

## Comparative Study of Motor Fitness between Tribal and Non-Tribal Intercollegiate Male Soccer Players

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### Abstract

The main purpose of the study was to compare the cardiovascular endurance, agility, speed and explosive strength of the inter-collegiate football players. A total of eighty (80) subjects, comprising 40 Tribal, and 40 Non-tribal Of Intercollegiate Male Soccer Players in Jammu And Kashmir State. The Subjects were selected by using simple random sampling. The age of the subjects ranged between 18-28 years. To analyze the cardiovascular endurance, agility, speed and explosive strength Of the subjects of two the groups I.e. tribal and Non-tribal Intercollegiate Male Soccer Players belongs jammu and kashmir state. The following tests or equipments were used, Agility: Shuttle runs (4 x 10 yards). Equipment: Lime powder, flag, wooden blocks, score card, pen etc. Speed: 50 meter run. Equipment: Stop watch with split second time and marked track. Cardiovascular Endurance: Harvard step test. Equipment: A stop watch, 20 inch high bench, stethoscope, metronome and stair. Explosive Strength: (Standing broad jump). Equipment Required: Tape measure to distance jumped, non-slip floor for take-off, soft landing area preferred Tribal and Non-Tribal Intercollegiate Male Soccer Players. The analysis of data was done by using statistical technique 't'- test for finding the significance difference of cardiovascular endurance, agility, speed and explosive strength Of Non-Tribal Intercollegiate Male Soccer Players in jammu and kashmir state and the level of significance was set at 0.05 levels ( $p < 0.05$ ).

**KEYWORDS:** Cardiovascular Endurance, Agility, Speed And Explosive Strength, Tribal And Non-Tribal

### **Introduction:**

### **Motor Fitness:**

The term motor fitness is most often used synonymously with physical fitness by the coaches but it is very important for the physical education students to understand the basic difference between physical fitness and motor fitness. Physical fitness is used to denote only the five basic fitness components (muscular strength, muscular endurance, cardiovascular endurance, freedom from obesity and flexibility), whereas motor fitness is a more comprehensive term, which includes all the ten fitness components including additional five motor performance components (power, speed, agility, balance and reaction time), important mainly for success in sports. In other word, motor fitness refers to the efficiency of basic movements in additional to the physical fitness.

### **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.

**Muscular Power:**

Ability to release maximum muscular force rapidly in an explosive manner in the shortest duration is known as muscular power, for example standing broad jump or vertical jump performance.

**Agility:**

The speed with which an individual may change his body positions or fastness in changing directions while moving is known as agility. For example, shuttle run etc.

**Speed:**

The rapidity of muscle movement or the rate of change of body movement is known as muscular speed. Literality speed is measured by dividing distance by time in short run. However, in sports, time of sprint of 60 yaed dash itself is considered as a measure of one’s speed instead of converting it in meters per second it is recorded as seconds per 60 yard or per 30 M etc.

**Components of physical fitness and health –Related physical fitness:**

<p><b>General physical Fitness (Three Ss’)</b></p> <p>i. Strength      1. Muscular Strength          ii. Stamina      2. Muscular endurance          iii. Suppleness 3. Endurance          iv. Flexibility   4. Cardio pulmonary</p>	<p>Body composition or Freedom from excess fat or obesity</p>	<p>Health Related physical Fitness</p>
<p><b>Health-related physical Fitness components</b></p> <p>1. Muscular Strength.          2. Muscular Endurance          3. Cardio-Vascular          4. Flexibility          5. Freedom          6. From obesity          7. Endurance</p>	<p><b>Motor performance Components</b></p> <p>1. Power          2. Speed          3. Agility          4. Flexibility          5. Reaction-Time</p>	<p>Motor Fitness (10components)</p>

<p><b>Motor Fitness components</b></p> <p>1. Muscular Strength    5. Flexibility                  2. Muscular Endurance    6. Power                  3. Cardio-Vascular    7. Speed                  4. Freedom From    8. Endurance                  9. Agility Obesity    10. Reaction time</p>	<p><b>Motor Coordinating or Motor Control</b></p> <p>1. Hand eye co-ordination                  2. Foot eye co-ordination                  3. Whole Body co-ordination.</p>	<p>General Moor Ability (GMA) (113 items)</p>
<p>General Motor Ability 13 (items)</p>	<p>Skill ability or motor Educability (sports specific)</p>	<p>Sports Specific Motor Ability</p>

**Procedure and Methodology:**

A total of ninety (80) subjects were selected for the collection of data which include 40 Tribal and 40 Non-Tribal intercollegiate soccer players 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 18-28 years.

