



**COMPARATIVE ANALYSIS ON ANTHROPOMETRICAL VARIABLES BETWEEN  
BATSMEN AND MEDIUM PACE BOWLERS IN CRICKET**

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**ABSTRACT**

The purpose of the present study was to compare the anthropometrical variables between batsmen and medium pace bowlers in cricket. The study was administered on 30 Cricket players in the age group 18-25 years of participated in the Buck Cricket Tournament - 2012 was conducted by YMCA College of Physical Education, Chennai. The anthropometric measurement which was used in this study was standing height, arm length, leg length, thigh length, chest girth, thigh girth, calf girth, body weight and body composition from biceps, triceps, subscapular and supriliac crest. To find out the significance difference independent t-test was used. The level of significance was chosen as 0.05 levels. Result of this study reveal that there was significant difference exit between the standing height (3.228) , arm length (3.991) body weight (3.955), body composition (4.657) of batsmen and medium pace bowlers as the tabulated 't' (2.021) on the other insignificant difference was exit between leg length (.669), chest girth (1.725), thigh girth (.818),calf girth (1.811).

**Key words:** Anthropometrical, Body Composition.



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### INTRODUCTION

Anthropometry is the study of the measurement of the human body in terms of the dimensions of bone, muscle, and adipose (fat) tissue. There are numerous factors which are responsible for the performance of a sportsman. The physique and body composition, including the size shape and form are known to play a significant role in this regard. At present, sportsman for superior performance in any sports is selected on the basis of physical structure and body size. structural measurement include anthropometric measurement which consist of objective measurement of structures such as height,weight,width,depth and the circumference of the various part of the body. The anthropometric measurements most commonly used for assessing nutritional status are height, body weight, mid-arm circumference and triceps skinfold thickness (Blackburn, et al. 1977). A decrease in lean body mass is a characteristic of aging regardless of energy intake (Forbes, 1976). Changes that occur include height, weight, body composition and lean body mass. Bowman and Rosenberg, (1982) also noted the many changes with age that effectSkinfold measurement such as reciprocal changes in lean body mass and body fat, changes in the distribution of body fat and alterations in skinfold thickness, turgor, elasticity and compressibility.

### METHODOLOGY

#### Subject

To achiever of the study was thirty male cricketers (fifteen batsmen and fifteen medium pace bowlers) were selected from the Buck Cricket Tournament - 2012 was conducted by YMCA College of Physical Education, Chennai. Their age ranged from 18 to 25 years.

## Variables

Following anthropometric variables were selected in this study.

- Standing height
- Arm length
- Leg length
- Thigh length
- Chest girth
- Thigh girth
- Calf girth
- Body weight
- Body composition (biceps, triceps, subscapular and suprailiac crest)

## Research Design

For this study static group design was used. In which fifteen subjects were in each groups.

## Criterion Measures

Measurement of upper extremity and lower extremity of the body were measured by anthropometric kit

S.NO	VARIABLES	TOOLS/TEST	UNIT
1	Standing and sitting length	Stadiometer	cm
2	Arm length, leg length, Thigh length, Chest girth, Thigh girth and Calf girth	Gulic tape	cm
3	Body composition	Skin fold caliper	mm

## STATISTICAL PROCEDURE

A descriptive measure was given for all the variables related to different levels of participants of batsmen and medium pace bowlers of cricket separately. The investigator proceeded to fulfill the different objectives of the study by analyzing the data with the help of simple techniques like Mean and SD. The significance of difference in the mean scores of all the anthropometrical measurements between batsmen and medium pace bowlers independent t-test were used.

