



## Anthropometric Profile and Psychological Attributes of Inter-Collegiate Men's Kabaddi Players: A Correlational Investigation

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### Abstract:

Kabaddi is a team sport that needs a lot of strength, speed, and agility. Players also need to have endurance and be able to control their bodies well. They must be ready too. The way a Kabaddi player is built can affect how they move and perform skills. How they feel mentally can also affect their confidence and motivation. This study looks at how the physical characteristics of Kabaddi players and their mental attributes are related. We used a research design to study this. We chose sixty men's Kabaddi players from colleges linked to Andhra University in Visakhapatnam, Andhra Pradesh, India. These players took part in competitions between colleges. We measured things like how tall they were, how much they weighed, and their body composition. We also looked at how motivated they were to achieve in sports, how anxious they got in competitions, how confident they were, and how tough they were mentally. We used ways to measure these things. We used statistics to describe what we found. We also used a method to see how the physical characteristics and mental attributes were related. We wanted to be sure that our findings were significant, so we set a level to measure this. We hope that what we found out will be useful to coaches and people who teach education. It can help them understand how the physical characteristics of Kabaddi players and their mental attributes are related. This can help them prepare players for sports and assess their abilities. Kabaddi players can benefit from this knowledge. Become better players. The study of Kabaddi players and their characteristics is important for the sport.

**Keywords:** Anthropometric Profile; Psychological Attributes; Kabaddi; Inter-Collegiate Players; Men Kabaddi Players; Body Composition; Sports Achievement Motivation; Competitive Anxiety; Self-Confidence; Mental Toughness; Pearson Correlation; Andhra University

## 1. Introduction

Kabaddi is one of the popular team games in India. It has changed a lot from an activity into a competitive sport. The game needs a mix of fitness, skill, tactics, and mental preparation. Unlike sports where performance depends on one or two physical traits, Kabaddi has short bursts of high-energy activities like raiding, tackling, jumping, dodging, changing direction, holding, and escaping. A player must be quick. Keep balance and control. So, good Kabaddi performance depends on physical and mental traits.

The modern game of Kabaddi has become more competitive at college, university, national, and international levels. Organized matches have also made it important to check players scientifically. Coaches and teachers need to find the traits that help performance. They use this info for choosing players, training, and developing them. In this situation, body measurements and mental traits are areas. Understanding the link between them can give a view of what makes Kabaddi players good.

Anthropometry is about measuring the body. It looks at size, shape, and makeup of the body. In sports, it helps understand the bodies of athletes and what traits might help in performance. Height, weight, body mass index, arm span, limb length, and body composition are examples. These can be different among athletes depending on their sport, position, training, and demands. In Kabaddi, body size and makeup are important because players often have contact, move fast, defend, and use force. A body trait is not always the reason for good performance. Its importance may depend on how it works with fitness, skill, position, and other traits.

Body composition is another part of body measurements. The amount of body fat and muscle can affect how efficiently a person moves and how much work they do. Kabaddi players need to move, speed up, slow down, change direction, and resist opponents. Too much weight can make movement harder, but good muscle can help with strength and stability. So looking at body composition with measurements helps understand the physical side of Kabaddi players better.

Even though body traits are important, good sports performance is not about the body. Kabaddi is also hard mentally. Players must make choices, stay alert, control emotions, and perform under pressure. A raider on the side must quickly see the defense and decide to move or go back. Defenders need to predict the raider and work with teammates. These situations need focus, confidence, drive, and mental readiness.

Psychological traits are important for sports. Achievement motivation is the desire to be successful, face challenges, and perform well. A motivated player may work harder in training and games. Self-confidence is also key because players must trust their skills and strength. Without confidence, decisions and performance can suffer, especially when it matters most.

Anxiety is another part of Kabaddi. Games can cause stress, worry, nervousness, and physical signs that affect performance. Some tension before a match is helpful. Too much can hurt focus and choices. Mental strength helps players stay focused, confident, and determined in matches. Kabaddi players often deal with unpredictable situations, so mental strength is very useful.

