Arup Mahato
Research Scholar Department of
Physical Education Jadavpur
University, Kolkata,
West Bengal, India

Dr. Atanu Ghosh
Assistant Professor Department
of Physical Education Jadavpur
University, Kolkata,
West Bengal, India

A comparative study on physical fitness between under 17 years state football and hockey players

Arup Mahato and Dr. Atanu Ghosh

Abstract
Today, there is a growing emphasis on looking good, feeling and living longer. Increasingly, scientific evidence tells us that one of the keys to achieve these ideals is fitness and exercise. Get moving on is a challenge because today physical activity is less a part of our daily lives. The decision to carry out a physical fitness programme cannot be taken lightly. It requires a lifelong commitment of time and effort.
Purpose of the study: To find out the physical fitness of under 17 year state Football and Hockey players. To compare physical fitness between the Football and Hockey players. The result would provide useful information for future research.
Methodology: Total 40 male students were selected for this study. Among the subjects, 20 were in Football group and 20 were from Hockey group. The subjects were taken from Balurghat Town Club and Dakshin Dinajpur D.S.A.
Result and conclusions: In the present study Football group have maximum abdominal strength and endurance in comparison to Hockey group, Football group is better in speed than Hockey group. In Shuttle run (10 x 4 yard) and 600 yard run Hockey group is shows higher values and more consistent than Football group.

Keywords: Physical fitness of under 17 year state Football and Hockey players

Introduction
Today, there is a growing emphasis on looking good, feeling and living longer. Increasingly, scientific evidence tells us that one of the keys to achieve these ideals is fitness and exercise. Get moving on is a challenge because today physical activity is less a part of our daily lives. There are few jobs that require physical exertion. We have become a mechanical mobile society, relying on machines rather than muscles to get around. In addition, we have become a nation of observes with more people (including children) spending their leisure time pursuing just that – leisure. Consequently, statistics show that obesity and overweight, the problems that come with high blood pressure, diabetes, cardiac arrest etc. are on the rise.
The decision to carry out a physical fitness programme cannot be taken lightly. It requires a lifelong commitment of time and effort. Exercise must become one of those things that you do without question, like bathing and brushing your teeth. Unless you were convinced of the benefits of fitness and the risks of unfitness, you will not succeed. It has been realized that fitness adds not only years to one's life, but life to one's years.
It is to remember that fitness is an individual quality that differs from person to person. It is influenced by age, sex, heredity, personal habits, exercise eating habits, diet, and attitude toward life, anxiety, tension and stress, values of physical fitness.

Purpose of the Study
➢ To find out the physical fitness of under 17 year state Football and Hockey players.
➢ To compare physical fitness between the Football and Hockey players.
➢ The result would provide useful information for future research.

Methodology
SUBJECT: Total 40 male students were selected for this study. Among the subjects, 20 were in Football group and 20 were from Hockey group. The subjects were taken from Balurghat Town Club and Dakshin Dinajpur D.S.A. The age of the subjects ranges from 14-17 years.

Correspondence
Arup Mahato
Research Scholar Department of
Physical Education Jadavpur
University, Kolkata, West
Bengal, India

Criterion Measure
For the fulfillment of the purpose of the study the research collected the age, Height and Weight of the subject and AAHPERD Youth Fitness Test battery were conducted among the subject

Equipment for Collection of Data
Equipment's were used for the test, which were –
1. Measuring steel tape
2. Lime dust
3. Two wooden block (2" x 2" X 4")
4. A wooden or metal bar approx. 1.5" in diameter a piece of pipe for pull up.
5. Stop watch

Procedure for Collection of Data
Age: The age of the subject collected from the admission date of birth certificate. According to the birth certificate those who were ranging from 14 years 6 months of under 17 years were considered as the population of the study among them only 20 subjects was selected of National level.

Height: The height of the subjects was taken in centimeter.

Weight: The weight of the subjects was taken in pounds.

AAHPERD Youth Fitness Test: The AAHPERD Youth Fitness Test had been constructed with 6 test items i.e. 50 Yard dash, Bent-knee sit up, 10 x 4 Yard shuttle run, Standing broad jump, Pull up, 600 Yard run.

Analytical procedure
After collecting the data to reach into the result and conclusion the following statistical calculation is adopted Mean and Standard Deviation as descriptive statistics and "t" value (mean difference)

Result and Discussion
In this chapter the collected data, presented and analysis of the data, interpretation of results and testing of hypothesis had been presented.

The Data
The performance score of six items of AAHPERD Youth Fitness Test were obtained and presented below-

The Presentation and Analysis of Data

Table 1: Represent the MEAN and S.D values of age, Height and Weight of the Football and Hockeyplayers' were calculated as comparative statistics.