**Equipments Used For Collection of Data:**

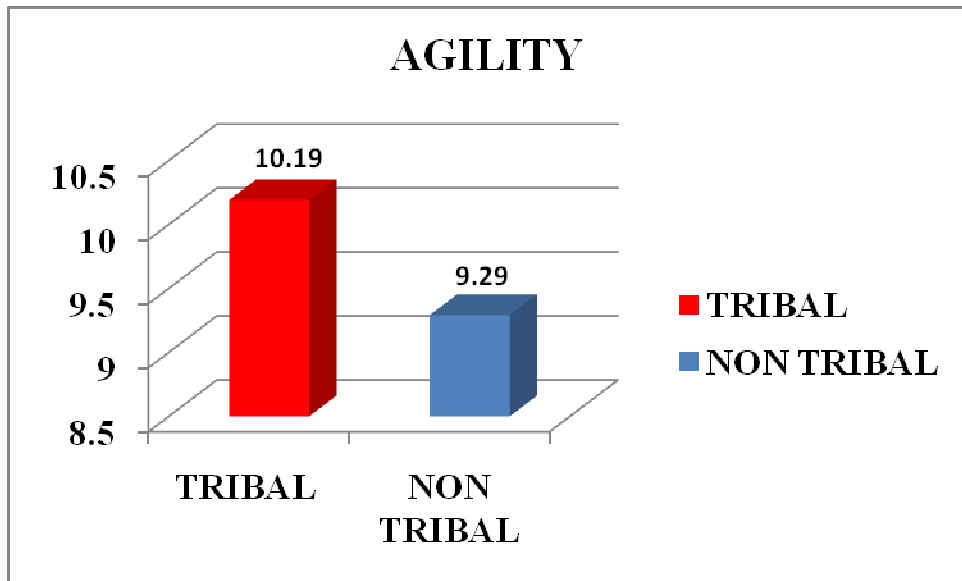
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**Table No. 1**

**Comparison in Agility of Inter Collegiate Tribal And Non Tribal Soccer Players**

Players	Mean	S.D.	M.D.	S.E.	D.F.	O.T.	T.T.
Tribal	10.19	0.71	0.91	0.35	78	2.31	2.00
Non-Tribal	9.28	0.36					

**Graph No. 1**  
**Graphical Representation of Mean Difference of Agility between Inter Collegiate Tribal And Non Tribal Soccer Players**

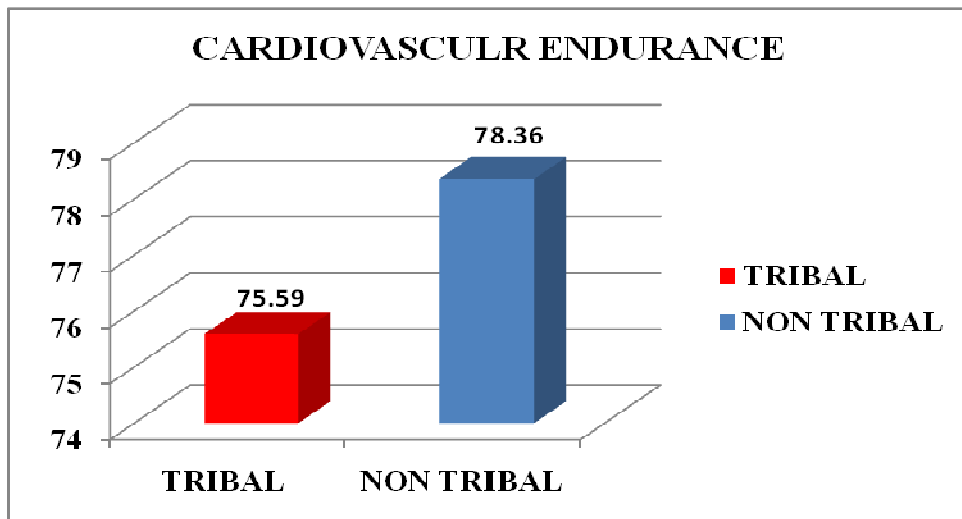


**Table No. 2**

**Comparison in Cardiovascular Endurance of Inter Collegiate Tribal And Non Tribal Soccer Players**

Players	Mean	S.D.	M.D.	S.E.	D.F.	O.T.	T.T.
Tribal	75.59	4.22	2.76	3.19	78	0.86	2.00
Non-Tribal	78.36	3.12					