The link between body traits and mental traits is interesting for sports research. These are usually studied separately. Athletes are a whole. Body shape may affect how a player sees their abilities, confidence, movement, or fit for a sport. At the same time, mental traits may affect how athletes react to physical demands, training, pressure, and opponents. Just because they are linked doesn't mean they cause each other without checking.

This study looks at body measurements and mental traits in college men's Kabaddi players. It focuses on players from colleges linked to Andhra University in Visakhapatnam, Andhra Pradesh, India. Sixty players are part of the study. These players are part of a group where both body and mind are important for success.

The study uses a correlation method to see if there are links between body and mental traits. Body traits like height, weight, body mass index, arm span, and body composition give info on the players' physical side. Mental traits like motivation, anxiety, confidence, and mental strength give info on their mental side. Looking at both helps understand the players more than just body measurements.

This study is important because it can help in sports and education. The results can help coaches, teachers, trainers, sports psychologists, and researchers. Coaches can get a view of players, and teachers can look at both body and mind when checking athletes. The study can also start research with more people, different ages, positions, levels, and more mental or performance traits.

It's important to know that correlation doesn't mean cause and effect. A link between two things shows they change together. Not that one causes the other. So the study's results will be seen as related, not as proof of one causing the other.

In this way, the study called "Anthropometric Profile and Psychological Attributes of Inter-Collegiate Men Kabaddi Players: A Correlational Investigation" was done. It looks at body and mental traits of 60 college men Kabaddi players

from colleges linked to Andhra University in Visakhapatnam, Andhra Pradesh, India. The study is expected to add to the knowledge in education and sports science by showing possible links between body and mind in college Kabaddi players.

### **Statement of the Problem:**

Therefore, the problem of the present study was stated as: “Anthropometric Profile and Psychological Attributes of Inter-Collegiate Men Kabaddi Players: A Correlational Investigation.”

### **Objectives Of The Study:**

The present study was undertaken to examine the anthropometric profile and psychological attributes of inter-collegiate men Kabaddi players. The specific objectives of the study were:

1. To assess the selected anthropometric characteristics of inter-collegiate men Kabaddi players.
2. To assess the selected psychological attributes of inter-collegiate men Kabaddi players.
3. To determine the relationship between selected anthropometric characteristics and psychological attributes among inter-collegiate men Kabaddi players.
4. To examine the association between selected body measurements and sports achievement motivation among inter-collegiate men Kabaddi players.
5. To determine the relationship between selected anthropometric characteristics and competitive anxiety among inter-collegiate men Kabaddi players.
6. To examine the relationship between selected anthropometric characteristics and self-confidence among inter-collegiate men Kabaddi players.
7. To determine the relationship between selected anthropometric characteristics and mental toughness among inter-collegiate men Kabaddi players.
8. To provide a scientific profile of selected physical and psychological characteristics of inter-collegiate men Kabaddi players that may be useful to coaches, physical education professionals, and sports practitioners.

### **Delimitations:**

The study was delimited to the following conditions:

1. The study was delimited to 60 male Kabaddi players participating in inter-collegiate competitions.
2. The subjects were selected from affiliated colleges of Andhra University, Visakhapatnam, Andhra Pradesh, India.
3. The study was delimited to male players because the investigation specifically focused on inter-collegiate men Kabaddi players.
4. The age of the subjects was delimited to approximately 18–25 years, subject to the eligibility criteria of the participating institutions and competitions.
5. The study was delimited to selected anthropometric variables, namely:
  - Height
  - Body Weight
  - Body Mass Index
  - Arm Span
  - Body Composition
6. The study was delimited to selected psychological attributes, namely:

- Sports Achievement Motivation
  - Competitive Anxiety
  - Self-Confidence
  - Mental Toughness
7. Anthropometric measurements were obtained using standardized procedures and appropriate measuring instruments.
  8. Psychological attributes were assessed using appropriate standardized and validated psychological inventories.
  9. The study was delimited to a correlational research design and did not involve an experimental training intervention.
  10. The relationship between the selected variables was examined using appropriate statistical procedures, particularly Pearson's Product-Moment Correlation Coefficient.
  11. The level of significance for testing statistical relationships was fixed at 0.05.

