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## Comparative study of selected physiological and psychological variables among vegetarian and non-vegetarian runners

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### Abstract

The world of games and sports has crossed many milestones as a result of different achievements. Scientific investigation into performance of sportsman has been playing an increasingly important role to attain excellence of performance in different sports. Because of involvement of new scientifically substantiated training methods and means of execution of sports exercise such as techniques and tactics. The Purpose of the study was frame to compare the Physiological and Psychological Variables among Vegetarian and Non-Vegetarian Runners of Kashmir (Baramulla). For that purpose 40 subjects were selected 20 Vegetarian and 20 Non vegetarian. The subjects were selected from Kashmir University (India). By purposive sampling method. Student 't' test was applied to calculate the collection of data. With the 0.05 level of significance.

**Keywords:** Exhale capacity, body fat percentage, blood pressure and aggression

### Introduction

Sports physiology is derived from exercise physiology. It applies the concept of exercise physiology to train the athlete and enhance the athlete's sports performance. Exercise Physiology is the study of how exercise alters the function and structure of the body. A sports physiologist examines the acute responses and chronic adaptations to athletic performance in a variety of environments. While as sports psychology has been derived from psychology. The psychological and physiological parameters seem to play a very important role in the modern competitive sports in production of more excellent performance.

#### a. Exhale Capacity

Exhale capacity is the total amounts of air that can be forcibly expire after a complete inspiration has been used frequently as a measure of adequacy of the respiratory system.

#### b. Body Fat Percentage

The body fat percentage of a human or other living being is the total mass of fat divided by total body mass; body fat includes essential body fat and storage body fat.

#### c. Blood Pressure

The Blood Pressure is defined as the force of the blood against the wall of the blood vessels.

##### 1. Systolic Blood Pressure

It is a maximum lateral pressure during the system of the heart. It indicates the pressure of the blood volume in (mm Hg) at a given point and movement in the circulation.

##### 2. Diastolic Blood Pressure

It is a minimum internal pressure during the phase of caloric diastole

#### d. Aggression

Aggression means an overt behavior intended to harm living person either physically or physiologically

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**Methodology**

40 Subjects were selected from Jammu & Kashmir State (India) age ranged from 17-28 years. The subjects were taken by purposive sampling method. They were the current professional Runners of Jammu & Kashmir State (India) in the year 2016. The tests were administered on each player individually with the help of standard scientific instruments and also standard questionnaire of Aggression by R L Bhardwaj.

**Collection of data**

The data for Blood Pressure, Exhale capacity Body fat percentage and Aggression was taken by scientifically approved equipments after that collected data was put in Microsoft excel to develop master chart

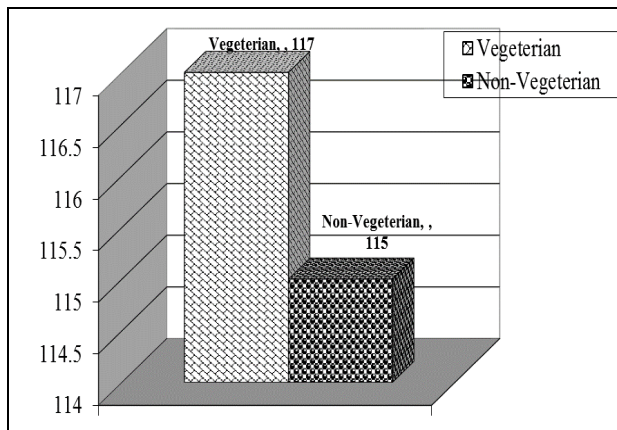
**Results and Findings**

**Table 1:** Showing Comparison between Vegetarian and Non-Vegetarian Runners of Kashmir University In Systolic Blood Pressure

Group	Mean	S.D.	M.D.	D.F.	O.T.	T.T.
Vegetarian	117.00	6.51	1.66	38	0.32	2.04
Non-vegetarian	115.33	6.81				

\*Level of Significant = 0.05.  
Tabulated 't'=2.04

Table-1 shows that there is significant difference between Means of Vegetarian and non-vegetarian runners of systolic blood pressure. Where mean value of vegetarian runners is 117.00 and that of non-vegetarian runners mean value is 115.33. Whose mean difference is 1.66 to check the significant difference of systolic blood pressure between vegetarian and non-vegetarian runners. The data was again analyzed by applying 't' test. But before applying 't' test S.D. was calculated. S. D. of Vegetarian is 6.51 and that of non-Vegetarian runners is 6.81. It was found that there is no significant difference in systolic blood pressure of Vegetarian and non-vegetarian runners, because calculated 't'=0.32 which is less than Tabulated 't' = 2.04 at 0.05 level of significance.



