

ATHLETIC POWER AMONG COLLEGIATE FOOTBALL PLAYERS

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Abstract: Despite the importance of athletic power in sports performance, limited studies have compared power abilities between football players and non-football players using standardized field tests. Athletic power is a critical component of performance in football, as it underpins explosive actions such as jumping, sprint initiation, tackling, and rapid directional changes. Hence, the present study was undertaken to compare the athletic power of football players and non-football players.

The purpose of the present study was to analyze differences in athletic power between football players and non-football players. A total of 40 football and non-football players were selected as subjects and randomly divided into two equal groups. The results revealed a statistically significant difference in athletic power, with football players demonstrating superior power compared to non-football players. This finding suggests that participation in football, which involves repeated high-intensity actions such as sprinting, jumping, tackling, and rapid changes of direction, contributes positively to the development of athletic power.

Keywords: Athletic Power, Football.

INTRODUCTION

Athletic power is one of the most essential components of physical fitness and plays a decisive role in sports performance, particularly in high-intensity team sports such as football. Athletic power refers to the ability to exert maximum force in the shortest possible time and is a combination of strength and speed (Bompa & Buzzichelli, 2019 ; Bansode Singh ,2022f; Bansode & Singh ,2022g). In football, power is required for explosive movements such as jumping for headers, accelerating rapidly, changing direction, and executing forceful kicks.

Football is characterized as a high-intensity intermittent sport that demands repeated explosive actions including sprint starts, jumps, tackles, and sudden changes of movement. Due to these physical demands, football players generally demonstrate higher levels of muscular power compared to non-football players or individuals not engaged in systematic sports training (Reilly, Bangsbo, & Franks, 2000). Regular football participation enhances neuromuscular efficiency, muscular strength, and anaerobic capacity, all of which contribute significantly to the development of athletic power (Sheppard & Young, 2006).

In contrast, non-football players who do not participate in structured physical training programs often lack exposure to explosive and strength-based activities. Consequently, their levels of athletic power may be lower due to reduced muscle strength, lower rate of force development, and limited neuromuscular adaptation (Baechle & Earle, 2008). Understanding these differences is essential for designing effective training programs and improving athletic performance.

METHODS

Research Design

The present study adopted a **non-experimental descriptive research design** to compare athletic power between football players and non-football players.

Participants

A total of **40 male participants** were selected for the study and divided into two groups:

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

All participants continued their routine physical activities, and no specialized training intervention was provided during the study period.

Parameter Measurement

Athletic power was selected as the dependent variable. It was assessed using a field-based explosive performance test (e.g., standing broad jump), which is widely accepted as a valid measure of lower-body power.

Equipment

The following equipment was used:

1. Flat non-slippery surface or athletic field
2. Measuring tape / jump mat
3. Marked take-off and landing area
4. Recording sheet and pen

Test Administration

Prior to testing, participants were given standardized instructions and allowed adequate warm-up. Each subject was instructed to perform the explosive movement with maximum effort. Proper technique was demonstrated before testing.

Each participant was given one valid trial. In case of a faulty attempt (loss of balance or incorrect execution), an additional trial was permitted. The best performance was recorded for analysis.

Scoring

Athletic power was scored based on the maximum distance jumped (in meters) or maximum height achieved (in centimeters), depending on the selected test. Higher scores indicated greater athletic power.

Table – 1, Shows that Mean Scores and Standard Deviations and t-test of Football and non-football players

Components	Players	Number	Mean Scores	S. Ds	T-test
Athletic Power	Football players	20	195.56	20.44	12.88*
	Non-Football Players	20	187.98	19.96	

The results presented in the table indicate a clear difference in **athletic power** between football players and non-football players. The football players (n = 20) demonstrated a higher mean athletic power score (Mean = **195.56**, SD = **20.44**) compared to the non-football players (n = 20), who recorded a mean score of **187.98** with a standard deviation of **19.96**.

The obtained **t-value of 12.88**, marked with an asterisk (*), indicates that the difference between the two groups is **statistically significant** at the selected level of significance.

Overall, the results confirm that **football players possess significantly greater athletic power than non-football players**, highlighting the effectiveness of football training in enhancing explosive strength and power-related physical fitness components. This difference may be attributed to sport-specific training adaptations and regular engagement in power-demanding activities.