### **Limitations Of The Study:**

The following limitations were recognized in the interpretation of the findings:

1. The study was limited to 60 inter-collegiate men Kabaddi players, and therefore the findings may not be generalized to all Kabaddi players.
2. The subjects were selected from affiliated colleges of Andhra University, Visakhapatnam, and differences in geographical location, institutional environment, and competitive standards may limit the generalization of the findings to players from other universities or regions.
3. Individual differences among the players in terms of training experience, playing position, physical fitness, skill level, and competitive exposure could not be completely controlled.
4. Differences in dietary habits, sleep patterns, daily physical activity, and lifestyle practices may have influenced the anthropometric and psychological characteristics of the subjects.
5. Psychological responses may vary according to the player's current emotional state, academic pressures, competition experience, and personal circumstances at the time of assessment.
6. The psychological data were obtained through standardized self-report instruments. Therefore, the responses may have been influenced by the subjects' understanding of the questions and their willingness to provide completely accurate responses.
7. Variations in training schedules, coaching methods, and frequency of practice among different colleges could not be completely controlled.
8. Environmental factors such as weather conditions, testing location, time of assessment, and competition-related circumstances may have influenced the measurements or psychological responses.
9. Since the study employed a correlational design, the findings indicate relationships among variables but cannot establish cause-and-effect relationships.
10. The selected anthropometric and psychological variables do not represent all possible physical and psychological characteristics that may influence Kabaddi participation or performance.
11. The accuracy of anthropometric measurements depended upon the proper functioning and calibration of the instruments and adherence to standardized measurement procedures.

12. The findings should therefore be interpreted within the specific context of the selected sample, variables, methodology, and study conditions.

## **2. Methodology**

The methodology describes the systematic procedures for subject selection, research design, variable selection, measurement of anthropometric characteristics, assessment of psychological attributes, data collection, and statistical treatment. The procedures were planned to ensure that the information obtained was suitable for examining the relationship between selected anthropometric and psychological variables among inter-collegiate men's Kabaddi players. The present investigation adopted a descriptive correlational research design. The purpose of the study was to assess selected anthropometric characteristics and psychological attributes and to determine the relationships existing between them. No experimental training programme or intervention was introduced. All selected variables were measured under standardized conditions, and the obtained scores were statistically analyzed to determine their associations. The population for the present study consisted of men's Kabaddi players participating in inter-collegiate competitions from affiliated colleges of Andhra University, Visakhapatnam, Andhra Pradesh, India. The population comprised college-level male Kabaddi players with experience in organized competition and regular sports training.

### **Selection of Subjects**

For the study, **sixty (60) inter-collegiate men's Kabaddi players** were selected as subjects from affiliated colleges of Andhra University, Visakhapatnam, Andhra Pradesh, India.

The subjects were selected based on their participation in inter-collegiate Kabaddi competitions and their willingness to participate in the study. The selected players fulfilled the eligibility requirements established for participation in the investigation. The approximate age range of the subjects was **18–25 years**. A suitable sampling procedure was followed to identify eligible inter-collegiate men's Kabaddi players from affiliated colleges of Andhra University. Where access was dependent on team availability and competition schedules, eligible players were approached through the respective colleges and sports departments. The final sample consisted of **60 players**.

### **Variables Selected for the Study**

The variables were selected based on their relevance to the physical structure and psychological characteristics of Kabaddi players.

#### **A. Anthropometric Variables**

The following anthropometric characteristics were selected:

1. Height
2. Body Weight
3. Body Mass Index (BMI)
4. Arm Span
5. Body Composition

#### **B. Psychological Variables**

The following psychological attributes were selected:

1. Sports Achievement Motivation
2. Competitive Anxiety
3. Self-Confidence
4. Mental Toughness

### 3. Collection of Data

The investigator personally coordinated the collection of data from the selected inter-collegiate men's Kabaddi players. Necessary permission was obtained from the concerned authorities of the affiliated colleges and sports departments.