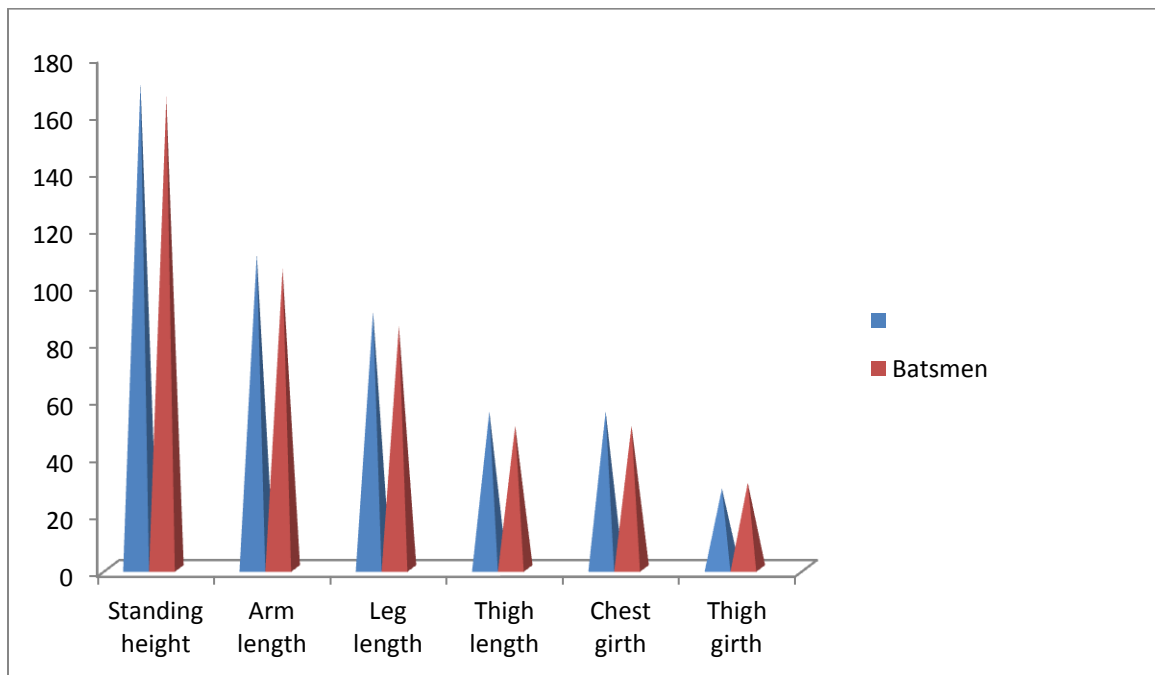
## RESULTS

The value of calculated t-test was compared with the tabulated significant value at 0.05 level of confidence with 28 degree of freedom. The details for comparative mean value and SD values of anthropometrical variables were tabulated and presented below:

S.No	Variables	BATSMEN			BOWLERS			T Ratio
		Mean	S.D	S.E	Mean	S.D	S.E	
1	Standing length	176.55	5.336	1.193	171.15	5.244	1.173	3.228*
2	Arm length	72.35	1.843	.412	69.85	2.110	.472	3.991*
3	Thigh length	41.85	3.498	.782	42.90	2.125	.475	1.147
4	Leg length	90.25	4.482	1.002	89.25	4.962	1.109	.669
5	Chest girth	86.20	3.397	.760	84.70	1.895	.424	1.725
6	Thigh girth	52.75	2.049	.469	52.15	2.519	.563	.818
7	Calf girth	33.90	1.483	.332	33.00	1.654	.370	1.811
8	Body weight	70.75	3.7121	.830	63.35	4.848	1.084	3.955*
9	Body composition	15.32	1.227	.274	13.54	1.187	.265	4.657*

Table 1 clearly indicate that there is significant difference in standing height , arm length, body weight, body composition of batsmen and medium pace bowlers of cricket at 0.05 level of significance.

Non-significant difference was found on leg length, chest girth, thigh girth and calf girth of batsmen and medium pace bowlers.



## CONCLUSIONS

The findings reveal that the anthropometric variables of standing height, arm length, body weight, and body composition have shown significant difference between batsmen and medium pace bowlers at 0.05 level of significance. The anthropometric variables of leg length, chest girth, thigh girth and calf girth have not shown any difference.

1. Significant difference was found in Standing Height of Batsmen and Medium pace bowlers of Cricket.
2. Significant difference was found in weight of Batsmen and Medium pace bowlers of Cricket.
3. Significant difference was found in Arm Length of Fast and Medium bowlers of Cricket.
4. Significant difference was found in Body Composition of Batsmen and Medium pace bowlers of Cricket.
5. Insignificant difference was found in Leg Length of Batsmen and Medium pace bowlers of Cricket.
6. Insignificant difference was found in Chest Girth of Batsmen and Medium pace bowlers of Cricket.

7. Insignificant difference was found in Thigh Girth of Batsmen and Medium pacebowlers of Cricket.
8. Insignificant difference was found in Calf Girth of Batsmen and Medium pacebowlers of Cricket.
9. Insignificant difference was found in Thigh Length of Batsmen and Medium pacebowlers of Cricket.

Further, suggested that the comparison can also be made between the non-players and players of other game in anthropometric parameters.

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