



# ‘A Comparative Study of Physical Fitness Component of football and Handball Players of Haryana State’

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## Abstract

In the present study, To find out the difference between the Physical Fitness Component of football player and handball player. The present study was conducted on 200 state level players out of which 100 were football and 100 were handball players and the age limit was 13-17 years. We selected twenty districts of Haryana. To compare the physical fitness components measurement such as strength, flexibility, agility, endurance, speed was selected for the study. The data was used to analyze by t-test.

**Key words:** Pull ups, Bent knee sit ups, Strength, flexibility, agility, endurance, speed, handball, football, players, physical fitness components etc.

## Introduction

Fitness can be defined as the ability to meet the demands of a physical task. Fitness is comprised of many different components. Basic fitness can be classified in four main components: strength, speed, stamina and flexibility. However, exercise scientists have identified nine components that comprise the definition of fitness. Components of physical fitness is strength, flexibility, agility, endurance, speed. For measurement the Components of physical fitness by aaper physical fitness test.

## Objective of the study

To find out the difference between the strength of football player and handball player

**Bovet et.al. (2019)** studied prominent Anthropometric and Physical fitness factors among national level men softball players in Kerala. A total of 40 men softball players with age ranging from 17-25yrs were selected for the study. Twelve Anthropometric variables which include Height, Weight, Sitting height, Leg length, Arm length, Thigh girth, Calf girth, Ponderal Index, Crural Index, Body mass index, Biceps circumference and Mid forearm circumference were considered for the study. The Physical fitness tests included Speed (40mts flying start), Endurance (1200 mts), Agility (4x10 shuttle run), Flexibility (sit and reach), abdominal strength (sit up in minutes), static balance, leg explosive strength (standing broad jump),

hand explosive strength (cricket ball throw). It was conclude that anthropometric variables like weight, girth, forearm circumference, leg length and in physical fitness variables leg explosive strength, abdominal strength and cardio vascular endurance were more prominent among men softball players. Based on the study, the recommendations include anthropometric and physical fitness variables may be conducted using university level men softball players, similar studies may be conducted using female Hockey players of other states and similar study may be conducted using female softball players.

**Desouza, S. (1993)** conducted a study to find out the difference level of physical fitness among cricketers and softball players. The sample of 120 players in which 60 from cricket and 60 from softball has been taken from Dr. B R Ambedkar UG and PG College, Baghlingampally and their age range from 18 to 24 years. Physical fitness components like leg power, arm strength, speed, flexibility and endurance have taken into consideration for the present study the level of difference among cricketers and softball players. In this study the data was collected to use the various test items which taken from different physical fitness batteries. The data was composed , leg power was measured by standing broad jump, arm strength was measured by using 6Lbs medicine ball put test , 50 yard dash test was measured for speed, flexibility was measured by Kraus-Weber floor touch test and 12 min run and walk trial was use to assess endurance. To compute the raw data mean, standard deviation and Z ration were employed for statistical analysis. Results shows that both cricketers and softball players have shown similar level of performance in trunk flexibility and endurance and cricketers have better performance in three physical fitness components like Leg power, Arm strength and speed.

### **Research Methodology**

The present study was conducted on 200 state level players out of which 100 were football and 100 were handball players and the age limit was 13-17 years. We selected twenty districts of Haryana. Electronic stop watch, a mat was used as tools for data collecting.

### **Selection of variable**

To measure the abdominal strength of the subject

### **Statistical technique**

For the present study, the Mean, Standard Deviation and ‘t’ value was applies to analyze the data.

## Data Analysis and Interpretations

**Table 4.1: Mean, Standard Deviation and 't' value for means scores of pulls-up of football and Handball players (In numbers)**

Sr. No.	Variable	Group	N	Mean Score	S.D.'s	t-value
1.	Pulls-up	Football Players	100	5.65	1.855	14.297**
		Handball Players	100	9.93	2.349	

