

Differentiation of Selected Fitness Assessment between Spinner and Medium Pace Bowlers

Authors

*Mr. Kanwaldeep Singh

M.P.Ed. Student, Department of Physical Education, Lovely Professional University, Jalandhar, Punjab, India.

**Dr. Mithun Chandra Roy

Assistant Professor, Department of Physical Education, Lovely Professional University, Jalandhar, Punjab, India.

ABSTRACT:

In this study, researchers looked at the fitness variables of medium pace bowlers and spinners in cricket. To meet the study's objectives, the researchers selected 30 cricketers (15 medium pacers and 15 spinners) from different academies in Kanpur, ranging in age from 16 to 20 years. The fitness test is used to measure the fitness level of a player and the tools are used to collect the data: Hand Grip Dynamometer Test, Prone Bridge Test, Medicine Ball Test and Y – Balance Test. SPSS version 26 was used for statistical analysis of the data and

applied Independent T – Test to calculate the data results. Ultimately, the data results showed no significant differences between the medium pacers and the spinner in terms of shoulder strength, core strength, and hand grip strength. There were only significant difference shows in the Y – Balance test with respect to the dominant foot balancing, but it also did not show a significant difference related to balancing with the non-dominant foot.

Keywords: physical fitness assessment, medium pacers, spinners

Introduction:

Cricket is our most popular game in India. There is no definite opinion on the origin of cricket while most people say that cricket originated from England. The first word of cricket was used in the Florida edition of the Italian-English Dictionary. The first match was played in 1709 between the team of Landon and Kent and the University of Cambridge in 1710 and the University of Oxford in 1729 began to play cricket, but the real beginning of cricket is in 1760 AD. The first cricket club was founded in England. famous cricketer named John Nairan and then in 1787 Marylebone Cricket Club was founded and the first match was played between England and Australia in 1877 at Lord's and this match Australia won win. Then, in 1909, the ICC (Royal Cricket Conference) was established in England.

Cricket can be played socially and competitively by men and women of all ages. To compete in cricket, you need to be healthy, strong, and have strong hand-eye coordination. In India, cricket is primarily viewed as a career opportunity for young people. It improves the overall character of a person and improves teamwork, social skills, speaking skills. Cricket is a way of dealing with wins and losses through a competitive approach. Cricket is a team game where it is important to communicate and make decisions unanimously. This is called "Gentleman's Play". It is full of high concentration, perseverance and coordination. (V.K.Sharma, n.d.)

It is requiring great deal of mental and physical fitness. It is a best exercise to burn calories. It involves lot of muscular exercise because of striking, pitching, wicket keeping. Playing cricket establishes great motor skill for bowling, catching and batting body's muscles like back,

gluteus, chest, quadriceps, and hamstrings are exercised. Short moments of running are from of cardio health. It promotes controlled activities, balance and rhythm it increases core stability by strengthening abdominal muscles from where strokes are implemented. It enhances the concentration power of an individual and sharpens the mind. In modern era, physical fitness and skill-related fitness both are important in cricket. There are many skills related fitness components like gripping strength, agility, coordination, shoulder strength, core stability and strength and balancing etc. In this study the researcher taken a few skills related components which definitions are mentioned as

Hand Grip Strength:

Grip strength is the most important part of our lives. We can use our grip strength in everyday tasks like gripping handles, lifting weights, carrying things, etc. The strength of the forearms is very important in grip strength. In cricket, hand grip is very important most of the time in the match. We use our grip to hit the ball, bowling and most of the time on the field. Grip strength is essential and important for spinners and medium pacers, as spinners use their fingers to spin the ball and good grip helps keep the ball spinning to get the turn from the pitch. where medium pacers are used for our grip strength when making a slower ball as a variation to get the wicket which he also uses to control the ball during bowling.

Shoulder Strength:

The shoulder strength is most important part for doing any activity in game and in our daily life in sports and games its play a vital role in many activities like throwing the ball in cricket, lifting the weight in weight lifting, throwing a shout put in throwing events and etc. The shoulder strength played a

vital role in cricket it is must to have good shoulder strength while doing bating hitting sixes and throwing the ball to the wicket keeper during fielding. The shoulder strength is important for pacers as well as spinners also while doing fast bowling the pacers need the shoulder strength to produce good pace in it and for spinners in test matches need good shoulder strength to deliver a long spell in bowling.

Core Stability and Strength:

The core stability and strength are used to maintain the well balanced of your body and it is use to produce the maximum force in sports activity like kicking the ball in football, throwing the shout put or in javelin throw and etc. A good core strength is also playing an important role in cricket also it is used to produce the force while doing bowling to maintain a good pace for pacers and throwing the ball during fielding and in batting for hitting sixes and also to maintain the balance after it. Through core strength the pacers are produce the maximum pace in bowling and it also to maintain a good balance in follow through. A good core strength is decreasing the chances of back injury for pacers and to maintain the balance for spinners during bowling and completing the follow through.

