

Speed Ability among Collegiate Level Football players

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Abstract: Despite the importance of speed in sports performance, limited studies have compared speed abilities between football players and non-football players using standardized field tests such as the 50 Yard Dash Run. Hence, the present study was undertaken to compare the speed performance of football players and non-football players. The purpose of the present study was to compare the speed performance of football players and non-football players and to examine the effect of resistance training on speed among physical education students. A total of **40** football players and non-football players were selected as subjects and randomly divided into two equal groups. The results revealed a statistically significant difference in speed performance between football players and non-football players, with football players demonstrating superior speed.

INTRODUCTION

Speed is one of the most essential components of physical fitness and plays a crucial role in the performance of athletes, particularly in team sports such as football. Speed refers to the ability of an individual to move the body or its parts swiftly from one point to another and is considered a key determinant of success in activities involving sprinting, acceleration, and rapid changes of direction (Bompa & Buzzichelli, 2019). In football, speed is vital for offensive and defensive actions, including chasing the ball, outrunning opponents, and responding quickly to game situations.

Football is a high-intensity intermittent sport that demands repeated bouts of sprinting, jumping, tackling, and rapid directional changes. Due to these demands, football players generally exhibit superior speed and power characteristics compared to non-athletes or individuals not engaged in systematic sports training (Reilly, Bangsbo, & Franks, 2000; Bansode Singh, 2022f; Bansode & Singh, 2022g). Regular participation in football enhances neuromuscular coordination, muscular strength, and anaerobic capacity, all of which contribute significantly to speed development (Sheppard & Young, 2006). In contrast, non-football players or individuals who do not engage in regular structured physical training may lack adequate exposure to high-intensity movements and strength-based exercises. As a result, their speed performance may be comparatively lower due to reduced muscular strength, power, and neuromuscular efficiency (Singh, 2024; Singh, 2024a). Baechle & Earle, 2008).

Methods

Research Design

The present study adopted a non-experimental descriptive research design with Football and Non-Football Players.

Participants

A total of **40 Football and Non-Football Players** participated in the study. The participants were randomly divided into two groups:

1. **Football Players (n = 20)**
2. **Non-Football Players (n = 20)**

with their routine physical activities without any specialized training intervention.

Parameter Measurement

Speed was selected as the dependent variable and was measured using the **50 Yard Dash Run Test**. The purpose of

this test was to assess the sprinting speed of the participants. The test is suitable for both boys and girls aged **8 years and above**.

Equipment

The following equipment was used for the test:

1. Athletic track, playground, or football field of the required length
2. Clearly marked starting and finish lines
3. Two stopwatches capable of recording time up to **0.01 second**

Test Administration

Prior to testing, participants were given detailed instructions regarding the test procedure. Each subject was instructed to take a starting position behind the starting line and wait for the signal. On the command “Go”, the subject was required to sprint as fast as possible toward the finish line.

All participants performed a **proper warm-up** before the test. Subjects were tested preferably in pairs. One timer was assigned to each subject at the finish line. The tester gave the commands “Ready, Steady, Go”, which were clearly audible to both the subjects and the timers.

At the command “Go,” the timers started their stopwatches and the subjects began sprinting. Timing was stopped the moment the subject crossed the finish line. Time was recorded to the nearest **0.01 second**. Only **one valid trial** was permitted. If a subject started before the command “Go” or failed to respond promptly, the trial was repeated. In some cases, a gunshot was used to ensure simultaneous start for both timers and subjects, especially for sprints exceeding 40 yards.

Scoring

The score was the **time taken to cover 50 yards**, measured from the starting signal to the moment the subject crossed the finish line. The time was recorded in seconds to the nearest hundredth of a second.