Players	No.		Age (year)	Height (cm)	Weight (k.g.)
Football	10	Mean	15.1	171.59	57.4
		SD	±0.7	±9.04	±4.94
Hockey	10	Mean	16.5	170.68	55.7
		SD	±0.80	±2.35	±5.13

From Table- 1, it appeared that the mean & S.D of Age, Height and Weight of the Football and Hockey Players. The Football players (Mean- 15.1) were slightly below Ages than Hockey Players (Mean- 16.5). The Height of the Football Players (Mean- 171.59) & Hockey Players (170.68) were almost same. Football Players (Mean- 57.4) body weight was greater than Hockey Players (Mean- 55.7).

The Mean and S.D values of Age, Height and Weight of the Football & Hockey groups were shown in the figure, given below:
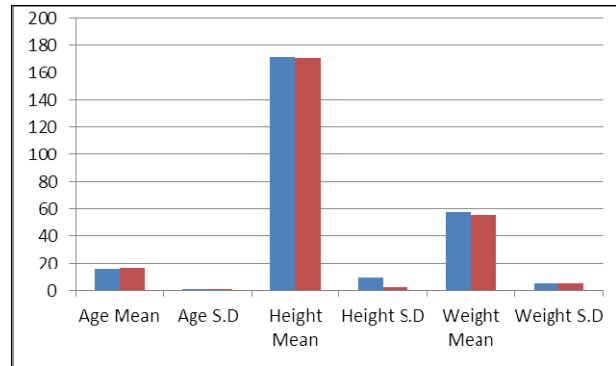

Fig 1: Graphical representation of Mean and SD of Height and Weight of Football and Hockey Groups.

Table 2: Mean, S.D and "t" value of PULL UP of Football and Hockeygroups:

Test Items	Football Players		Hockey Players		"t" value
Pull Up	Mean	87	Mean	76	1.92
	S.D	7.14	S.D	15.93	

df = 18, 't' value at 0.05 level = 2.10, not significant

From the Table- 2, it appeared that the Mean and S.D of the Football group were 87 & 7.14 and 76 & 15.93 for Hockey group.
Comparing the mean value of two different groups it were observed that there were difference in value exist. To observe that the significant difference between't' were calculated and found 1.92 which were not significant at 0.05 levels.
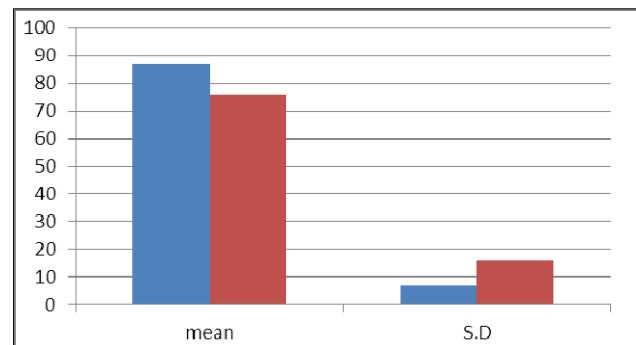

Fig 2: Graphical representation of Mean and SD of pull up of Football and Hockey Groups.

Table 3: Represents the mean, S.D and "t" value of BENT KNEE SIT UPS of Football and Hockey groups:

Test Items	Football Players		Hockey Players		"t" value
Bent knee sit up	Mean	51.5	Mean	44.5	0.14
	S.D	33.61	S.D	24.74	

df = 18, 't' value at 0.05 level = 2.10, not significant

From Table- 3, it appeared that the mean & S.D of the Football group was 51.5 & 33.61 and 44.5 & 24.74 for Hockey group.
Though, comparing the mean value of two different groups it was observed that there were difference in value exists and Football group were better than Hockey group. To observe that the significant difference between 't' was calculated and found 0.14 which were not significant at 0.05 levels.

Fig 3: Graphical representation of Mean and SD of Bent knee Sit up of Football and Hockey Groups**.**

Table 4: Represents the mean, S.D and 't' value of Shuttle Run of Football and Hockey group

Test Items	Football Players		Hockey Players		"t" value
Shuttle run	Mean	40	Mean	49.5	0.82
	S.D	30.41	S.D	17.38	

df = 18, 't' value at 0.05 level = 2.10, not significant

From table- 4, it appeared that the mean and S.D of Football groups were 40 & 30.41 and Hockey groups were 49.5 & 17.38.

Though, it was not significant, but Hockey players were better than Football players in Shuttle run.
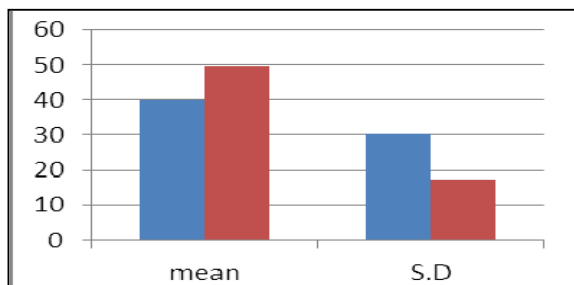

Fig 4: Graphical representation of Mean and SD of Shuttle Run of Football and Hockey Groups**.**

Table 5: Represents the mean, S.D and 't' value of Standing Broad Jump of Football and Hockey groups

Test Items	Football Players		Hockey Players		't' value
Standing broad jump	Mean	83.5	Mean	56.5	2.75*
	S.D	16.74	S.D	24.80	

df = 18, 't' value at 0.05 level = 2.10, * significant

From Table- 5, it was appeared that so mean & S.D were respectively 83.5 & 16.74 and 56.5 & 24.80 for Football and Hockey groups respectively.

