired and includes qualities important to the individual's health and well-being. The fit person is one who is free of limiting and debilitating ailments, who has the stamina and skill to do the day's work and who has sufficient reserve of energy not only to meet emergencies but also to participate in leisure time activities. Physical fitness is one phase of total fitness, and it may be used inter-changeably with motor fitness. Other phases of total fitness include social fitness, emotional fitness, mental fitness etc.

Flexibility
The range of movement around a joint dependent on a number of factors, including the size and shape of the bones, the ability of tendons to stretch, the condition of the ligaments, normal joint mechanics, soft tissue mobility and extensibility of the muscles.
Good flexibility is beneficial in sport especially, for example, gymnastics and should be part of a sports-specific training programme and warm-up. However, flexibility training needs to be balanced with strength training to maintain joint stability. Flexibility assessment can be made directly by measuring the angle of joint displacement using a goniometer, but this requires a skilful operator to achieve consistent results. More indirect measurements include the sit-and-reach or standing toe-touch tests. There are two types of flexibility. Such as:

1. **Static Flexibility:** Refers to the range of motion around a joint. It can be measured most reliably with an instrument called a flexometer.
2. **Dynamic Flexibility:** Refers to resistance or opposition of a joint to motion. In other words, it is concerned with the forces that oppose movement over and range rather than the range itself. This type of flexibility is more difficult to measure, hence it has been given little attention in physical education and sports.

Muscular Endurance
It may be defined as the ability / capacity of a muscle or muscle group to perform repeated contractions against a resistance/ load or to sustain contraction for an extended period of time with less discomfort and more rapid recovery. Thus is achieved with the right type and amount of exercises which enables the boldly to increase functioning capillaries in number that supply blood to the muscle tissue. These capillaries are not entirely new, but have simply been disused/ dormant until the increased demand for oxygen has caused then to open up and become functional. The ability of an organism to exert itself and remain active for a long period of time, as well as its ability to resist, withstand, recover from, and have immunity to trauma, wounds, or fatigue. It is usually used in aerobic or anaerobic exercise. The definition of long

varies according to the type of exertion minutes for high intensity anaerobic exercise, hours or days for low intensity aerobic exercise. Training for endurance can have a negative impact on the ability to exert strength unless an individual also undertakes resistance training to counteract this effect.

Cardiovascular Endurance

It is defined as the maximal amount of work that an individual can perform over an extended period of time. The capacity for such work depends on the body ability to supply oxygen to the working muscles. Cardiovascular endurance simply put is the body's ability to continue exertion while getting energy from the aerobic system used to supply the body with energy. This is the system that kicks in third after the phosphate and the glycogen lactic acid system, and so the one that supplies energy to the human circulatory system and the muscles over extended periods. Cardiovascular endurance is most useful for long distance sports, for marathon training, long distance running, jogging and swimming, however it will also be useful for everyone else and a lack of it will lead to individuals becoming quickly tired and out of breath. In a marathon, the person who comes first (while allowing for injury or general poor technique) will generally be the person with the best cardiovascular fitness.

Introduction of Religions (Hindu, Muslim, Christian)

Hindu

It has been pointed out by Dr. Arnold J. Toynbee, in A Study of History, that the principal civilizations of the world lay different degrees of emphasis on specific lines of activity. Hellenic civilization, for instance, displays a manifest tendency towards a prominently aesthetic outlook on life as a whole. Indian civilization, on the other hand, shows an equally manifest tendency towards a predominantly religious outlook. Dr. Toynbee's remark sums up what has been observed by many other scholars. Indeed, the study of Hinduism has to be, in a large measure, a study of the general Hindu outlook on life. Receptivity and all-comprehensiveness, its ever-widening fold, it has something to offer to almost all minds. European scholars of Sanskrit like Sir William Jones noted similarities in the languages, terminology and substances of Indian scriptures with those of Greece and Rome. Even a superficial study convinced them that, while the language of the Vedas is a great critical instrument in the construction of the science of philology, the Vedic hymns constitute a compilation of most Indo-European myths in their primitive form. Max Muller went so far as to say that the Vedas are the real theology of the Aryan races, Homer and Hesiod having given a distorted picture of the original image.