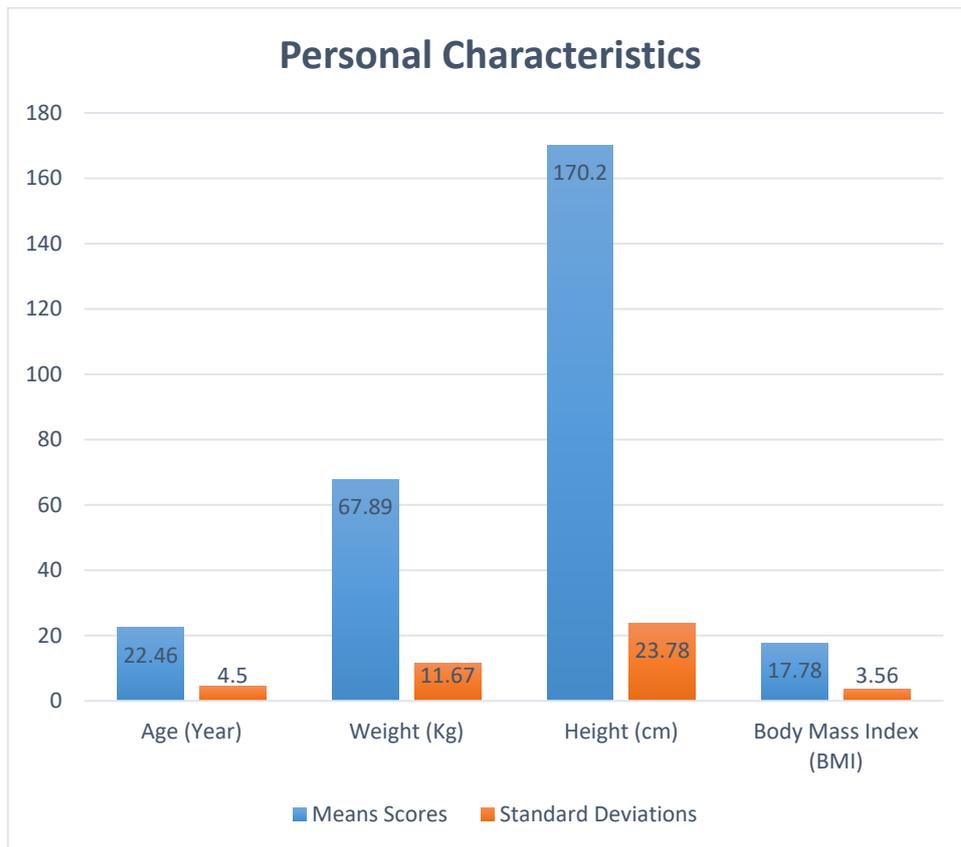
RESULTS AND DISCUSSION

Table –1, Indicates that Mean Scores and Standard Deviations of selected components of the Football Players

Sr. No.	Components	Means Scores	Standard Deviations
1.	Age (Year)	22.46	4.50
2.	Weight (Kg)	67.89	11.67
3.	Height (cm)	170.20	23.78
4.	Body Mass Index (BMI)	17.78	3.56

The table presents the mean scores and standard deviations of selected anthropometric and demographic components of football players. The mean age of the football players was **22.46 years** with a standard deviation of **4.50**, indicating that most players were young adults with moderate age variability. The average body weight was **67.89 kg** (SD = **11.67**), reflecting noticeable variation in body mass among the players, which may be attributed to differences in playing positions, training status, and individual physique.

The mean height of the players was **170.20 cm** with a relatively high standard deviation of **23.78**, suggesting substantial variation in stature within the group. This variation may influence playing roles and physical performance in football.

Figure-1 Showing selected components of the Football Players

Table- 2, Indicates that Mean Scores and Standard Deviations of selected components of the Non-football Players

Sr. No.	Components	Means Scores	Standard Deviations
1.	Age (Year)	23.40	4.44
2.	Weight (Kg)	69.89	12.30
3.	Height (cm)	168.20	23.97
4.	Body Mass Index (BMI)	18.30	3.56

The table indicates the mean scores and standard deviations of selected anthropometric and demographic components of non-football players. The mean age of the non-football players was **23.40 years** with a standard deviation of **4.44**, suggesting that the participants were primarily young adults with moderate variation in age.

The average body weight of the non-football players was **69.89 kg** (SD = **12.30**), indicating considerable variability in body mass among the participants. The mean height was **168.20 cm** with a standard deviation of **23.97**, reflecting substantial differences in stature within the group.