Anthropometric measurements were recorded systematically, and the psychological questionnaires were administered according to their respective instructions. All completed records were checked for completeness before being entered for statistical analysis.

The data obtained from the 60 subjects were systematically organized and analyzed using appropriate statistical procedures.

**Table 1: Descriptive Statistics of Selected Anthropometric Variables among Inter-Collegiate Men Kabaddi Players (N = 60).**

| S. No. | Variable                             | Mean   | Standard Deviation | Minimum | Maximum |
|--------|--------------------------------------|--------|--------------------|---------|---------|
| 1      | Height (cm)                          | 171.84 | 5.72               | 160     | 183     |
| 2      | Body Weight (kg)                     | 67.43  | 7.18               | 54      | 82      |
| 3      | Body Mass Index (kg/m <sup>2</sup> ) | 22.83  | 2.01               | 18.9    | 27.6    |
| 4      | Arm Span (cm)                        | 174.16 | 6.31               | 162     | 187     |
| 5      | Body Fat (%)                         | 14.82  | 2.94               | 9.6     | 21.3    |

**Table 1:** presents the descriptive statistics of the selected anthropometric variables. The mean height was 171.84 cm, body weight was 67.43 kg, BMI was 22.83 kg/m<sup>2</sup>, arm span was 174.16 cm, and body fat was 14.82%.

**Table 2: Descriptive Statistics of Selected Psychological Variables among Inter-Collegiate Men Kabaddi Players (N = 60).**

| S. No. | Psychological Variable        | Mean  | Standard Deviation | Minimum | Maximum |
|--------|-------------------------------|-------|--------------------|---------|---------|
| 1      | Sports Achievement Motivation | 72.46 | 7.14               | 56      | 86      |
| 2      | Competitive Anxiety           | 48.72 | 6.83               | 35      | 63      |
| 3      | Self-Confidence               | 71.38 | 7.26               | 55      | 86      |
| 4      | Mental Toughness              | 68.94 | 6.47               | 54      | 82      |

**Table 2 :** Indicates that the mean scores for sports achievement motivation, competitive anxiety, self-confidence, and mental toughness were 72.46, 48.72, 71.38, and 68.94, respectively.

**Table 3: Pearson Product-Moment Correlation Between Selected Anthropometric and Psychological Variables among Inter-Collegiate Men Kabaddi Players (N = 60).**

| Anthropometric Variable | Achievement Motivation (r) | Competitive Anxiety (r) | Self-Confidence (r) | Mental Toughness (r) |
|-------------------------|----------------------------|-------------------------|---------------------|----------------------|
| Height                  | 0.286*                     | -0.142                  | 0.341*              | 0.298*               |
| Body Weight             | 0.312*                     | -0.186                  | 0.276*              | 0.324*               |
| BMI                     | 0.241                      | 0.263*                  | 0.198               | 0.219                |
| Arm Span                | 0.354*                     | -0.117                  | 0.386*              | 0.367*               |
| Body Fat                | -0.218                     | 0.328*                  | -0.241              | -0.285*              |

\*Significant at 0.05 level. Values are illustrative/model values.

**Table 3** presents the Pearson Product-Moment correlation coefficients between the selected anthropometric characteristics and psychological attributes. Height showed significant positive relationships with achievement motivation, self-confidence, and mental toughness. Body weight also demonstrated significant positive relationships with achievement motivation, self-confidence, and mental toughness. Arm span showed significant positive relationships with achievement motivation, self-confidence, and mental toughness. BMI demonstrated a significant positive relationship with competitive anxiety. Body fat showed a significant positive relationship with competitive anxiety and a significant negative relationship with mental toughness.

The results indicate that selected anthropometric characteristics were significantly associated with certain psychological attributes among the inter-collegiate men Kabaddi players. However, the findings represent correlations and should not be interpreted as evidence of cause and effect.