Muslim

The word "Islam" is Arabic word which means "submission to the will of God". This word comes from the same root as the Arabic word "slam", which means "peace". As such, the religion of Islam teaches that in order to achieve true peace of mind and surety of heart, one must submit to God and live according to His Divinely revealed Law. The most important truth that God revealed to mankind is that there is nothing divine or worthy of being worshipped except for Almighty God, thus all human beings should submit to Him. The word "Muslim" means one who submits to the will of God, regardless of their race, nationality or ethnic background. Being a Muslim entails wilful submission and active obedience to God, and living in accordance with His message.

Christian

Christianity is the largest world religion at the moment. It has over 2 billion followers, who classify themselves under 34,000 different denominations. Initially, Christianity was derived from Judaism, as Jesus Christ was a Jew, as were his twelve disciples. Christianity is based mainly around the life, death and resurrection of Jesus Christ, and is monotheistic. Christians believe in the Bible being the word of God, and although some choose to take it more literally than others, it is generally considered to be inspired by the Holy Spirit. The Bible itself is not debated within Christianity, only its interpretation.

Procedure and Methodology

A total of ninety (90) subjects were selected for the collection of data which include 30 Hindu, 30 Muslims and 30 Christians college students from the different colleges belongs to jammu and Kashmir, were randomly selected for the study. The Subjects were selected by using simple random sampling. The age of the subjects ranged between 19-25 years.

Equipments used for collection of data

The following tests or equipments were used. Flexibility, It was measured with Goniometere or Flexiometere, Muscular endurance, It was measured by horizontal bar and Cardiovascular Endurance. It is measured with the help of long duration activities like middle/long distance running cycling or swimming or hardward step test of college level students among different communities.

Table 1: Mean of flexibility among the college students of various communities

Name of the Variables	Mean
Hindu	101.4
Muslims	86
Christians	100.2

From the above given table it is being said that the Mean of the Flexibility among various communities i.e, Hindu=101.4, Muslims=86, Christians=100.2

There is Mean difference between Various Communities of College Level Students of Jammu and Kashmir (Hindu, Muslim, Christian). Whether it is significant or not it can be shown by using special statistical technique 'F' test (ANOVA)

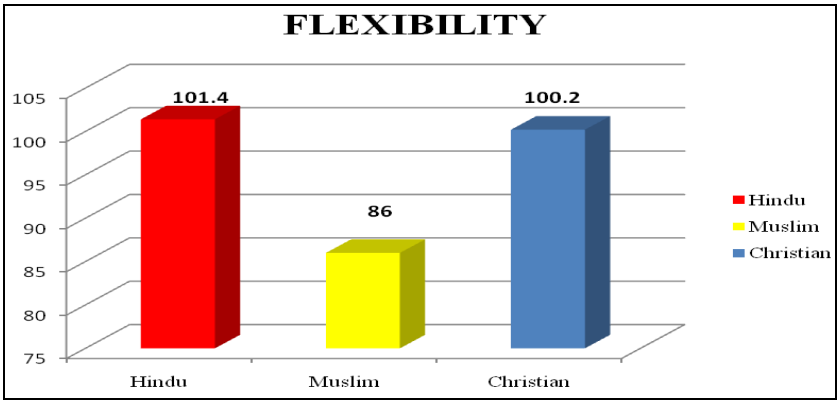

Fig 1: Showing the mean score of flexibility among the college students of various communities

Table 2: Showing one way analysis of variance (ANOVA) of flexibility among the college students of various communities

Source of variance	df	Sum of squares	Mean Variance	F Calculated	F Tabulated
Between Groups	K-1 3-1=2	4393.7556	2196.8778	9.0584883	3.1013
Within Groups	N-K 90-3=87	21099.367	242.52146		

'F' at degree of freedom between groups (df_b) is shown by the formula K-1 where 'K' is number of groups which are 3 so it becomes 3-1=2'F' at degree of freedom within groups (df_w) is shown by the formula 'N-K' where 'N' is total number of subjects in all groups and 'K' is number of groups which becomes 90- 3 = 87. So 'F' test at 4 and 90 is 3.10 which is called tabulated 'F'.