The mean Body Mass Index (BMI) of the non-football players was **18.30** (SD = **3.56**), indicating a generally lean body composition, though with noticeable variation among individuals. Overall, the findings suggest that non-football players were young adults with moderate diversity in physical characteristics, which may be influenced by differences in lifestyle, physical activity levels, and nutritional status.

Figure - 2, Indicates that Mean Scores and Standard Deviations of selected components of the Non-football Players

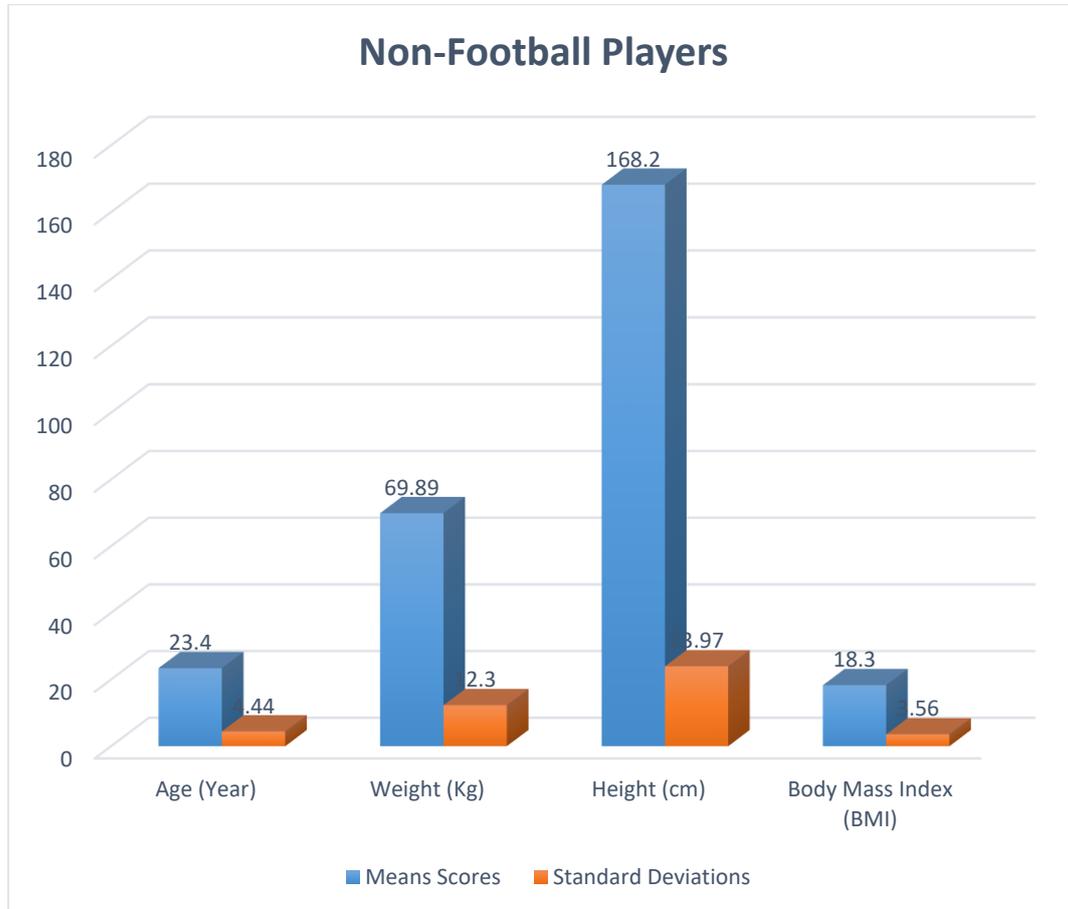
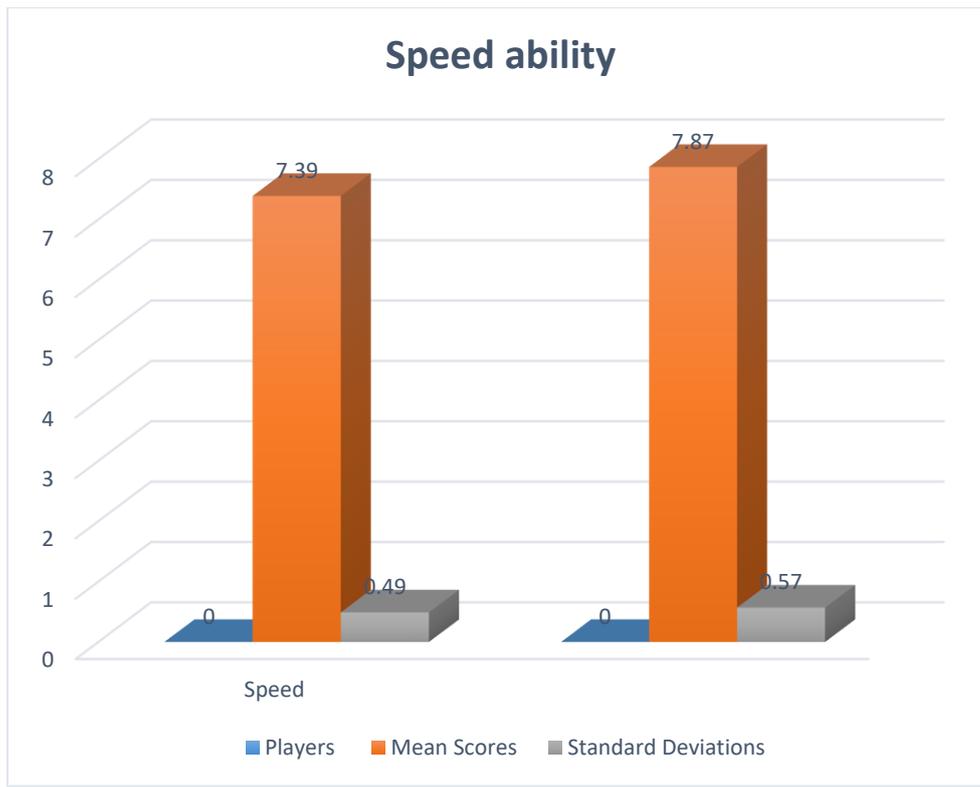


