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Assessment of selected BMI, flexibility and agility parameters of cricket and baseball inter university level players

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Abstract
The purpose of the study was to find out the significant difference of BMI, Flexibility and Agility parameters of Cricket and Baseball Inter-university level male players. For present study, total 60 Inter-university level male players (cricket-30 and Baseball-30) with their age ranging between 19-27 years was selected randomly from Punjabi university, Patiala affiliated colleges. Unpaired student t-test was employed. The level of significance 0.05 was set. The result shows that significant differences shows in Body mass Index & Agility and insignificant differences show in Flexibility parameter between Cricket and Baseball Inter-university level male players.

Keywords: Body mass index (BMI), flexibility and agility

Introduction
Fitness is that state which characterizes the degree to which the person is able to function. Fitness is an individual matter. It implies the ability of each person to live most effectively with his potential. Ability to function depends upon physical, mental, emotional & social components of fitness, all of which are related to each other & mutually interdependent." Exercise Scientists have identified 9 elements that comprise the definition of strength, power, agility, balance, endurance, flexibility, co-ordination. But in this study explosive strength, arm strength & agility should be studied. Motor ability as the ability of the individual in the elements which underline motor performance, such as muscular strength, muscular power, muscular endurance, co-ordination ability & balance etc. (Singh, P., 2014) [5].

Body Mass Index (BMI) is a simple index of weight-for-height that is commonly used to classify underweight, overweight and obesity. It is defined as the weight in kilograms divided by the square of the height in meters (kg/ m^2). For example, an adult weight 70 kg and height 1.75 m will have BMI=$70(kg)/1.752(m^2)$ = 22.9 According to Katch and Katch (1984) [1].

Methodology and Procedure
For present study, total 60 Inter-University male players (cricket-30 and Baseball-30) with their age ranging between 19-27 years was selected randomly from Punjabi university, Patiala affiliated colleges.

Selection of Variables
a) Body Mass Index (BMI)
b) Flexibility (Wells and Dillon, 1952)
c) Agility (AAHPER, 1976)

Criterion Measures
a) BMI: Body Mass Index was recorded by Height in m^2/ Weight in kg.
b) Flexibility: Each subject was given three trials and the best lean forward was considered as score nearest to a centimeter. 9 inches (12.93 cms.) was subtracted from the reading from the recorded reading to obtain flexibility score which were in terms of centimeters.
c) Agility : Time taken to shuttle a distance of 10 yard four times recorded to the nearest 1/10th of a second was the measure of agility.

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Statistical Procedure

Unpaired student 't' test was applied to find out the difference or to compare mean, standard deviation and standard error mean was computed to describe each variable statistically. The level of significance was set at .05.

Results and Discussions

Table 1: Mean and Standard Deviation of Selected Bmi Variable of Cricket and Baseball Inter-University Level Male Players

Group	N	Mean	Standard Deviation	t-value
Cricket players	30	17.617	1.93	3.3280*
Baseball players	30	19.35	2.10	

't'$_{0.05}$(58)=2.00

Table 1 statistically represent that the mean and standard deviation with regard to Cricket players is 17.617 and 1.93 where as in case of Baseball players is 19.35 and 2.10 respectively. The calculated t-value is 3.3280 which are more than the tabulated t-value (2.00) at 0.05 levels. So, it indicates that there is significant difference of Cricket and Baseball players for their BMI variable.

Table 2: Mean and Standard Deviation of Selected Flexibility Variable of Cricket and Baseball Inter-University Level Male Players

Group	N	Mean	Standard Deviation	t-value
Cricket players	30	10.25	2.48	1.8320
Baseball players	30	9.15	2.16	

't'$_{0.05}$(58)=2.00

Table 2 statistically represent that the mean and standard deviation with regard to Cricket players is 10.25 and 2.48 where as in case of Baseball players is 9.15 and 2.16 respectively. The calculated t-value is 1.8320 which is less than the tabulated t-value (2.00) at 0.05 levels. So, it indicates that there is insignificant difference of Cricket and Baseball players for their Flexibility variable.

Table 3: Mean and Standard Deviation of Selected Agility Variable of Cricket and Baseball Inter-University Level Male Players

Group	N	Mean	Standard Deviation	t-value
Cricket players	30	11.25	1.98	2.7163*
Baseball players	30	10.03	1.46	

't'$_{0.05}$(58)=2.00

Table 3 statistically represent that the mean and standard deviation with regard to Cricket players is 11.25 and 1.98 where as in case of Baseball players is 10.03 and 1.46 respectively. The calculated t-value is 2.7163 which are more than the tabulated t-value (2.00) at 0.05 levels. So, it indicates that there is significant difference of Cricket and Baseball players for their Agility variable.

Discussion

The result of the study established that there is significant difference of BMI & Agility parameter and insignificant differences show in Flexibility parameter. Results represent that in BMI and Agility variable Baseball players shows better results as compare the Cricket players; Flexibility variable shows insignificant differences but Cricket players shows more flexibility as compare Baseball players. These findings are supported by Rathore and Singh (2014) [4], Meswaniya (2012) [3], Kumar & Venkatesh (2014) [2].

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