



**DR. PRASHANT  
GOVINDRAO GAWANDE**

Director of Physical  
Education & Sports,  
Arts, Science & Commerce  
College, Chikhaldara,  
Dist. Amravat  
prashantgawande3007@gmail.com

**DR. AJAY S. BONDE**

Director of Physical  
Education & Sports,  
Arts & Commerce College,  
Bori Arab, Dist. Yavatmal,  
ajaysbonde@gmail.com

One Day International E - Conference On  
**Covid-19 Pandemic: Challenges, Opportunities & Solutions in Front of  
Higher Education**  
on 21<sup>st</sup> August, 2021 @  
S.K. College Akola, AS College Kurha, S.K. Maha Dahihanda & PEFI, New  
Delhi.

**COMPARISON OF BALANCE, COORDINATION AND REACTION TIME OF  
BASKETBALL AND CRICKET PLAYERS**

**ABSTRACT**

The Basketball is a team sports in which two teams, most commonly of five players each, opposing one another on a rectangular court, compete with the primary objective of shooting a basketball through the defender's hoop in diameter mounted 10 feet high to a backboard at each end of the court) while preventing the opposing team from shooting through their own hoop. A field goal is worth two points, unless made from behind the three-point line, when it is worth three. After a foul, timed play stops and the player fouled or designated to shoot a technical foul is given one, two or three one-point free throws. The team with the most points at the end of the game wins, but if regulation play expires with the score tied, an additional period of play is mandated. Players advance the ball by bouncing it while walking or running (dribbling) or by passing it to a teammate, both of which require considerable skill. On offense, players may use a variety of shots – the layup, the jump shot, or a dunk; on defense, they may steal the ball from a dribbler, intercept passes, or block shots; either offense or defense may collect a rebound, that is, a missed shot that bounces from rim or backboard. Cricket is a bat-and-ball game played between two teams of eleven players on a field at the centre of which is a 22-yard (20-metre) pitch with a wicket at each end, each comprising two bails balanced on three stumps. The batting side scores runs by striking the ball bowled at the wicket with the bat, while the bowling and fielding side tries to prevent this and dismiss each batter. Means of dismissal include being bowled, when the ball hits the stumps and dislodges the bails, and by the fielding side either catching the ball after it is hit by the bat and before it hits the ground, or hitting a wicket with the ball before a batter can cross the crease in front of the wicket. When ten batters have been dismissed, the innings ends and the teams swap roles. The game of Volleyball cricket and Basketball players are necessary of all the mention variables as to have well control and to give pass or shoot at the target successfully. Different games required different body position of quick reaction time, balance and coordination to execute of skill successfully. Hence the researcher is intended to undertake this study. Study was delimited to only 20 Volleyball, 20 cricket players of inter-collegiate level were selected. The age was considered 18 to 25 years. The study was delimited to the male students only.

**KEY WORDS:** Balance, Coordination, Reaction Time

**Introduction:-**

Sports are as old as human society and it has achieved a universal following in the modern times. It has now becomes an integral part of education process and social activities, millions of sports fans

participates in sports for the fun adventure, health, physical fitness and financial benefits linked with a high degree of popularity.

The Basketball is a team sport in which two teams, most commonly of five players each, opposing one another on a rectangular court, compete with the primary objective of shooting a

basketball through the defender's hoop in diameter mounted 10 feet high to a backboard at each end of the court) while preventing the opposing team from shooting through their own hoop. A field goal is worth two points, unless made from behind the three-point line, when it is worth three. After a foul, timed play stops and the player fouled or designated to shoot a technical foul is given one, two or three one-point free throws. The team with the most points at the end of the game wins, but if regulation play expires with the score tied, an additional period of play is mandated. Players advance the ball by bouncing it while walking or running (dribbling) or by passing it to a teammate, both of which require considerable skill. On offense, players may use a variety of shots – the layup, the jump shot, or a dunk; on defense, they may steal the ball from a dribbler, intercept passes, or block shots; either offense or defense may collect a rebound, that is, a missed shot that bounces from rim or backboard. It is a violation to lift or drag one's pivot foot without dribbling the ball, to carry it, or to hold the ball with both hands then resume dribbling.

Invented in 1891 by Canadian-American gym teacher James Naismith in Springfield, Massachusetts, United States, basketball has evolved to become one of the world's most popular and widely viewed sports. The National Basketball Association (NBA) is the most significant professional basketball league in the world in terms of popularity, salaries, talent, and level of competition. Outside North America, the top clubs from national leagues qualify to continental championships such as the Euro League and the Basketball Champions League Americas.

Coordination makes the difference between good performance and poor performance. The efficiency of skill patterns depends upon the inter relation of speed, balance and muscle movements into as well coordinated pattern. Different games required different body position of quick reaction time, balance and coordination to execute of skill successfully.