Figure – 1, Shows that Mean Scores and Standard Deviations of Athletic power between Football and non-football players

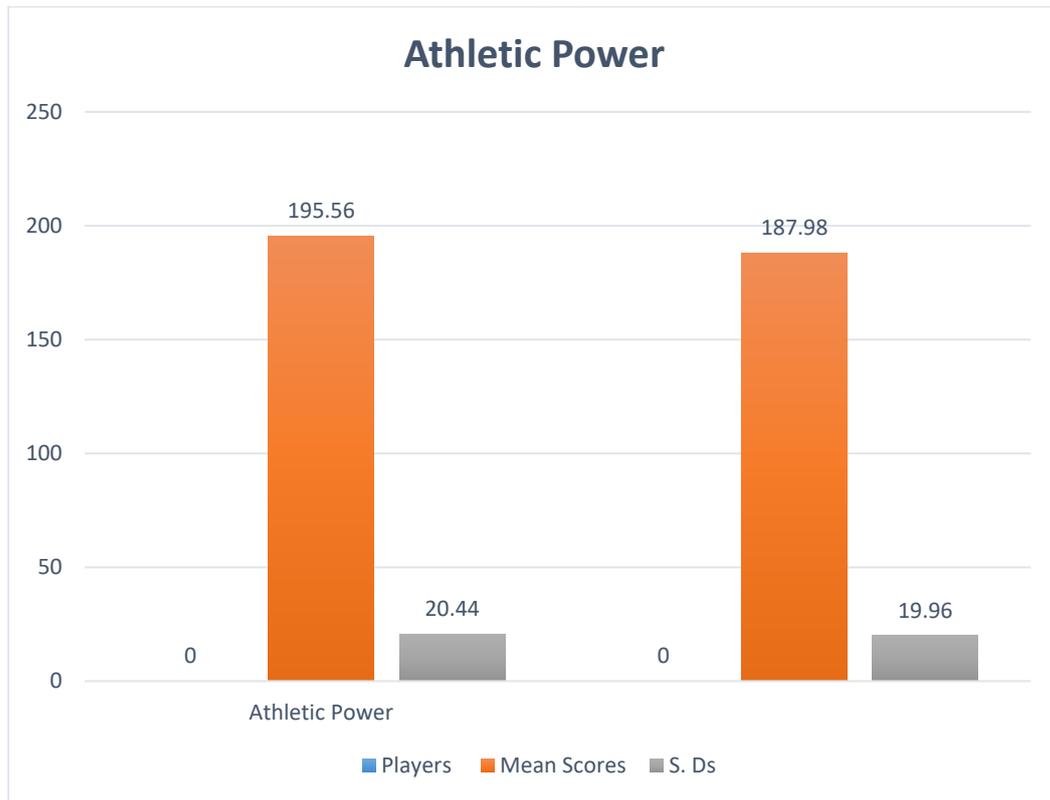


Table –2, Indicates that sports related components of the Football Players

Sr. No.	Components	Means Scores	Standard Deviations
1.	Warmup period in days	13.56	2.45
2.	Cooling down period in days	10.67	2.32
3.	Training in days	4.32	2.10
4.	Tournament in the year	13.50	3.10

The table highlights selected sports-related training components of football players in terms of warm-up period, cooling-down period, training days, and tournament participation. The mean score for the **warm-up period** was **13.56 days (SD = 2.45)**, indicating that players regularly followed an adequate warm-up routine to prepare the body for training and competition. The **cooling-down period** showed a mean of **10.67 days (SD = 2.32)**, reflecting the importance given to recovery and injury prevention.

The mean score for **training days** was **4.32 days (SD = 2.10)**, suggesting consistent weekly training engagement. Additionally, participation in **tournaments per year** recorded a mean of **13.50 (SD = 3.10)**, demonstrating frequent competitive exposure. Overall, these results indicate that football players followed a structured training schedule with appropriate preparation, recovery, and competitive involvement.

