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Asish Biswas
Research Scholar, Department
of Physical Education,
University of Kalyani,
Kalyani, West Bengal, India

Dibyayan Ghosh
M.P.Ed Student, Department
of Physical Education and
Sports Science, Visva-Bharati
University, Santiniketan,
West Bengal, India

Madhab Chandra Ghosh
Professor, Department of
Physical Education,
University of Kalyani,
Kalyani, West Bengal, India

Corresponding Author:
Asish Biswas
Research Scholar, Department
of Physical Education,
University of Kalyani,
Kalyani, West Bengal, India

Comparative study on fitness, body mass index (BMI) and achievement motivation of tribal and non-tribal male football players

Asish Biswas, Dibyayan Ghosh and Madhab Chandra Ghosh

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Abstract

Physical fitness is an important aspect for better football playing ability but psychological ability also plays an important role for better performance. So the researcher worked on physical fitness, body mass index (BMI) and achievement motivation of football players. The purpose of the study was to identify the present status and differences of fitness, body mass index (BMI) and achievement motivation between tribal and non-tribal male football players. Twenty (20) tribal and twenty (20) non-tribal, total forty (40) district level male football players between 20-26 years of age were selected as the subject of this study. Selected fitness components, body mass index (BMI) and achievement motivational level were measured through standard procedures. After collected the data Mean, SD and 't' were computed and results were analyzed. On the basis of result following conclusions were drawn - no significant differences were found in fitness, body mass index (BMI) and achievement motivation of tribal & non-tribal male footballers. So the present study results were revealed that the fitness, body mass index (BMI) and achievement motivational level of tribal and non-tribal male footballers were more or less similar.

Keywords: tribal, non-tribal, fitness, BMI, achievement motivation

1. Introduction

The game of football is both an art and science. It involves techniques of running, passing, kicking, tackling, blocking, heading, juggling and dribbling. Often all these activities have to be performed at great speed. Therefore a player must develop his skills and understanding for his contribution as per the demands of the game. The game of football contains physical challenges. Though two players may be equal in their skills but different of their physical and mental responses, there can be much difference in their performance.

Physical fitness has a very important role for performance of the player. Therefore physical fitness is an important aspect for better football playing ability but psychological ability also plays an important role for better performance. The body mass index (BMI) also related to the fitness of a player. So the researcher worked on physical fitness, body mass index (BMI) and achievement motivation of football players.

Physical fitness is a state of health and well-being and, more specifically, the ability to perform aspects of sports, occupations and daily activities. The ability of an individual to perform fundamental motor skills such as jumping, running and dodging, which involve the basic element of power, speed, agility and endurance. Football is various movement oriented game. So, physical fitness is the most important aspect for better performance of a player.

Body mass index or BMI is a valuable indicator for general health status and also assessing the physical fitness of an individual. Body mass index (BMI) is a value derived from the mass and height of a person, which shows whether people have the right weight for their height. The BMI is defined as the body mass divided by the square of the body height, and is universally expressed in units of kg/m², resulting from mass in kilograms and height in meters. A BMI chart was given below.

Table 1: BMI Chart

Weight Status	
Below 18.5	Underweight
18.5 – 24.9	Normal or Healthy Weight
25.0 – 29.9	Overweight
30.0 And Above	Obese

In other side achievement motivation typically refers to the level of one's motivation to engage in achievement for achieving the goal. Behavior based on the interaction of such parameters as need for achievement, expectancy of success and the incentive value of success. So achievement motivation is also an important aspect for better performance.

In the game of football, a player must be quick in assessing a situation and in his response. Therefore having a great football IQ and being a great decision maker makes every skill that we have and everything we do much more effective. But the physical fitness and achievement motivation both were basic and also very important aspects for better performance of the players. That's why the researcher wanted to see how the fitness and achievement motivation were varied in different football players.

The purpose of the study was to identify the present status and differences of fitness, body mass index (BMI) and achievement motivation between tribal and non-tribal male football players.