If we compared the mean value there were different in values exist. To observed that the significant difference between means 't' were calculated and found 2.75 which were *significant at 0.05 level but not significant at 0.01 level
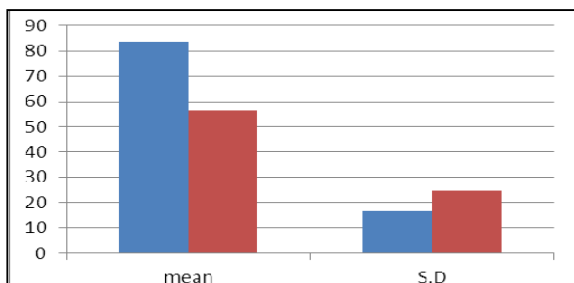

Fig 5: Graphical representation of Mean and SD of Standing Broad Jump of Football and Hockey Groups

Table 6: Represents the mean, S.D and 't' value of 50 yard dash of Football & Hockey groups –

Test Items	Football Players		Hockey Players		't' value
50 yard dash	Mean	57	Mean	28.5	3.39**
	S.D	23.57	S.D	10.01	

df = 18, 't' value at 0.05 level = 2.10 & 0.01 level = 2.88 ** significant

From Table- 6, it appears that the mean & S.D of Football group were 57 & 23.57 and Hockey group were 28.5 & 10.01 respectively.

Comparing the mean value of two different groups were found that there were difference in values exist. To observed that the significant difference between means 't' was calculated and found to be 3.39 which were **significant at 0.05 level & 0.01 level.
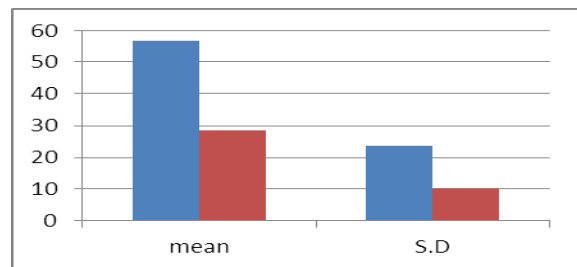

Fig 6: Graphical representation of Mean and SD of 50 yard dash of Football and Hockey Groups

Table 7: Represents the mean, S. D and 't' value of 600 Yard Run of Football and Hockey groups

Test Items	Football Players		Hockey Players		't' value
600 yards run	Mean	62	Mean	64	0.25
	S.D	13.45	S.D	19.33	

df = 18, 't' value at 0.05 level = 2.10, not significant

From Table- 7, it appears that the mean and S.D of Football group were 62 & 13.45 and 64 & 19.33 for Hockey group.

Comparing the mean value of two different groups it was found that there were different values exist. To observed that the significant difference between means 't' was calculated and found to be 0.25 which were not significant at 0.05 levels.
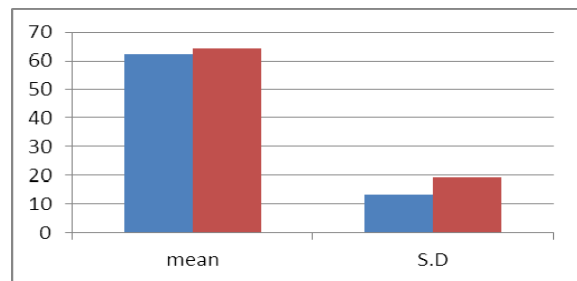

Fig 7: Graphical representation of Mean and SD of 600 yard Run of Football and Hockey Groups

Conclusion
From the above result and discussion the following conclusion is drawn:
The Football players are slightly below ages than Hockey Players.
- ❖ The height of the Football Players and Hockey Players is almost same.
- ❖ Football Players body weight is greater than Hockey Players.

❖ Football group performed better than Hockey group in pull ups.
❖ The result of Bent knee sit up shows that Football group have maximum abdominal strength and endurance in comparison to Hockey group.
❖ In Shuttle run (10 x 4 yard) the Hockey group is shows higher values and more consistent than Football group.
❖ Standing broad jump, the researcher found that the Football group are better than Hockey group.
❖ The Football group in 50mt. Dash is superior to Hockey group which means the Football group is better in speed than Hockey group.
❖ In 600 yard run there are very little difference between the Football and Hockey groups, where Handball group are shows better result than Football group.

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