Figure –2, Indicates that sports related components of the Football Players

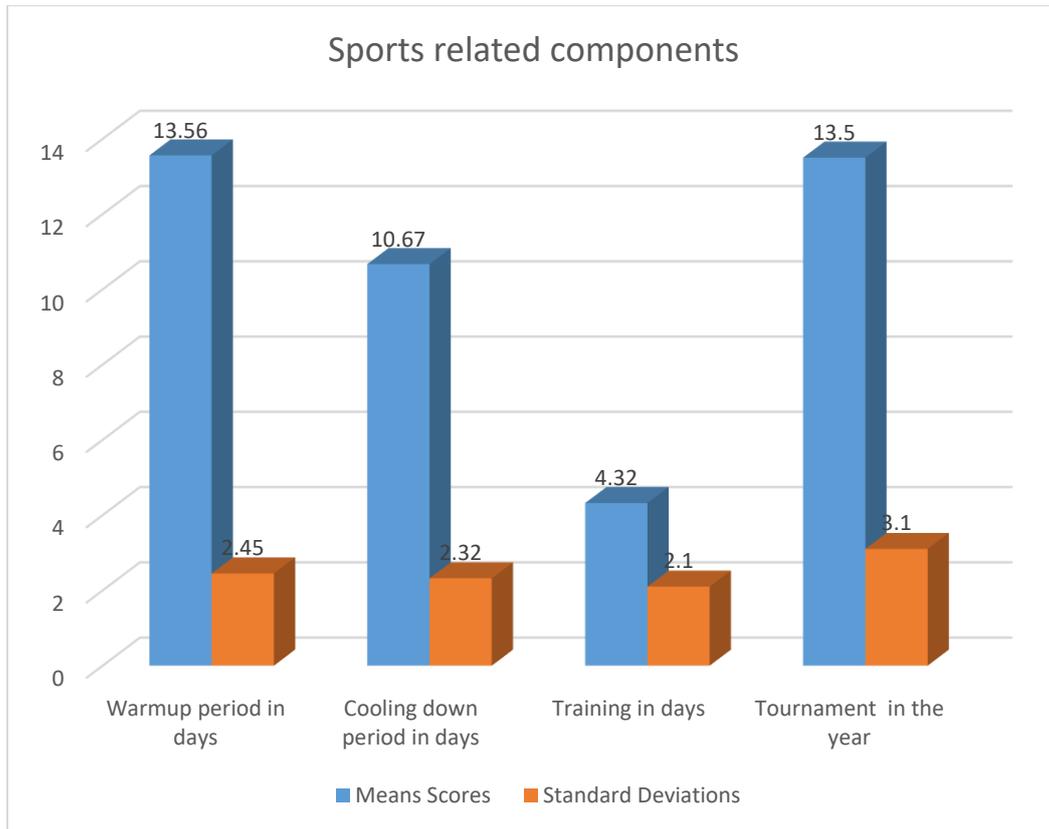


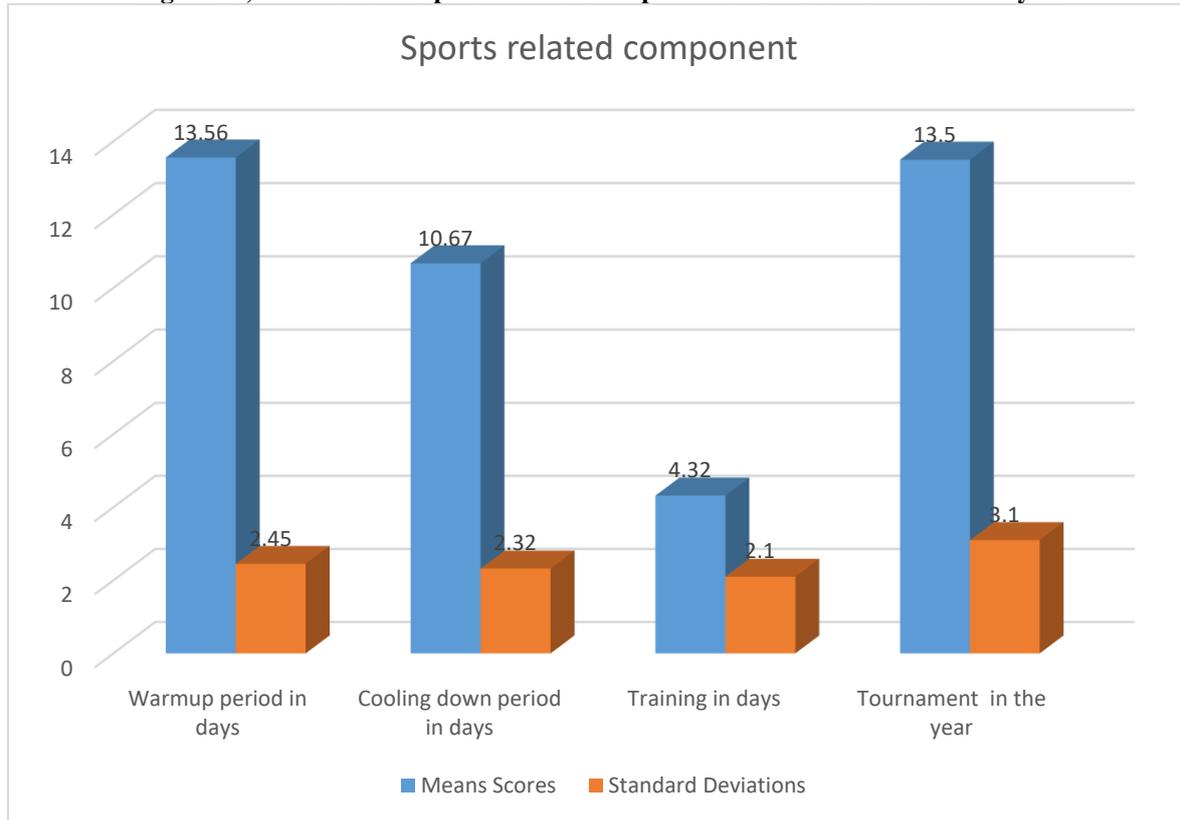
Table –3, Indicates that sports related components of the Non- Football Players