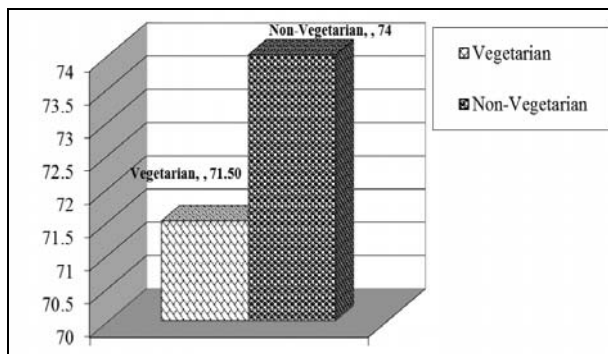
**Graph 1:** Showing Comparison between Vegetarian and non-vegetarian runners of Kashmir university in Systolic Blood Pressure

**Table 2:** Showing Comparison between Vegetarian and non-vegetarian runners of Kashmir University In Diastolic Blood Pressure

Group	Mean	S.D.	M.D.	D.F.	O.T.	T.T.
Vegetarian	71.5	7.53	2.5	38	0.09	2.04
Non-vegetarian	74.00	7.45				

\*Level of Significant = 0.05.  
Tabulated 't'=2.04

Table-1 shows that there is significant difference between means of Vegetarian and non-vegetarian runners of Diastolic blood pressure. Where mean value of vegetarian runners is 71.5 and that of non-vegetarian runners mean value is 74.00. Whose mean difference is 2.5? To check the significant difference of systolic blood pressure between vegetarian and non-vegetarian runners. The data was again analyzed by applying 't' test. But before applying 't' test S.D. was calculated. S. D. of Vegetarian is 7.53 and that of non-Vegetarian runners is 7.45. It was found that there is no significant difference in Diastolic blood pressure of Vegetarian and non-vegetarian runners, because calculated 't'=0.09 which is less than Tabulated 't' = 2.04 at 0.05 level of significance.



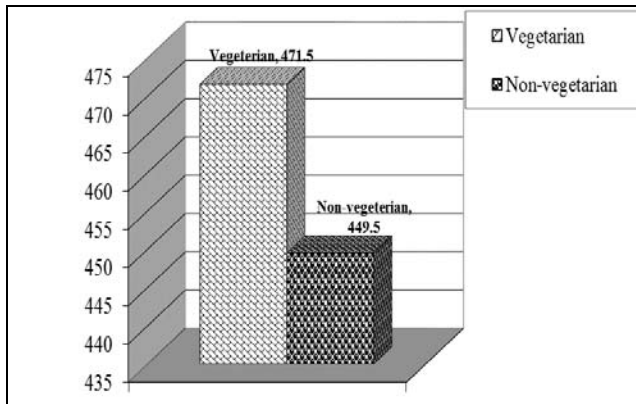
**Graph 2:** Showing Comparison between Vegetarian and non-vegetarian runners Kashmir University in Diastolic Blood Pressure

**Table 3:** Showing Comparison between Vegetarian and non-vegetarian runners of Kashmir university in Exhale Capacity

Group	Mean	S.D.	M.D.	D.F.	O.T.	T.T.
Vegetarian	471.5	7.53	22	38	0.28	2.04
Non-Vegetarian	449.5	7.45				

\*Level of Significant = 0.05.  
Tabulated 't'=2.04

Table-1 shows that there is significant difference between means of Vegetarian and non-vegetarian runners of Exhale Capacity. Where mean value of vegetarian runners is 471.5 and that of non-vegetarian runners mean value is 449.5. Whose mean difference is 22? To check the significant difference of Exhale Capacity between vegetarian and non-vegetarian runners. The data was again analyzed by applying 't' test. But before applying 't' test S.D. was calculated. S. D. of Vegetarian is 7.53 and that of non-Vegetarian runners is 7.45. It was found that there is no significant difference in Exhale Capacity of Vegetarian and non-vegetarian runners, because calculated 't'=0.28 which is less than Tabulated 't' = 2.04 at 0.05 level of significance.