In the given table the value of Tabulated 'F' is 3.10 and the value of Calculated 'F' is 9.05 which is greater than tabulated 'F' at 0.05 level of confidence so it is said that there is significant difference in Flexibility among various communities, hence the researchers hypothesis is accepted.

Table 3: Mean of Muscular Endurance among the college students of various communities

Name of the community	Mean
Hindu	7.66
Muslims	13.3
Christians	13.99

From the above given table it is being said that the Mean of the muscular endurance among various communities i.e, Hindu=7.66 Muslims=13.3, Christians=13.99 There is Mean difference between various communities of college level students of Jammu and Kashmir State (Hindu, Muslim, Christian). Whether it is significant or not it can be shown by using special statistical technique 'F' test (ANOVA).

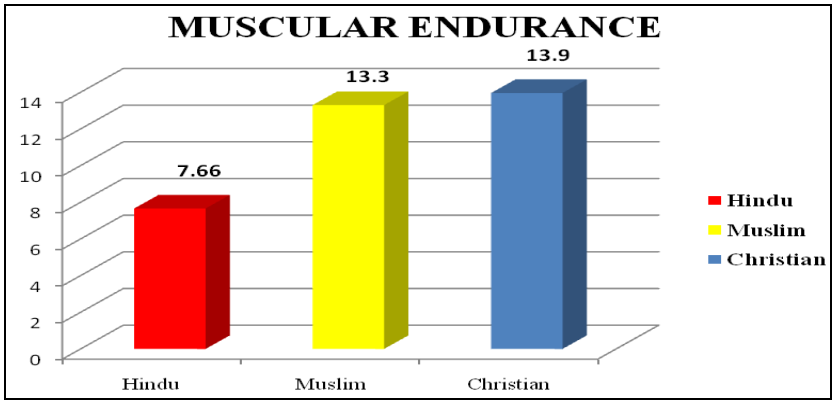

Fig 2: Showing the mean score of muscular endurance among the college students of various communities

Table 4: Showing one way Analysis of Variance (ANOVA) of Muscular Endurance among the college students of various communities

Source of variance	df	Sum of squares	Mean Variance	F Calculated	F Tabulated
Between Groups	K-1 3-1=2	718.68	359.34	36.95	3.1013
Within Groups	N-K 90-3=87	845.93	9.72		

'F' at degree of freedom between groups (df_b) is shown by the formula K-1 where 'K' is number of groups which are 3 so it becomes 3-1=2.
'F' at degree of freedom within groups (df_w) is shown by the formula 'N-K' where 'N' is total number of subjects in all groups and 'K' is number of groups which becomes 45- 3 = 42. So 'F' test at 4 and 90 is 3.101 which is called tabulated 'F'.
In the given table the value of Tabulated 'F' is 3.101 and the value of Calculated 'F' is 36.95 which is greater than tabulated 'F' at 0.05 level of confidence so it is said that there is significant difference in of Muscular Endurance among various communities, hence the researchers hypothesis is accepted.

