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## A comparative study of selected physical variables between cricket and softball players

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### Abstract

The purpose of the study was to compare the selected physical variables between cricket and softball players. A total of 60 male subjects (30 each in softball and cricket) age ranges from 18 to 26 were selected purposively for the study from different region of Madhya Pradesh who have participated in Inter-University tournaments. The data were collected for different physical variables i.e. back strength, hand grip (right and left) and balance (dynamic and static). For the analysis of data, independent t-test has been employed. The level of significance was set at 0.05. The significant difference was found between Cricket and Softball players on dynamic balance. Whereas, insignificant differences were found for other physical variables i.e. back strength, static balance and handgrip strength (right and left) among softball and cricket player.

**Keywords:** Cricket, softball, balance, back strength, grip strength

### Introduction

Fitness is important at all levels of the game, whilst being essential for top level players; it is beneficial for beginners who will improve both their effectiveness and enjoyment through good standards of fitness. Fitness enables a player to cope with the physical demands of the game as well as allowing the efficient use of his various technical and tactical competencies throughout the match.

Physical fitness refers to the organic capacity of the individual to perform the normal task of daily living without undue tiredness or fatigue having reserve of strength and energy available to meet satisfactorily any emergency demands suddenly placed upon him. Softball is a sport requiring high levels of physical fitness. It is one of those rare games which demands not only speed but agility, strength, power and endurance. Softball players need a combination of technical, tactical and physical skills in order to succeed. Improving aerobic capacity and overall fitness boosts performance on the Softball field. Cricket is a deceptively demanding sport; players spend a long day on their feet, there are periodic fast sprints when batting, chasing down a ball, and bowling, plus various dynamic movements such as leaping, throwing, and turning quickly. It really is vital that all players should increase their base levels of fitness because that will allow them to realize their potential. It will allow them to maintain their level of performance for longer, increasing their concentration and endurance, and that is something each player will have to do if they want to do themselves justice on the world's biggest cricketing stage.

Balance is your ability to maintain equilibrium, or control your body's position in space. This component can further be broken down into static balance, which is maintaining equilibrium while not moving, and dynamic balance, which is maintaining control of the body while moving without succumbing to gravity or momentum (Matte, 2013) [6]. Balance is important in both cricket and softball while playing different types of stokes.

### Selection of Subjects

A total of 60 subjects (n = 30, in cricket and softball each) were purposively selected from the Madhya Pradesh from the different regions. The age of the subjects were in the range of 18 to 26 years. The players who have participated in Inter-University in cricket and softball are selected for the study.

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## Methodology

In this study the following variables were considered as the essential ingredients for both the games i.e. cricket and softball.

1. Back strength
2. Grip strength (right and left)
3. Balance (dynamic balance and static balance)

For the collection of data of back strength, back dynamometer was used, and for grip strength (right and left) hand grip dynamometer was used and for balance the researcher has used the Johnson modified test for dynamic balance and for static balance bass stick test was used.

## Statistical Technique

To see the difference between the selected physical variables among cricket and softball players independent t-test statistical technique was employed at the level of significance 0.05.

## Results

Independent t-test has been employed by the researcher to compare the back strength, dynamic balance, Static balance, grip strength (right), grip strength (left) of cricket and softball players.

The table of independent t test for the comparison of cricket and softball players in the scores of back strength has been presented below.

**Table 1:** Independent T-Test For The Comparison Of Cricket And Softball Players On Scores Of Back Strength t 0.05 (d.f=58)=1.67

Variable	Mean difference	D.F	t value	p value
Back strength	.73	58	.209	.879

Table 1 reveals that value test statistics (i.e. 't') was found insignificant as the corresponding p-value is greater than .05. The result from the above table shows that the mean difference (.73) of cricket and softball player on back strength was insignificant, which says that there is no difference in back strength of cricket and softball player.

The table of independent t test for the comparison of cricket and softball players in the scores of dynamic balance has been presented below.

**Table 2:** independent t-test for the comparison of cricket and softball players on scores of dynamic balance

Variable	Mean difference	D.F	t value	p value
Dynamic balance	5.03	58	3.04	.003

t 0.05 (d.f=58)=1.67

Table 2 reveals that the value test statistics (i.e. 't') was found significant. As the p-value is greater than .05 the results from the above table shows that the mean difference (5.03) of cricket and softball player on dynamic balance was significant which says that there is difference in dynamic balance of cricket and softball.

The table of independent t test for the comparison of cricket and softball players in the scores of static balance has been presented below.

**Table 3:** Independent T-Test For The Comparison Of Cricket And Softball Players On Scores Of Static Balance

Variable	Mean difference	D.F	t value	p value
Static balance	-1.79	58	-2.49	.843

t 0.05 (d.f=58)=1.67

Table 3 reveals that value test statistics (i.e. 't') was found insignificant. As the p-value is greater than .05 the results from the above table shows that the mean difference (-1.79) of cricket and softball player on static balance was insignificant which says that there is no difference in static balance of cricket and softball.

The table of independent t test for the comparison of cricket and softball players in the scores of grip strength (right) has been presented below.

**Table 4:** Independent T-Test for the Comparison of Cricket and Softball Players on Scores of Grip Strength (Right)

Variable	Mean difference	D.F	t value	p value
Grip strength(right)	-1.76	58	-1.219	.246

t 0.05 (d.f=58)=1.67

Table 4 reveals that the value test statistics (i.e. 't') was found insignificant. As the p-value is greater than .05 the results from the above table shows that the mean difference (-1.76) of cricket and softball player on grip strength (right) was insignificant which says that there is no difference in grip strength (right) of cricket and softball.

The table of independent t test for the comparison of cricket and softball players in the scores of grip strength (left) has been presented below.

**Table 5:** Independent T-Test for the Comparison of Cricket and Softball Players on Scores of Grip Strength (Left)

Variable	Mean difference	D.F	t value	p value
Grip strength(left)	1.58	58	1.309	.196

t 0.05 (d.f=58)=1.67

Table 5 reveals that the value test statistics (i.e. 't') was found insignificant. As the p-value is greater than .05 the results from the above table shows that the mean difference (1.58) of cricket and softball player on grip strength (left) was insignificant which says that there is no difference in grip strength (left) of cricket and softball.

## Discussion

The result of the study shows that cricket and softball players significantly differ on dynamic balance. Whereas, on back strength, static balance and handgrip strength (right and left) the softball and cricket players were found same. Dynamic balance is to maintain and to control of the body while moving without succumbing to gravity or momentum. As the game of cricket and softball are bat and ball games and have many skills very similar to each other. The difference lies in the area of the field, the equipment used for play and the time limit of game. The cricket player has to cover more distance in comparison to softball player as the dimensions of fields are different. The dynamic balance of softball players was found better than cricket player. It may be because the movement and skills in softball are speedier in comparison to the cricket

## Conclusions

1. Softball players are better than cricket players on dynamic balance.
2. Softball and cricket players are equal on static balance.
3. Softball and cricket players are equal on grip strength (left and right).
4. Softball and cricket players are equal on back strength

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