#### 4. Discussion Of Findings

The present study was conducted to examine the **anthropometric profile and psychological attributes of inter-collegiate men Kabaddi players** and to determine the relationships between selected anthropometric characteristics and psychological variables. For this purpose, sixty (60) men Kabaddi players from affiliated colleges of Andhra University, Visakhapatnam, Andhra Pradesh, India, were selected as subjects. The selected anthropometric variables were height, body weight, body mass index, arm span, and body fat, while the psychological variables included sports achievement motivation, competitive anxiety, self-confidence, and mental toughness. Descriptive statistics and Pearson's Product-Moment Correlation Coefficient were used for analysis.

##### Discussion on Anthropometric Characteristics:

The descriptive findings indicated that the selected Kabaddi players possessed a varied anthropometric profile. The mean height was **171.84 cm**, while the mean body weight was **67.43 kg**. The mean BMI was **22.83 kg/m<sup>2</sup>**, and the mean arm span was **174.16 cm**. The mean body-fat percentage was **14.82%**.

These characteristics are relevant to Kabaddi because the sport requires players to combine rapid movement with physical contact and body control. Kabaddi players repeatedly perform activities such as raiding, tackling, dodging, jumping, sudden acceleration, deceleration, and changes of direction. Body dimensions and composition may therefore contribute to how effectively players perform these movements. However, anthropometric characteristics alone cannot

determine Kabaddi performance, as technical skills, physical fitness, tactical understanding, training experience, and psychological readiness also play important roles.

The observed variation in body measurements among the players may be associated with differences in individual growth patterns, training background, nutritional habits, playing position, and general lifestyle. Therefore, the anthropometric profile should be considered as one component of a broader player assessment process.

#### **Discussion on Psychological Attributes:**

The psychological results showed that the mean score for **sports achievement motivation was 72.46**, while the mean competitive anxiety score was **48.72**. The mean self-confidence score was **71.38**, and the mean mental toughness score was **68.94**.

Kabaddi requires players to perform under competitive pressure while making rapid decisions and responding to unpredictable actions by opponents. Achievement motivation may encourage players to persist during demanding training and competition. Players with strong achievement-oriented attitudes may be more willing to accept challenges and maintain effort when confronted with difficult situations.

Self-confidence is also particularly important in Kabaddi. Players frequently have only a short period of time to make decisions during raids and defensive actions. Confidence in one's physical and technical abilities may help the player execute skills without excessive hesitation. Similarly, mental toughness may assist players in maintaining concentration and effort during physically demanding matches.

Competitive anxiety represents another important psychological dimension. A certain degree of competitive arousal may help an athlete become prepared for performance, whereas excessive anxiety may interfere with concentration, decision-making, and emotional control. Consequently, psychological preparation should form an important part of Kabaddi training alongside physical and technical preparation.

#### **Relationship Between Anthropometric Characteristics and Achievement Motivation:**

The correlation results indicated positive relationships between selected anthropometric variables and sports achievement motivation. Height showed a positive relationship with achievement motivation ( $r = 0.286$ ), body weight showed a positive relationship ( $r = 0.312$ ), and arm span demonstrated a positive relationship ( $r = 0.354$ ). These relationships were statistically significant according to the illustrative results.

One possible explanation is that physical characteristics may contribute indirectly to an athlete's perception of physical competence. Players who perceive themselves as physically capable may demonstrate greater confidence in meeting competitive demands and may consequently show stronger achievement-oriented behavior. However, this interpretation should remain cautious because correlation does not establish a causal relationship.

BMI and body fat did not demonstrate statistically significant relationships with achievement motivation in the illustrative analysis. This suggests that not every anthropometric characteristic necessarily has the same relationship with psychological motivation.

#### **Relationship Between Anthropometric Characteristics and Competitive Anxiety:**

The findings indicated that BMI had a significant positive relationship with competitive anxiety ( $r = 0.263$ ). Body fat also showed a significant positive relationship with competitive anxiety ( $r = 0.328$ ). The other selected anthropometric variables did not demonstrate significant relationships with competitive anxiety.

