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Comparison of Aerobic Capacity of Sports Men and Non-Sports Men of Jammu District of J&K State

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Abstract – The main purpose of this study was to compare Aerobic Capacity of Sports men and Non-sports men. A group of 25 sports men and 25 non-sports men and age ranging between 18 to 25 years were selected from Jammu city. It was hypothesized that sports men would be higher aerobic capacity than the non-sports men. The between-group differences were assessed by using an independent Samples t-test. Further investigations are needed on the above studied Variables.

Keywords: Aerobic Capacity, Sports men, Non-Sports men & Amravati District.

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INTRODUCTION

Games and Sports are an area of social life which is rich in opportunities for sociological research. We must view the term physical on a broader, more abstract plane as a condition of mind as well as body. "Indeed, this physical education should bring about improvements in mind and body, that affect all respect of the Person's daily living and the whole person should be benefited by the experience. With the enhanced status of sports in society, the provision of sports training has become very important although the need for competent training has long been recognized. Over 3000 years ago the Greeks saw the need to provide effective and efficient training for the athletes taking part in the Olympic Games. But since 1950s, many countries have recognized the importance of an effective sports training programme in a wide range of activities not only for the success in major international competitions but also for the development of healthy participants. Earlier one has only to took towards the 'eastern bloc' countries to see the value placed on success in sports. Quite good amount of money have been expended on facilities and sportspersons. But, without provision of effective sports training, any sportsperson's potential will never be fulfilled. Comprehensive Sports training programme is the key factors in producing the skillful high performers. Factors in producing the skillful high performers.Usually in sports we use the term sports training which denote the sense of preparing sportspersons for the highest level of performance. But now-a-days sports training is not just a term but it is very important subject that affects each and every individual who takes up physical activity or sports either for health and fitness or for competition at different level. Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness (flexibility, muscular strength, and cardio-vascular fitness). It is usually performed to music and may be practiced in a group setting led by an instructor (fitness professional), although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance-like exercises. Aerobic exercise is physical exercise of relatively low intensity and long duration, which depends primarily on the aerobic energy system. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy-generating process. Many types of exercise are aerobic, and by definition are performed at moderate levels of intensity for extended periods of time.

OBJECTIVE:

The main objective of this study was to Compare Aerobic Capacity of Sports men and Non-sports men of Jammu City of J&K State.

METHODOLOGY:

25 sports men and 25 non-sports men was selected as subjects from Jammu city their age ranging between 18 to 25 years. Sports men who participated at inter-collegiate level of any individual and team games. They were highly motivated to participate in this study and allowed to quit any time. They were

randomly assigned into two groups. A (sportsmen: N=25) and B (non-sportswomen: N=25)

METHOD

Variables	Test/tools
Cardio-Vascular endurance	600 Yard Run/Walk
Speed	50 Yard Dash
Vital Capacity	Wet Spiro Meter

1) 600 Yard Run/Walk –

Purpose: To measure the Cardio-vascular Endurance of Sports and Non Sportsmen's.

Equipment: Marked track, stop watches, score card etc.

Description:

The subject stands at start. At the signal, "ready", "go", the subjects started to run 600 yards distance. The running was allowed to be interspersed with walking. The timer called out the time as the subjects cross the finishing line. Walking was permitted but the subject was to cover the distance in the shortest possible time.

Scoring: Time was recorded in second is as the score for endurance of that subject.

2) 50 Yard Dash

Purpose: To measure the Speed of sports and non-sports women

Equipment: 50 meter marked ground, stop watches etc.

Description:

This test was administered on two subjects at a time. Both subjects took position behind the starting line. The starter used the commands, "Are you ready?" and "Go". The score was the amount of time between the starter's signal and the instant the subject crossed the finish line.

Scoring: Time was recorded in seconds to the nearest tenth of a second as the score in speed.

3) Vital Capacity:

Purpose: To measure the Vital Capacity Sports and Non-Sports Women's.

Instrument: wet Spirometer

Statistical analyses: To determine the significant difference in the means of aerobic capacity between sports men and non-sports men tests means of both the groupst-test was employed.

Results and discussion:- Findings of the statistical analysis have been shown in the following tables.

Table No-I

Summary of Mean, Standard Deviation and t-ratio for the Data on Cardio-vascular Endurance (600 Yard Run & Walk) between the Means of Sports and Non-sports men

Group	Mean	Standard Deviation	Mean Difference	Standard Error	t-Ratio
Sports men	3.067	0.301	0.202	0.088	2.303*
Non-Sports men	3.270	0.320			

* Significant at 0.05 level Tabulated $t_{0.05(48)} = 2.010$

The above Table I show that, Cardio-vascular Endurance mean difference between the Sports men and Non-sports men is significant, because the calculated t-value of 2.303 is greater than the tabulated t-value of 2.010 at 0.05 level of confidence of 48 degree of freedom.

Cardio-vascular Endurance means between the Sports men and Non-sports men was graphically shown in figure - I.