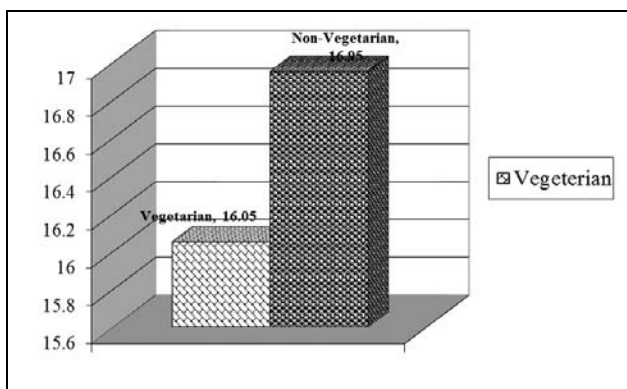
**Graph 3:** Showing Comparison between Vegetarian and non-vegetarian runners of Kashmir university in Exhale Capacity

**Table 4:** Showing Comparison between Vegetarian and non-vegetarian runners of Kashmir University in Fat Percentage

Group	Mean	S.D.	M.D.	D.F.	O.T.	T.T.
Vegetarian	16.05	4.89	0.9	38	0.49	2.04
Non-Vegetarian	16.95	2.79				

\*Level of Significant = 0.05.  
Tabulated 't' = 2.04

Table-1 shows that there is significant difference between means of Vegetarian and non-vegetarian runners of Fat Percentage. Where mean value of vegetarian runners is 16.05 and that of non-vegetarian runners mean value is 16.95. Whose mean difference is 0.9? To check the significant difference of Fat Percentage between vegetarian and non-vegetarian runners. The data was again analyzed by applying 'test. But before applying' test S.D. was calculated. S. D. of Vegetarian is 4.89 and that of non-Vegetarian runners is 2.79. It was found that there is no significant difference in Fat Percentage of Vegetarian and non-vegetarian runners, because calculated 't'=0.49 which is less than Tabulated 't' = 2.04 at 0.05 level of significance.



**Graph 4:** Showing Comparison between Vegetarian and non-vegetarian runners of Kashmir university Fat Percentage

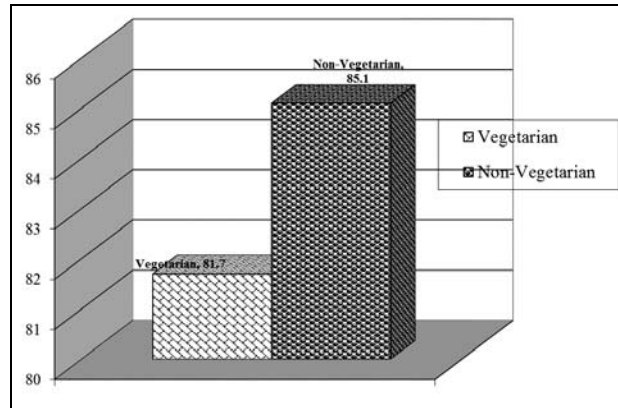
**Table 5:** Showing Comparison between Vegetarian and non-vegetarian runners of Kashmir university in Aggression

Group	Mean	S.D.	M.D.	D.F.	O.T.	T.T.
Vegetarian	81.7	11.98	3.4	38	0.30	2.04
Non-vegetarian	85.1	7.86				

\*Level of Significant = 0.05.  
Tabulated 't' = 2.04

Table-1 shows that there is significant difference between

means of Vegetarian and non-vegetarian runners of Aggression. Where mean value of vegetarian runners is 81.7 and that of non-vegetarian runners mean value is 85.1. Whose mean difference is 3.34? To check the significant difference of Aggression between vegetarian and non-vegetarian runners. The data was again analyzed by applying 'test. But before applying' test S.D. was calculated. S. D. of Vegetarian is 11.98 and that of non-Vegetarian runners is 7.86. It was found that there is no significant difference in Aggression of Vegetarian and non-vegetarian runners, because calculated 't'=0.30 which is less than Tabulated 't' = 2.04 at 0.05 level of significance.



**Graph 5:** Showing Comparison between Vegetarian and non-vegetarian runners of Sant Gadge Baba Amravati University, Amravati in Aggression

**Findings and conclusion**

The findings of this study show that there was partially significant difference among the Vegetarian and non-vegetarian runners of Kashmir University. A comparison of selected Physiological Variables indicated that there was no significant difference between Vegetarian and non-vegetarian runners of Kashmir University. A comparison of selected Psychological test indicated that there was no significant difference between Vegetarian and non-vegetarian runners of Kashmir University.

From the statistical analysis of the collected data, it is concluded that there is found no significant difference in the variables – blood pressure, exhale capacity, fat %, aggression among vegetarian and non-vegetarian, hence the hypothesis which is given by the researcher is rejected.

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