Table 5: Mean of Cardiovascular Endurance among the college students of various communities

Name of the community	Mean
Hindu	63.40
Muslims	63.36
Christians	63.46

From the above given table it is being said that the Mean of the Cardiovascular Endurance among various communities i.e, Hindu=63.40 Muslims=63.36, Christians=63.46
There is Mean difference between Various Communities of College Level Students of Jammu and Kashmir (Hindu, Muslim, Christian). Whether it is significant or not it can be shown by using special statistical technique 'F' test (ANOVA)

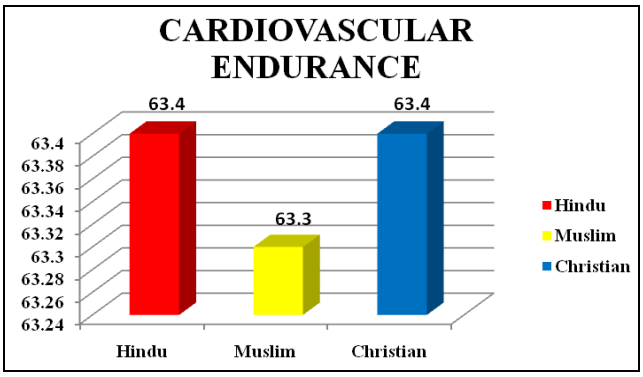

Fig 3: Showing the mean score of cardiovascular endurance among the college students of various communities

Table 4: Showing one way Analysis of Variance (ANOVA) of cardiovascular endurance among the college students of various communities

Source of variance	df	Sum of squares	Mean Variance	F Calculated	F Tabulated
Between Groups	K-1 3-1=2	0.155	0.077	0.0017	3.1013
Within Groups	N-K 90-3=87	3859.63	44.36		

'F' at degree of freedom between groups (df_b) is shown by the formula K-1 where 'K' is number of groups which are 3 so it becomes 3-1=2.
'F' at degree of freedom within groups (df_w) is shown by the formula 'N-K' where 'N' is total number of subjects in all groups and 'K' is number of groups which becomes 90- 3 = 87. So 'F' test at 4 and 45 is 3.101 which is called tabulated 'F'.
In the given table the value of Tabulated 'F' is 3.101 and the value of Calculated 'F' is 0.0017 which is less than tabulated 'F' at 0.05 level of confidence so it is said that there is no significant difference in Cardio-Vascular endurance among various communities, hence the researchers hypothesis is reject.

Discussion of hypothesis

In the beginning of this study it was hypothesized that there was a significant difference of health related physical fitness among different communities in Jammu And Kashmir State. In overall numerical and statistical analysis the comparison of health related physical fitness among different communities; it is found that there is insignificant difference in flexibility and muscular endurance, but there is found significant difference in cardiovascular endurance. Therefore the hypothesis which the researcher has given has been partially accepted.

Conclusion

Within the limitations of the study and from statistical analysis the following conclusion was drawn.
There has been found significant difference in flexibility and muscular endurance among health related physical fitness of college level students of various communities in Jammu and Kashmir state, because the calculated 'f' exceeds than the tabulated 'f' for both the variables, but there is found significant difference in cardiovascular endurance so the findings are not considered statistically significant. Hence the given hypothesis has been partially accepted.

References

1. Nebojša, *et al.*, Differences in Explosive Strength of Legs of Footballers of Cadet Categories, Sport Mont Journal, 2011, 10(31).
2. Sheok Daisy. Physiology of Physical Fitness, (Delhi: Published in Keshav Puram), 2007.
3. Uppal K, Gautam GP. Physical Education and Health, (Delhi: Friends Publication), 2010.
4. Uppal AK. Principles of Sports Training. (Friends publications India, Delhi), 2001.
5. Wiuian D, Mcardle, *et al*., Exercise Physiology, (United States of America, Lea And Fibiger, 3rd Edition), 1991.
6. Maria Fátima Glaner. The Importance of Health-Related Physical Fitness, Revista Brasileira De Cineantropometria E Desempenho Humano, Volume, 2003, 5(2).
7. Salahud Din. Statistical Analysis of Risk Factors for Cardiovascular Disease in Malakand Division, Pakistan Journal of Statistics and Operation Research, 2006, 2(1).