

# A Comparative Study of Physical Fitness, Psychological, and Anthropometric Profiles of West Zone Cricket Players

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## Preamble

Cricket is one of the most widely followed and competitive sports in India, attracting a large number of young athletes with promising talent. However, only a limited number of players succeed in reaching elite levels of performance. Talent identification and development in cricket require not only technical skills but also a strong foundation in physical fitness, psychological preparedness, and appropriate body composition.

Physical fitness is a critical determinant of performance in cricket, influencing endurance, strength, speed, and agility. Regular and systematic assessment of fitness components is essential for monitoring progress and enhancing performance (Bangsbo, 1994). Alongside physical attributes, psychological factors such as mental toughness, motivation, and emotional control play a vital role in determining an athlete's success (Loehr, 1986).

Anthropometric characteristics, including body size, proportions, and composition, provide valuable insights into a player's physical suitability for the sport (Norton & Olds, 1996). Together, these parameters help support staff—coaches, trainers, physiotherapists, administrators, selectors, and players—in making informed decisions regarding training, injury prevention, and player development.

The Board of Control for Cricket in India (BCCI) categorizes domestic cricket into five zones: East, West, North, South, and Central. The present study focuses on a comparative analysis of Under-19 players from the West Zone.

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## Objectives

1. To assess the physical fitness profiles of Under-19 West Zone cricket players.
2. To evaluate the psychological profiles of these players.
3. To examine the anthropometric characteristics of the players.

4. To compare physical fitness, psychological, and anthropometric profiles among players from different West Zone cricket associations.
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## Hypotheses

The following null hypotheses were formulated for the present study:

- **H<sub>01</sub>:** There will be no significant difference in the physical fitness profiles among players of different West Zone cricket associations.
  - **H<sub>02</sub>:** There will be no significant difference in the psychological profiles among players of different West Zone cricket associations.
  - **H<sub>03</sub>:** There will be no significant difference in the anthropometric profiles among players of different West Zone cricket associations.
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## Methodology

### Research Design

The study follows a **descriptive and comparative research design**.

### Population

The population for the present study comprises Under-19 male and female cricket players selected from various West Zone cricket associations:

- Mumbai
- Maharashtra
- Baroda
- Gujarat
- Saurashtra

Each association selects approximately 30 probable players for the Under-19 category during the season.

### Total Population

- Boys: 180
- Girls: 180
- **Total: 360 players**

The study includes the entire population of selected players; therefore, **no sampling technique was adopted**.

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# Variables and Testing Procedures

## 1. Physical Fitness Components

- Push-ups (Upper body strength)
  - Prone hold (Core stability)
  - Bodyweight squats (Strength)
  - Yo-Yo Intermittent Recovery Test (Aerobic endurance)
  - Vertical jump (Power)
  - 20 m sprint (Speed)
  - 40 m sprint (Speed)
  - Run-a-three test (Agility)
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## 2. Anthropometric Measurements

- Body weight
  - Height
  - Upper arm length (Acromiale–Radiale)
  - Forearm length (Radiale–Stylion)
  - Hand length (Midstylion–Dactylion)
  - Thigh length (Trochanterion–Tibiale Laterale)
  - Lower leg length (Tibiale Laterale)
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## 3. Psychological Profile

### i) Mental Toughness

Mental toughness was measured using the Psychological Performance Inventory (Loehr, 1986), which includes the following components:

- Self-confidence
- Negative energy control
- Attention control
- Visualization
- Motivation
- Positive energy
- Attitude control

### ii) Sports Achievement Motivation

This variable measures the level of competitiveness, goal orientation, and achievement drive among players.

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## Scope of the Study

The present study is confined to a specific group and context to ensure clarity and focused analysis:

- Limited to Under-19 cricket players belonging to West Zone associations
- Includes only players selected as probables
- Covers both male and female players
- Restricted to the 2016–2017 cricket season
- Focuses on physical fitness, psychological, and anthropometric profiles
- Geographically limited to the West Zone of Indian cricket

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## Limitations

1. Restricted to Under-19 probable players only
2. Limited to West Zone associations
3. Entire population considered; no sampling technique used

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## Utility of the Study

Sr. No.	Stakeholder	Utility of the Study
1	Players	Helps players understand their physical fitness, psychological status, and anthropometric characteristics, enabling identification of strengths and weaknesses for performance improvement.
2	Coaches	Provides insights for designing and modifying training programmes based on individual and team requirements and improving coaching strategies.
3	Trainers	Assists in planning scientifically structured training programmes and helps achieve peak performance at the appropriate time.
4	Physiotherapists	Supports injury prevention, rehabilitation planning, and musculoskeletal assessment of players.
5	Administrators & Selectors	Facilitates objective decision-making in player selection based on scientific data.
6	Associations	Enables comparison among associations to improve training standards and competitive performance.
7	Future Research	Provides a base for further research in sports science and cricket performance.

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