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## Comparative study of health related physical fitness among physical education students and non-physical education students belongs to south Kashmir

**Aamir Hussain and Dr. Ganesh Khandekar**

### Abstract

The study aimed to compare the Flexibility, Muscular Endurance and Cardiovascular endurance. A total of eighty (80) subjects, comprising 40 Physical education students and 40 Non Physical education students Belongs To South Kashmir . 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. Physical education students and Non Physical education students. 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 Physical education students and Non Physical education students. The analysis of data was done by using statistical technique 't'- test for finding the significance difference of Flexibility, Muscular Endurance and Cardiovascular endurance, and the level of significance was set at 0.05 levels ( $p < 0.05$ ).

**Keywords:** Flexibility, muscular endurance, cardiovascular endurance, students

### 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.

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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 body 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 them 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. A person is able to accomplish or withstand a higher amount of effort than their original capabilities means their endurance is increasing expressing improvement. In looking to improve one's endurance they may slowly increase the amount of repetitions or time spent, if higher repetitions are taken rapidly muscle strength improves while less endurance is gained. Increasing endurance has been proven to release endorphins resulting in a positive mind. The act of gaining endurance through physical activity has been shown to decrease anxiety, depression, and stress, or any chronic disease in total. The major metabolic consequences of the adaptations of muscle to endurance exercise are a slower utilization of muscle glycogen and blood glucose, a greater reliance on fat oxidation, and less lactate production during exercise of a given intensity

**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. To fully understand the definition of cardiovascular endurance, it's important to understand how the body utilises energy to power its muscles. When these bonds are broken they release energy, which the body then utilises to power the muscles etc and which forms the basis of the phosphogen system, powering the body for 3 seconds using the ATP stored in the muscles. As well as giving off energy however, the phosphogen system also has two other by-products, ADP and AMP, which stands for Adenosine Diphosphate and Adenosine Monophosphate respectively. These are similar to ATP, except in that they describe adenine nucleotides with just two or one phosphates respectively. In other words, they are the two parts of the ATP once the bonds are broken. Fortunately however the body also stores and produces another substance called Creatine in the Kidneys. Creatine is meanwhile used by the body to recombine ADP and AMP to make new ATP that can be once again used by the body. This then supplies an additional 8-10 seconds of energy on top of the initial 3 seconds and can be used by the body for extended explosive exercise. Using these methods combined then the body can utilise the phosphogen system for energy for a full 13.5 seconds, making it the best type of energy for explosive movements, such as weight lifting, 100 metre sprinting or jumping. Some athletes take a creatine supplement with the belief that it will increase that 8-10 seconds. The definition of cardiovascular endurance does not encompass this system of energy release, as the ATP and creatine is readily accessible by the body, thus cardiovascular endurance is not necessary for sprinting.

**Procedure and Methodology**

A total of eighty (80) subjects, comprising 40 Physical education students and 40 Non Physical education students Belongs To South Kashmir . The Subjects were selected by using simple random sampling. The age of the subjects ranged between 19-25 years

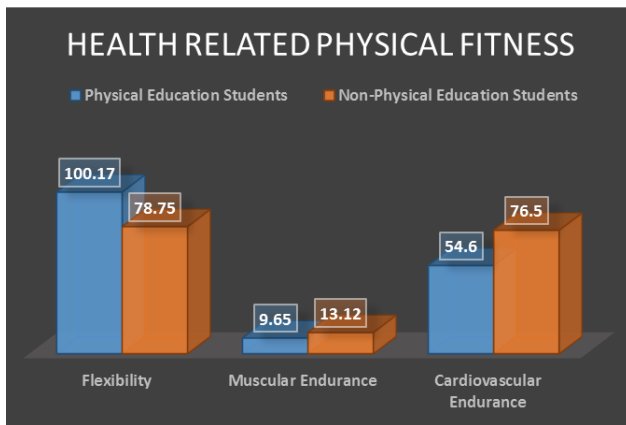
**Equipments Used For Collection of Data**

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 Physical education students and Non Physical education students belongs to south Kashmir.

**Results**

**Table:** Comparison of Health related fitness Between Physical Education Students and Non-Physical Education Students

Health related fitness	Group	Mean	S.D.	M.D.	D.F.	O.T.	T.T.
Flexibility	Physical Education Students	100.17	14.32	21.42	78	2.13	2.00
	Non-Physical Education Students	78.75	9.76				
Muscular Endurance	Physical Education Students	9.65	3.91	3.47	78	1.13	2.00
	Non-Physical Education Students	13.12	3.00				
Cardiovascular Endurance	Physical Education Students	54.6	9.82	21.9	78	2.16	2.00
	Non-Physical Education Students	76.5	9.98				



**Graph 1:** Health related physical fitness

### 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, cardiovascular and found insignificant difference of health related physical fitness of, physical education students and Non Physical Education Students) Belongs To South so the findings are considered statistically significant. Hence the given hypothesis has been 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, 236-237).
3. Uppal K, Gautam GP. Physical Education And Health, (Delhi: Friends Publication, 2010, 1).
4. Uppal AK. Principles of Sports Training. (Friends publications India, Delhi), 2001, 50-53.
5. Wiuian D Mcardle *et al.* Exercise Physiology, (United States of America, Lea and Fibiger, 3<sup>rd</sup> Edition 1991, 334).
6. Maria Fátima Glaner. The Importance of Health-Related Physical Fitness, Revista Brasileira De Cineantropometria E Desempenho Humano, 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).