Sr. No.	Components	Means Scores	Standard Deviations
1.	Warmup period in days	13.56	2.45
2.	Cooling down period in days	10.67	2.32
3.	Training in days	4.32	2.10
4.	Tournament in the year	13.50	3.10

The table presents sports-related components of non-football players in terms of warm-up, cooling-down, training frequency, and tournament participation. The **warm-up period** showed a mean score of **13.56 days (SD = 2.45)**, indicating that non-football players also followed basic preparatory activities before physical involvement. The **cooling-down period** recorded a mean of **10.67 days (SD = 2.32)**, reflecting moderate awareness of post-activity recovery practices.

The mean score for **training days** was **4.32 days (SD = 2.10)**, suggesting limited and less structured training participation compared to competitive athletes. Participation in **tournaments per year** showed a mean of **13.50 (SD = 3.10)**, indicating occasional involvement in sports events. Overall, the findings suggest that non-football players engage in physical activities, but their training and competitive exposure are relatively less systematic and performance-oriented.

Figure –3, Indicates that sports related components of the Non- Football Players



DISCUSSION

The present study aimed to compare athletic power between football players and non-football players and to examine the role of sports-related training components in influencing performance outcomes. The findings from Table–1, Table–2 (Football Players), and Table–3 (Non-Football Players) collectively provide meaningful insights into how structured training and competitive exposure contribute to differences in athletic power.

The results of **Table–1** clearly demonstrate that football players possess significantly higher athletic power than non-football players. The higher mean score of football players indicates superior explosive strength, which is a critical physical component in football due to frequent sprinting, jumping, sudden accelerations, and directional changes. The statistically significant t-value confirms that this difference is not due to chance but reflects genuine performance disparities between the two groups. These findings support the view that regular participation in football leads to specific neuromuscular and musculoskeletal adaptations that enhance lower-body power.

The sports-related components presented in **Table–2 (Football Players)** further explain these superior power outcomes. Football players reported regular warm-up and cooling-down practices, consistent weekly training, and frequent participation in tournaments. Adequate warm-up enhances muscle readiness and neural activation, while cooling-down supports recovery and reduces fatigue (Singh,2024;Singh, 2024a).. Regular training days ensure continuous overload and adaptation, and frequent tournament exposure provides high-intensity, match-like demands that stimulate power development. Together, these factors create an environment conducive to improving athletic power (Singh 2022; Bansode, & Singh, 2022a; Bansode, & Singh, 2022b; Singh & Bansode, (2022c); Singh, (2022d). In contrast, **Table–3 (Non-Football Players)** shows that although non-football players engage in basic warm-up and cooling-down activities, their training and competitive involvement are comparatively less structured and performance-oriented. Limited training regularity and fewer competitive demands may restrict the development of explosive power. The absence of sport-specific, high-intensity stimuli likely explains the lower mean athletic power observed in this group.

Overall, the discussion of all three tables suggests that **structured training routines, systematic preparation and recovery, and regular competitive exposure** play a decisive role in enhancing athletic power. Football training, by its

nature, places repeated demands on explosive strength, leading to superior power development compared to non-football activities. These findings emphasize the importance of organized sports participation in improving power-related fitness components among university students.

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