The most spectacular and joyous part of cricket is jump and throw, and passing the ball to the wicketkeeper perfectly. Cricket is a bat-and-ball game played between two teams of eleven players on a field at the centre of which is a 22-yard (20-metre) pitch with a wicket at each end, each comprising two bails balanced on three stumps. The batting side scores runs by striking the ball bowled at the wicket with the bat (and running between the wickets), while the bowling and fielding side tries to

prevent this (by preventing the ball from leaving the field, and getting the ball to either wicket) and dismiss each batter (so they are "out"). Means of dismissal include being bowled, when the ball hits the stumps and dislodges the bails, and by the fielding side either catching the ball after it is hit by the bat and before it hits the ground, or hitting a wicket with the ball before a batter can cross the crease in front of the wicket. When ten batters have been dismissed, the innings ends and the teams swap roles. The game is adjudicated by two umpires, aided by a third umpire and match referee in international matches.

Forms of cricket range from Twenty20, with each team batting for a single innings of 20 overs, to Test matches played over five days. Traditionally cricketers play in all-white kit, but in limited overs cricket they wear club or team colours. In addition to the basic kit, some players wear protective gear to prevent injury caused by the ball, which is a hard, solid spheroid made of compressed leather with a slightly raised sewn seam enclosing a cork core layered with tightly wound string. The earliest reference to cricket is in South East England in the mid-16th century. It spread globally with the expansion of the British Empire, with the first international matches in the second half of the 19th century. The game's governing body is the International Cricket Council (ICC), which has over 100 members, twelve of which are full members who play Test matches. The game of Volleyball cricket and Basketball players are necessary of all the mention variables as to have well control and to give pass or shoot at the target successfully. Physical and motor traits play a vital role in contributing to hoping ability of the player. Body balance is an important factor in physical activities like gymnastics, defensive position in wrestling, diving and some other individual and team sports like Volleyball, cricket and Basketball. Balance is one's ability to maintain the body's centre of gravity over the centre of supporting base of the body. Coordination is the ability to integrate muscles movements into an efficient pattern of movement. Coordination makes the difference between good performance and poor performance. The efficiency of skill patterns depends upon the inter relation of speed, balance and muscle movements into as well coordinated pattern. Different games required different body position of quick reaction time, balance and coordination to execute of skill successfully. The game of Volleyball, cricket and Basketball players are necessary of all the mention

variables as to have well control and to give pass or shoot at the target successfully.

Hence the researcher is intended to undertake this study, so the topic is under taken scientifically to see the outcome of the study. Study was delimited to only 20 Basketball, 20 cricket players of inter-collegiate level were selected. The age was considered 18 to 21 years. The study was delimited to the male students only. Limitations of experience and training background was not considered, no specific motivational devices were adopted to motivate or discourage the subjects during the experimentation, environmental factors and diet of the subjects were not under control of researcher.

**Purpose of the study:**

The main purpose of the study was to find out the difference in balance, coordination and reaction time of Basketball and cricket players.

**Significance of the study:**

1. This study would help the players in achieving their high performance at the time of competition.
2. The result of this study would provide a guideline to the physical education teacher, coaches and trainers in preparing the training schedule for the Basketball and cricket players.

**Hypothesis:**

Researcher hypothesized that there would be significant difference in balance, coordination and reaction time of Basketball and cricket players.

**Methodology:**

For the study the sources of data were from the intercollegiate Basketball and cricket players were the sources of data. Total 20 – 20 boys Basketball and cricket players overall, 40 players of 18 to 25 years of age were chosen for the study. Purposive sampling method was adopted for the present study. Balance was measured by using modified bass test and the score was recorded in numbers as points. Coordination was measured by using eye hand and eye-foot coordination and the score was recorded in seconds. Reaction time was measured by using the following test, Nelsons hand reaction time, Nelsons foot reaction time, and the score was recorded in seconds. The data were collected on the selected subjects by administering the aforesaid test. Before collection of data, the research scholar explained the purpose of the study to the subjects so that they could put their best efforts. All the collected data were arranged systematically in the table for further statistical calculations..