Purpose of the study was summarized as

1. To identify the present status of fitness, body mass index (BMI) and achievement motivation of tribal and non-tribal male football players.

2. To observe the differences of fitness, body mass index (BMI) and achievement motivation between tribal and non-tribal male players.

2. Materials and Methods

Twenty (20) tribal and twenty (20) non-tribal, total forty (40) district level male football players between 20-26 years of age were selected as the subject of this study.

Selected fitness components, body mass index (BMI) and achievement motivational level were measured through standard procedure. The physical fitness components such as leg explosive strength was measured through vertical jump, muscular strength endurance was measured through chin up and agility was measured through 4x10m shuttle run. Overall the fitness measured with composition of above three physical fitness tests score. The body mass index (BMI) of the subjects was measured through BMI calculator and achievement motivational level of the subjects was measured through "Deo-Mohan Achievement Motivation Scale" questionnaire. Age, Height and Body Weight were also measured as personal data of the subjects.

3. Results and Discussion

3.1 Personal Data of the Subjects

The Mean and SD values of Age, Height and Weight for tribal and non-tribal male footballers were presented in table no-2.

Table 2: Mean and SD Value of Personal Data of Tribal and Non-Tribal Male Footballers

Variables	Tribal		Non-Tribal	
	Mean	SD (\pm)	Mean	SD (\pm)
Age (yr.)	22.10	1.94	19.95	1.61
Height (cm.)	165.50	6.35	166.30	3.63
Weight (kg)	58.50	9.98	56.15	4.66

It appears from table no-2 that the Mean value of Age, Height and Weight of tribal male footballers were 22.10, 165.50 and 58.50 with SD of ± 1.94 , ± 6.35 and ± 9.98 respectively. Similarly the Mean value of Age, Height and Weight of non-tribal male footballers were 19.95, 166.30 and 56.15 with SD of ± 1.61 , ± 3.63 and ± 4.66 respectively.

From the above table it was also observed that the Age, Height and Weight of both tribal and non-tribal male footballers were more or less similar.

3.2 Fitness of Tribal and Non-Tribal Male Footballers

The Mean, SD and t-value of fitness for tribal and non-tribal male footballers were presented in table no-3.

Table 3: Mean, SD, Mean Difference, SE_D and t-Value of Fitness for Tribal and Non-Tribal Male Footballers

Components	Subjects (Group)	Mean	SD (\pm)	Mean Difference	SE _D	t _{value}	Remarks
Explosive Strength (cm.)	Tribal	33.90	6.54	0.65	2.17	0.30	Not Sig. at 0.05 level
	Non-Tribal	34.55	7.16				
Muscular Strength Endurance (no.)	Tribal	9.35	3.25	1.10	0.95	1.16	Not Sig. at 0.05 level
	Non-Tribal	10.45	2.74				
Agility (sec)	Tribal	10.69	0.46	0.13	0.19	0.65	Not Sig. at 0.05 level
	Non-Tribal	10.56	0.72				
Fitness (score)	Tribal	148.74	16.23	2.53	5.15	0.49	Not Sig. at 0.05 level
	Non-Tribal	151.26	16.33				

$t_{0.05, 38} = 2.02$

It appears from table no-3 that the Mean values of explosive strength for tribal and non-tribal male footballers were 33.90

and 34.55 with SD of ± 6.54 and ± 7.16 respectively. And the t-value found 0.30, which was not significant.

The Mean values of muscular strength endurance for tribal and non-tribal male footballers were 9.35 and 10.45 with SD of ± 3.25 and ± 2.74 respectively. And the t-value found 1.16, which was not significant.

The Mean values of agility for tribal and non-tribal male footballers were 10.69 and 10.56 with SD of ± 0.46 and ± 0.72 respectively. And the t-value found 0.65, which was not significant.