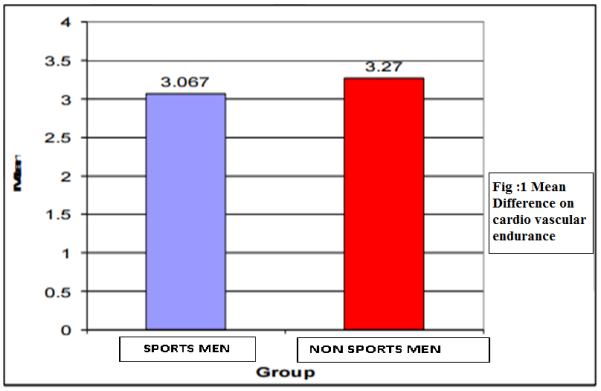


Figure No-I: Showing Mean Difference for the Data on Cardio-vascular Endurance Between the Means of Sports men and Non-sports men

Table No-II

Summary of Mean, Standard Deviation and t-ratio for the Data on Speed (50 Yard Dash) Between the Means of Sports and Non-sports men

Group	Mean	Standard Deviation	Mean Difference	Standard Error	t-ratio
Sports men	12.657	0.0626	0.388	0.176	2.206*
Non-sports men	13.045	0.618			

* Significant at 0.05 level Tabulated $t_{0.05(48)} = 2.010$

The above Table II reveal that, speed mean difference between the Sports men and Non-sports men is significant, because the calculated t-value of 2.206 is greater than the tabulated t-value of 2.010 at 0.05 level of confidence of 48 degree of freedom.

Speed means between the Sports men and Non-sports men was graphically shown in figure - II.

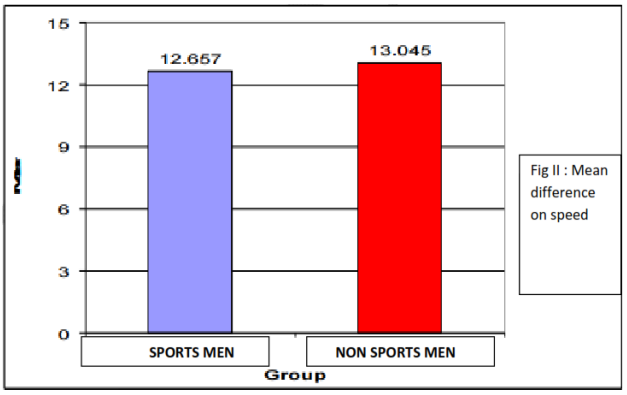


Figure II: Showing Mean Difference for the Data on Speed between the Means of Sports Men and Non-Sports Men

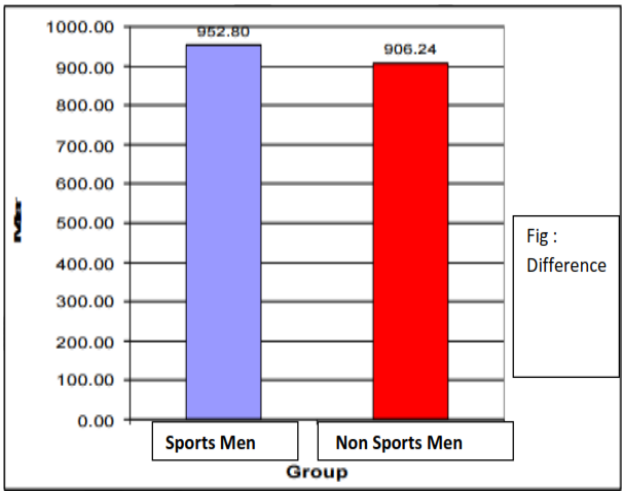
Table No-III

Summary of Mean, Standard Deviation and t-ratio for the Data on Vital Capacity between the Means of Sports and Non-sports men

Group	Mean	Standard Deviation	Mean Difference	Standard Error	t-ratio
Sports men	952.800	57.765	46.560	16.374	2.844*
Non-sports men	906.240	58.015			

* Significant at 0.05 level Tabulated $t_{0.05(48)} = 2.010$

The above Table III reveal that, Vital Capacity mean difference between the Sports men and Non-sports women is significant, because the calculated t-value of 2.844 is greater than the tabulated t-value of 2.010 at 0.05 level of confidence of 48 degree of freedom. Vital Capacity means between the Sports men and Non-sports men was graphically shown in figure - III.



Procedure: After a couple of normal breath the subject was asked to take a deep breath and exhale into Spirometer as forcefully as possible.

Scoring:

The highest of the three consecutive trials with rest of one minute after each trail was recorded inthe unit of litter.

DISCUSSION ON FINDINGS:

From the above tables following were the findings of the present study:

- Significant difference found in Cardio-vascular Endurance i.e. calculated t-value of 2.303 is greater than the tabulated t-value of 2.010 at 0.05 level of confidence of 48 degree of freedom. Because the sports men having the practice of running and playing the games.
- Significant difference found in Speed i.e. calculated t-value of 2.206 is greater than the tabulated t-value of 2.010 at 0.05 level of confidence of 48 degree of freedom. Because the sports men having the practice of running.
- Significant difference found in Vital Capacity i.e. calculated t-value of 2.804 is greater than the tabulated t-value of 2.010 at 0.05 level of confidence of 48 degree of freedom. Because the sports and running practice capacity of their lungs increases.

CONCLUSION:

From the findings of the present study, following conclusions were drawn:

- Cardio-vascular Endurance of sports men was greater than the non-sports men.
- Running speed of sports men was better than the non-sports men.
- Lungs capacity (Vital Capacity) was good in sports men than the non-sports men.

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