**Analysis of Data;**

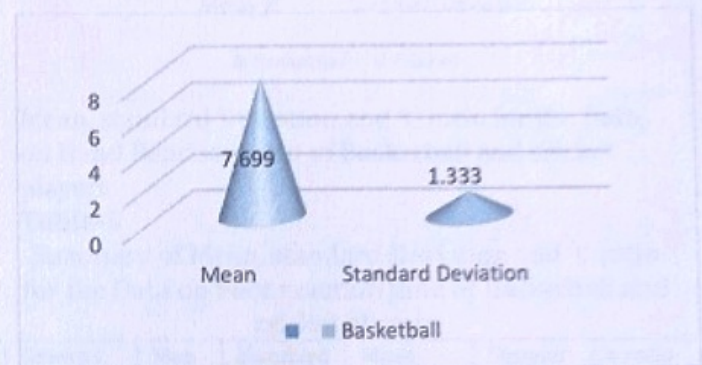
To find out the mean difference between the Basketball and Cricket players in Balance,

Coordination and Reaction time' t' test was employed. The level of significance to check t-ratio obtained by mean difference method was fixed at 0.05 level of confidence for 38 degrees of freedom, which was considered to be appropriate in the view of the fact.

Table -1

Summary of Mean, standard Deviation and 't' ratio for the Data on dynamic balance of Basketball and cricket players

Group	Mean	Standard Deviation	Mean difference	Standard error	t-ratio
Basketball	74.249	8.003	1.500	2.820	0.514*
Cricket	72.751	8.034			

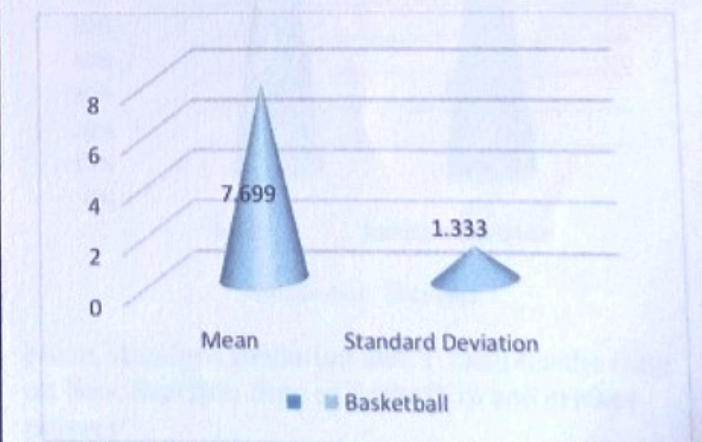


Mean, standard Deviation and 't' ratio for the Data on Dynamic balance of Basketball and cricket players

Table - 2

Summary of Mean, standard Deviation and 't' ratio for the Data on eye hand coordination of Basketball and cricket players

Groups	Mean	Standard Deviation	Mean difference	Standard error	t-ratio
Basketball	29.130	2.002	1.500	0.553	2.112*
Cricket	27.739	2.162			

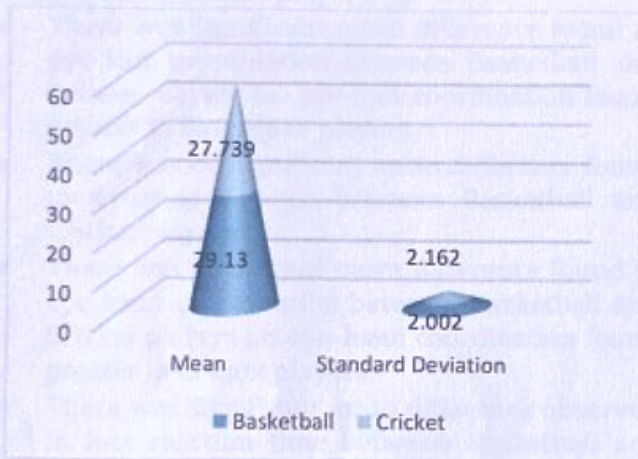


Mean, standard Deviation and 't' ratio for the Data on eye hand coordination of Basketball and cricket players

Table-3

**Summary of Mean, standard Deviation and 't' ratio for the Data on eye foot coordination of Basketball and cricket players**

Group	Mean	Standard Deviation	Mean difference	Standard error	t-ratio
Basketball	7.699	1.333	0.798	0.398	2.169*
Cricket	8.598	1.261			

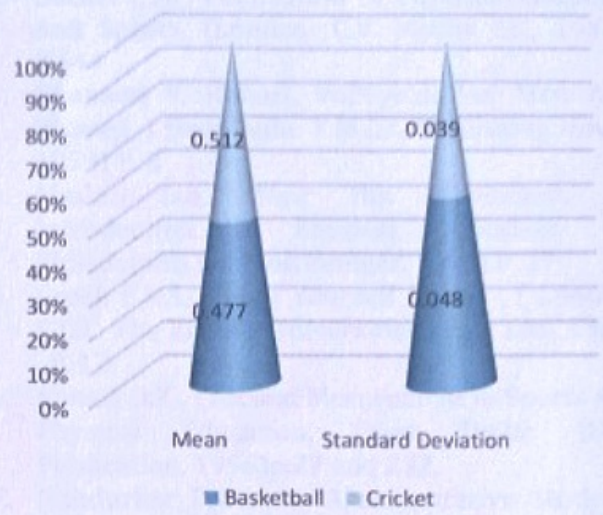


Mean, standard Deviation and 't' ratio for the Data on eye Foot coordination of Basketball and cricket players