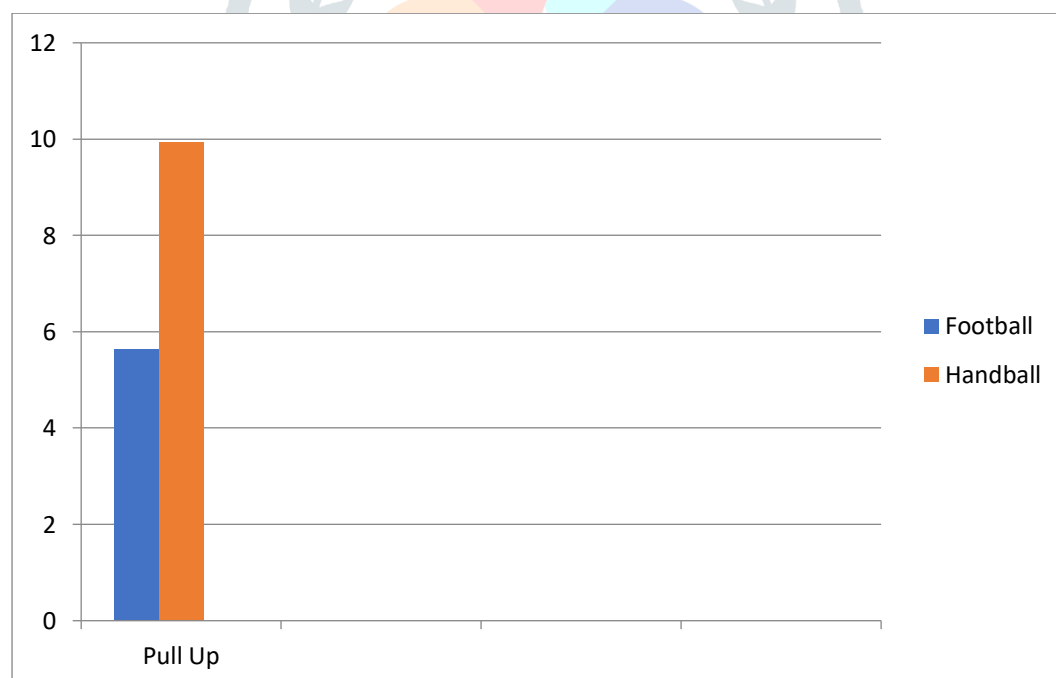
\*\* Significant at 0.01 level

Tabulated Value : 1.97 at 0.05 level

2.59 at 0.01 level

The table 4.1 reveals that the t-value (14.297) for the mean scores of pulls-up of football and handball players of Haryana is significant at 0.01 level of significance. In this situation, the null hypothesis that "There will be no significant difference in strength of football and handball players of Haryana" is rejected. So it was found that there is a significant difference in football and handball players regarding arms and shoulder strength. The mean score of handball players (9.93) was higher than football players (5.65). It shows that handball players were better in strength as compared to football players.

**Bar Chart 4.1: Pulls-up of football and handball players (In Numbers)**



**Table 4.2: Mean, Standard Deviation and ‘t’ value for means scores of sit-ups of football and handball players (Total sit-ups in 1 minute)**

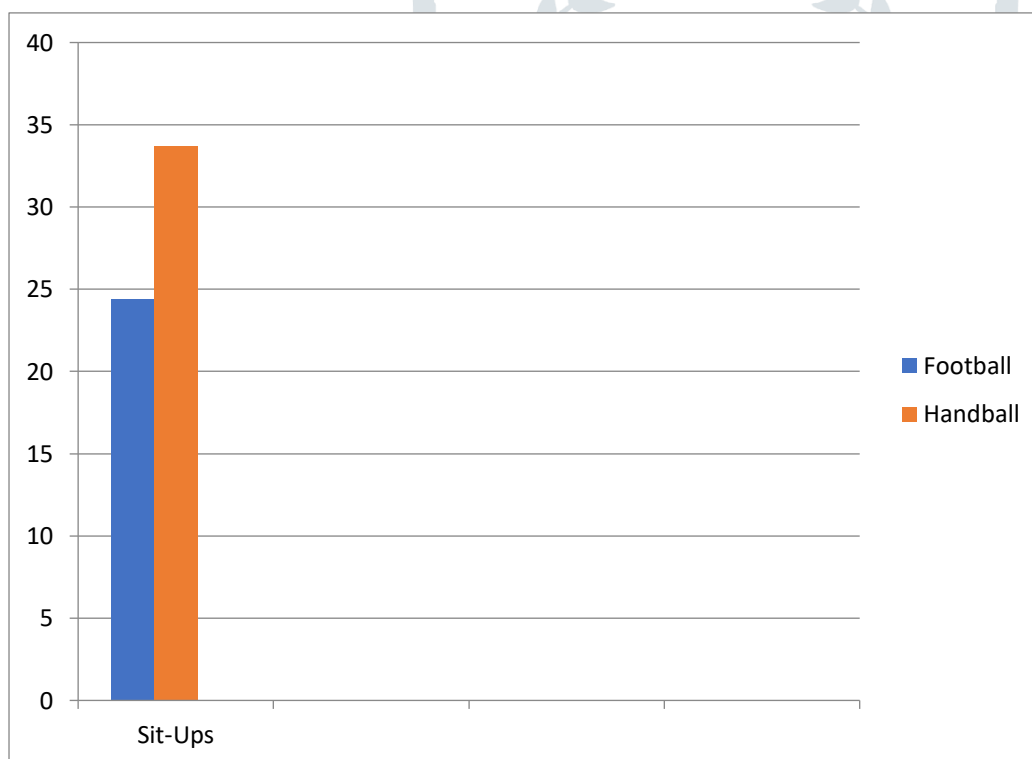
Sr. No.	Variable	Group	N	Mean Score	S.D.'s	t-value
1.	Sit-ups	Football Players	100	24.41	3.71	11.130**
		Handball Players	100	33.70	7.47	

\*\* Significant at 0.01 level

Tabulated Value : 1.97 at 0.05 level

2.59 at 0.01 level

The table 4.2 reveals that the t-value (11.130\*\*) for the mean scores of sit-ups of football and handball players of Haryana is significant at 0.01 level of significance. In this situation, the null hypothesis that “There will be no significant difference in flexibility of football and handball players of Haryana” is rejected. So it was found that there is a significant difference in football and handball players regarding flexibility and abdominal strength. The mean score of handball players (33.70) was higher than football players (24.41). It shows that handball players were better in flexibility as compared to football players.

**Bar Chart 4.2: Sit-ups of football and handball players (In 1 Minute)****Conclusion:-**

1. The mean scores of pulls-up of football and handball players of Haryana is significant at 0.01 level of significance. In this situation, the null hypothesis that “There will be no significant difference in strength of football and handball players of Haryana” is rejected.

2. The mean scores of sit-ups of football and handball players of Haryana is significant at 0.01 level of significance. In this situation, the null hypothesis that “There will be no significant difference in flexibility of football and handball players of Haryana” is rejected.

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