Table – 3, Shows that Mean Scores and Standard Deviations and t-test of Football and non-football players

components	Players	Number	Mean Scores	Standard Deviations	T-test
Speed	Football players	20	7.39	0.49	3.68*
	Non-Football Players	20	7.87	0.57	

Table-3 shows the mean scores, standard deviations, and t-test results of speed performance among football and non-football players. The sample consisted of **20 football players** and **20 non-football players**. The mean speed score of football players was **7.39** with a standard deviation of **0.49**, while the non-football players recorded a higher mean score of **7.87** with a standard deviation of **0.57**.

Figure – 3, Shows that Mean Scores and Standard Deviations and t-test of Football and non-football players



DISCUSSION

The purpose of the present study was to examine the difference in speed between football players and non-football players. The mean Body Mass Index (BMI) was **17.78** (SD = **3.56**), indicating that, on average, the players fell within the lower BMI range, suggesting a lean body composition typical of endurance-based and agility-demanding sports (Singh 2022; Bansode, & Singh, 2022a; Bansode, & Singh, 2022b; Singh & Bansode, (2022c); Singh, (2022d)..

The mean Body Mass Index (BMI) of the non-football players was **18.30** (SD = **3.56**), indicating a generally lean body composition, though with noticeable variation among individuals. Overall, the findings suggest that non-football players were young adults with moderate diversity in physical characteristics, which may be influenced by differences in lifestyle, physical activity levels, and nutritional status.

Overall, the data indicate that the football players were predominantly young, lean, and physically varied, characteristics that are commonly associated with competitive football performance.

The calculated **t-value of 3.68** was found to be statistically significant at the **0.05 level of confidence**, indicating a significant difference in speed between football and non-football players. This result suggests that participation in football training has a significant influence on speed performance when compared with non-football players.

Hence, it may be concluded that there exists a significant difference in speed ability between football and non-football players.

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