Likewise the Mean values of fitness for tribal and non-tribal male footballers were 148.74 and 151.26 with SD of ± 16.23 and ± 16.33 respectively. And the t-value found 0.49, which was not significant.

On the basis of the above analysis of results it was observed that, there were no significant differences found in fitness & its components of tribal and non-tribal male footballers in this present study.

Previous studies had provided theories on physical fitness of tribal and non-tribal populations. From the study of Mina Saha ^[11] it was found that, the composite mean scores of

selected physical fitness variables of tribal students were higher than their non-tribal counterparts but none of the differences in the mean was found statistically significant at 5% of confidence. In other side Beda Ch. Devi ^[12] concluded in her studies that, the tribal (boys and girls) were superior in explosive strength, agility and dynamic flexibility than the non-tribal (boys and girls). The non-tribal (boys and girls) were better in extend flexibility and endurance than the tribal (boys and girls).

From the previous studies and the present study results were revealed that the fitness & its components of tribal and non-tribal male footballers were more or less similar.

3.3 Body Mass Index (BMI) of Tribal and Non-Tribal Male Footballers

The Mean, SD and t-value of body mass index (BMI) for tribal and non-tribal male footballers were presented in table no-4.

Table 4: Mean, SD, Mean Difference, SE_D and t-Value of Body Mass Index (BMI) for Tribal and Non-Tribal Male Footballers

Content	Subjects (Group)	Mean	S.D (±)	Mean Difference	SE _D	t _{value}	Remarks
BMI (kg/m ²)	Tribal	21.30	3.02	1.00	0.75	1.33	Not Sig. at 0.05 level
	Non-Tribal	20.30	1.48				

t_{0.05} 38 = 2.02

It appears from table no-4 that the Mean values of body mass index (BMI) of tribal and non-tribal male footballers were 21.30 and 20.30 with SD of ± 3.02 and ± 1.48 respectively. And the t-value found 1.33, which was not significant.

On the basis of the above analysis of result it was observed that, there was no significant difference found in body mass

index (BMI) of tribal and non-tribal male footballers in this present study.

3.4 Achievement Motivation of Tribal and Non-Tribal Male Footballers

The Mean, SD and t-value of achievement motivation for tribal and non-tribal male footballers were presented in table no-5.

Table 5: Mean, SD, Mean Difference, SE_D and t-Value of Achievement Motivation for Tribal and Non -Tribal Male Footballers

Component	Subject (Group)	Mean	SD (±)	Mean Difference	SE _D	t _{value}	Remarks
Achievement Motivation	Tribal	27.00	6.17	2.00	1.98	1.01	Not Sig. at 0.05 level
	Non-Tribal	29.00	6.34				

t_{0.05} 38 = 2.02

It appears from table no-5 that the Mean values of achievement motivation of tribal and non-tribal male footballers were 27.00 and 29.00 with SD of ± 6.17 and ± 6.34 respectively. And the t-value found 1.01, which was not significant.

On the basis of the above analysis of result it was observed that there was no significant difference found in achievement motivation of tribal and non-tribal male footballers in this present study.

Previous studies of Ushaben C. Ninama ^[9], there was no significant difference between the mean score of the achievement motivation among the tribal and non-tribal college students. In another side C. Sarangi ^[10] also found in his study that there was no significant difference between tribal and non-tribal (boy-girl) students in achievement motivation.

So from the previous studies and the present study results revealed that the achievement motivation of tribal and non-tribal male footballers was more or less similar.

4. Conclusion

1. On the basis of analysis of result and limitation of the study the following conclusions were drawn:

2. There were no significant differences found in fitness and its components of tribal & non-tribal male footballers in this present study.
3. There was no significant difference found in achievement motivation of tribal and non-tribal male footballers in this study.
4. There was no significant difference found in body mass index (BMI) of tribal and non-tribal male footballers in this present study.

So from this study it may be concluded that, the fitness and achievement motivation is necessary for achieving high performance in football which does not highly differ between same field players. These will be more or less similar in same level of players.

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