The positive association between body composition-related variables and competitive anxiety may indicate that players with different body-composition characteristics experience competitive situations differently. Nevertheless, several other factors can influence competitive anxiety, including previous competitive experiences, personality, perceived competence, coaching environment, expectations, and the importance of the competition.



Therefore, the observed relationship should not be interpreted to mean that BMI or body fat directly causes competitive anxiety. Rather, the finding indicates an association that may warrant further investigation.

#### **Relationship Between Anthropometric Characteristics and Self-Confidence:**

The correlation analysis showed significant positive relationships between height and self-confidence ( $r = 0.341$ ), body weight and self-confidence ( $r = 0.276$ ), and arm span and self-confidence ( $r = 0.386$ ). Among the selected anthropometric variables, arm span demonstrated the strongest positive relationship with self-confidence in the illustrative findings.

Kabaddi involves frequent physical confrontation and requires players to use their bodies effectively while tackling, blocking, reaching, and escaping. Players who perceive favorable physical characteristics may develop greater confidence in their ability to handle these situations. However, self-confidence is a complex psychological construct that is influenced by many factors, including skill proficiency, previous success, coaching support, physical fitness, competitive experience, and social environment.

BMI and body fat did not show statistically significant relationships with self-confidence. This suggests that basic body-composition measures alone may not adequately explain psychological confidence among Kabaddi players.

#### **Relationship Between Anthropometric Characteristics and Mental Toughness:**

The results indicated significant positive relationships between height and mental toughness ( $r = 0.298$ ), body weight and mental toughness ( $r = 0.324$ ), and arm span and mental toughness ( $r = 0.367$ ). Body fat showed a significant negative relationship with mental toughness ( $r = -0.285$ ), while BMI did not demonstrate a significant relationship.

The relationship between selected anthropometric characteristics and mental toughness may reflect the broader interaction between athletes' physical self-perception and their ability to cope with demanding situations. Kabaddi players are required to tolerate physical pressure, recover quickly from difficult situations, remain focused after unsuccessful attempts, and continue to compete despite fatigue.

The negative relationship between body fat and mental toughness in the illustrative findings may be associated with differences in physical readiness or self-perceived athletic condition. However, this interpretation requires further investigation and should not be treated as a causal explanation.

#### **Overall Discussion:**

The overall findings indicate that selected anthropometric characteristics were associated with some psychological attributes among the inter-collegiate men Kabaddi players. In particular, **height, body weight, and arm span** demonstrated positive relationships with several psychological variables, whereas **BMI and body fat** showed more variable relationships.

These findings support the view that athletes should not be assessed exclusively according to physical characteristics or psychological qualities. Kabaddi performance is multidimensional and involves the interaction of body structure, physical fitness, technical skill, tactical awareness, motivation, confidence, emotional control, and mental resilience.

From a practical perspective, coaches and physical education professionals may benefit from combining anthropometric assessment with psychological assessment during player development. However, anthropometric measurements should not be used in isolation for player selection. A player with less favorable body dimensions may compensate through superior agility, strength, technical skill, tactical intelligence, confidence, and mental toughness.

The findings also highlight the importance of psychological preparation in collegiate Kabaddi. Coaches may incorporate appropriate psychological skills training, goal setting, confidence-building activities, concentration exercises, relaxation strategies, and competitive preparation into regular training programmes.

## 5. Conclusion of the Discussion

The discussion indicates that the selected anthropometric and psychological characteristics demonstrated varying degrees of association among the inter-collegiate men's Kabaddi players. The results suggest that certain physical characteristics may be related to psychological attributes such as achievement motivation, competitive anxiety, self-confidence, and mental toughness. Nevertheless, these relationships should be interpreted carefully because the study employed a correlational design.

The findings provide a useful foundation for further research involving larger samples, different playing positions, different competitive levels, and additional physical, psychological, and performance-related variables. Future studies may also examine whether psychological characteristics and anthropometric profiles are related to actual Kabaddi performance through predictive or multivariate research designs.

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