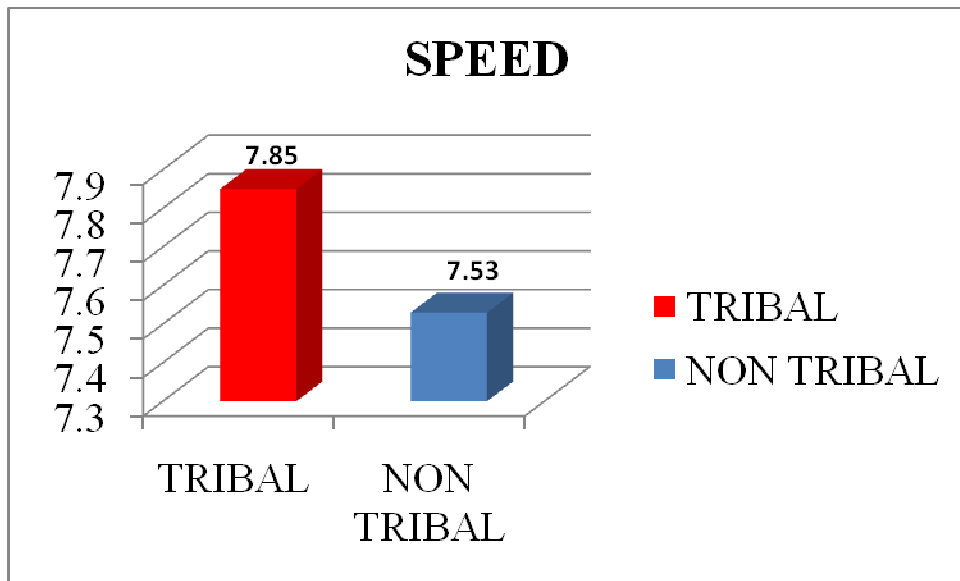
**Graph No. 2**  
**Graphical Representation of Mean Difference between Cardiovascular Endurance of Inter Collegiate Tribal And Non Tribal Soccer Players**



**Table No. 3**  
**Comparison in Speed of Inter Collegiate Tribal And Non Tribal Soccer Players**

Players	Mean	S.D.	M.D.	S.E.	D.F.	O.T.	T.T.
Tribal	7.89	0.26	0.32	0.24	78	1.33	2.00
Non-Tribal	7.53	0.23					

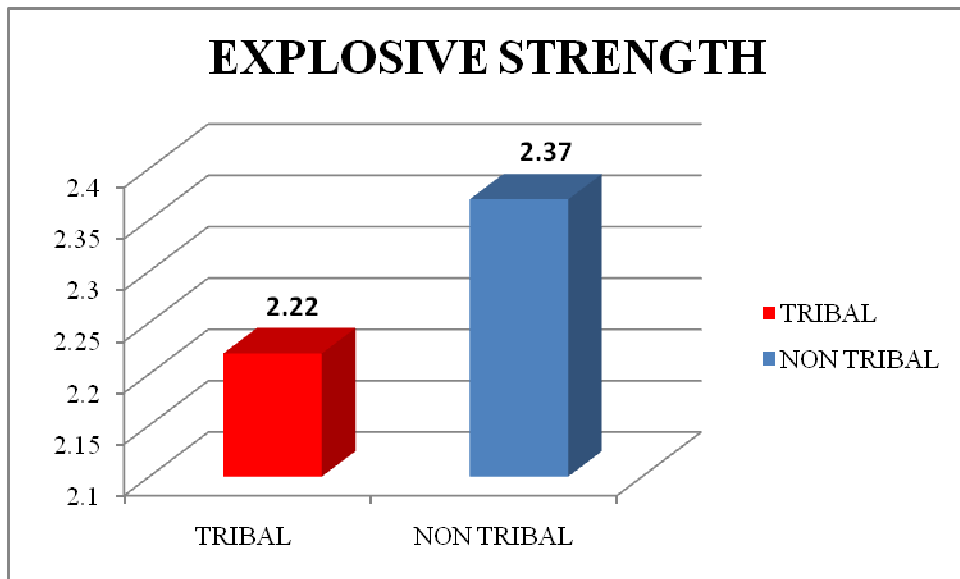
**Graph No. 3**  
**Graphical Representation of Mean Difference between Speed of Inter Collegiate Tribal And Non Tribal Soccer Players**



**Table No. 4**  
**Comparison in Explosive Strength of Inter Collegiate Tribal And Non Tribal Soccer Players**

Players	Mean	S.D.	M.D.	S.E.	D.F.	O.T.	T.T.
Tribal	2.22	0.07	0.14	0.16	78	0.85	2.00
Non-Tribal	2.37	0.16					

**Graph No. 4**  
**Graphical Representation of Mean Difference of Explosive Strength between Inter Collegiate Tribal And Non Tribal Soccer Players**



#### **Discussion of Hypothesis:**

In the beginning of this study it was hypothesized that there might be significant difference in selected motor fitness components between Inter Collegiate Tribal And Non Tribal Soccer Players. In overall numerical and statistical analysis the comparison of selected motor fitness components between Inter Collegiate Tribal And Non Tribal Soccer Players, it is found that there is insignificant difference in three motor fitness components speed, cardiovascular endurance and explosive strength between Inter Collegiate Tribal And Non Tribal Soccer Players, but found significant difference in agility only. Therefore the hypothesis which the researcher has given is partially accepted.

#### **Conclusion:**

The researcher compared the selected motor fitness components Tribal and Non-Tribal Intercollegiate Male Soccer Players Within the limitations of the present study and on the basis of findings it is concluded that there is significant difference in selected motor fitness components between the Cardiovascular Endurance, Explosive Strength and Speed of inter collegiate football players, but found insignificance of Agility. Hence the researcher's pre assumed has been partially accepted.

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