**Table-4**

**Summary of Mean, standard Deviation and 't' ratio for the Data on Hand reaction time of Basketball and cricket players**

Group	Mean	Standard Deviation	Mean difference	Standard error	t-ratio
Basketball	0.623	0.084	0.048	0.024	2.103*
Cricket	0.578	0.049			

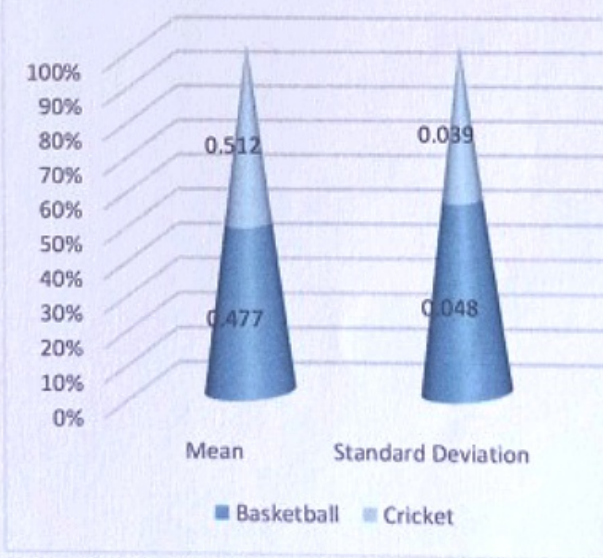


Mean, standard Deviation and 't' ratio for the Data on Hand Reaction time of Basketball and cricket players

**Table-5**

**Summary of Mean, standard Deviation and 't' ratio for the Data on Foot reaction time of Basketball and cricket players**

Groups	Mean	Standard Deviation	Mean difference	Standard error	t-ratio
Basketball	0.477	0.048	0.034	0.016	2.185*
Cricket	0.512	0.039			



Mean, standard Deviation and 't' ratio for the Data on Foot Reaction time of Basketball and cricket players

**Discussion of Hypothesis:**

Hypothesis made in the beginning of the study, it was, there might be significant difference in reaction time, balance, and coordination of Basketball and cricket Players.

The study showed that significant difference observed in eye-hand coordination, eye-foot coordination, hand reaction time and foot-reaction time, there were no significant differences in dynamic balance, so the hypothesis stated earlier is partially accepted.

**Conclusion:**

After statistical analysis it was concluded that,

- There was Significant mean difference observed in hand reaction time between Basketball and Cricket players i.e. hand reaction time found greater in Cricket players.
- There was Significant mean difference found in eye-foot coordination between Basketball and Cricket players i.e. eye-foot coordination found greater in Basketball players.
- There was no significant mean difference found in dynamic balance between Basketball and Cricket players.
- There was significant mean difference found in eye-hand coordination between Basketball and Cricket players i.e. eye-hand coordination found greater in Cricket players.
- There was Significant mean difference observed in foot reaction time between Basketball and Cricket players i.e. foot reaction time found greater in Basketball players.

**References:**

1. Bhomik Amit Kumar, "Comparison of Selected Physiological Parameters between Soccer and Kabaddi Players", Unpublished Master's Thesis, Amravati University, 1987.

2. Bucher C.A. , Foundation Of Physical Education And Sports, (London: C.V. Mosby Co., 1983), P.644
3. Dhanaraj V. Hubert, Volleyball For Men And Women, ( New Delhi: Y.M.C.A. Publishing House 1979) P. 5
4. Fleshin Jan, More Thn Movement, An Introduction To Physical Education , ( Philadelphia Lea And Febiger, 1972),P. 37
5. Greek F.N.S., Teach Yourself Soccer , ( London: E.C.I.: The English Universities Press Ltd., 1964) , P. 12
6. Kansal D.K., Test and Mesurement in Sports And Physical Education, (New Delhi: D.V.S. Publication, 1996)p.27 and 232.
7. Nandurkar Prakash, "A comparative Study Of Players in Volleyball and Basketball regarding Speed and Co-ordination", (Unpublished Masters Dissertation, Amravati University Amravati, 1980)
8. <https://www.mastersportsgroup.com/contents/nl/d168068 MasterBasketball.html>
9. <https://shortpedia.org/basketball/Compare Text>
10. <https://thedigitalphilatelists.com/thematic-sport-cricket/>
11. <https://wikimili.com/en/Three-point field goal>