Balance:

The balance is most important part of every game we need a balance to maintain the upright position and also to produce the momentum in running. The balance is playing an important role in cricket while doing batting we need a good static balance for playing shot and also in fielding, catching the ball and throwing the ball. The balance is important for bowlers in pace bowling it helps to produce momentum in run up and in back, front foot landing during the pitching the ball to the batsman we need balance and for spinners after completing the follow through need a good static balance.

It was observed, specific fitness is important in modern cricket and this investigation also focused on specific fitness components which can be helpful to the cricket coaches and physical educators. The result of this investigation can serve an idea to the physical educators, coaches and trainers to focus on the right ways to improve the athletes’ fitness.

So that the objectives of the study were as follows:

- Comprehend the grip strength of medium pace bowler and spinner bowler.
- Comparison of shoulder strength between medium pace bowler and spinner bowler.
- To compare the core stability and strength between medium pace bowler and spinner bowler.
- The study was also compared on static balancing ability between medium pace bowler and spinner bowler.

Methodology:

The investigation was done on thirty male cricket players those who were participated in the UPCA trails. The subjects were from various cricket academies (Kommercial Cricket Academy, Palika Cricket Academy, New – Star Cricket Academy, K.D.M.A World Cricket Academy) in Kanpur. Fifteen spinner bowlers and fifteen medium pace bowlers were selected and the ages range was 16 to 20 years for the study. The selected fitness components were Hand Grip Strength, Shoulder Strength, Core Stability & Strength and

Static Balance for the investigation. The hand grip strength was measured by dynamometer hand grip strength test, the Shoulder Strength was measured by medicine ball put test, core stability & strength was measured by prone bridge test, static balance was measured by Y – balance test. The collected data was analyzed by Mean and Standard Deviation also Independent-‘t’ test was applied to compare between the groups, through the SPSS software (Version-26) at significance level 0.05.

Results and Discussion of Data:

Table-1 Comparison of hand grip strength between medium pacer bowler and spinner bowler

Variable	Group	Mean	Std. Deviation	t – Value	Sig.
Hand Grip Dynamometer Strength	Medium Pace Bowler	36.906	±4.84	0.456	0.652
	Spinner Bowler	36.146	±4.27		

P = 0.05, t = 2.048

Table-1 shows the mean value of medium pacers 36.906 and spinners 36.146 and shows the std. deviation ±4.84 and ±4.27 the t – value 0.456 which is less than the t – test table value 2.048. The p value is equal to 0.652 which is more than 0.05 which means it is show no significant difference between medium pacers and spinners regarding hand grip strength.

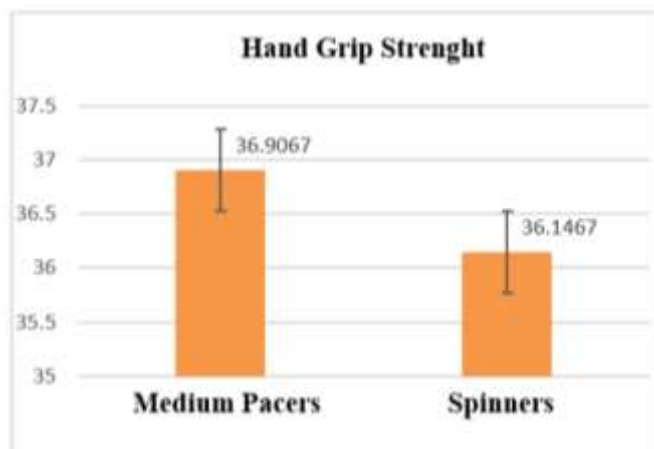


Fig. 1 Mean and S.D. values of Hang Grip Strength of Medium Pace and Spinner Bowlers

Table-2 Comparison of Core Stability & Strength between medium pace bowler and spinner bowler

Variable	Group	Mean	Std. Deviation	t – Value	Sig.
Core Stability & Strength	Medium Pace Bowler	3.069	±1.309	0.078	0.941
	Spinner Bowler	3.028	±1.683		

P = 0.05, t = 2.048

Table-2 shows the mean value of medium pacers 3.069 and spinners 3.028 and shows the std. deviation ± 1.309 and ± 1.683 the t – value 0.078 which is less than the T – Test table value 2.048. The p value is equal to 0.941 which is more than 0.05 which means it is show no significant difference between medium pacers and spinners regarding core stability and strength.

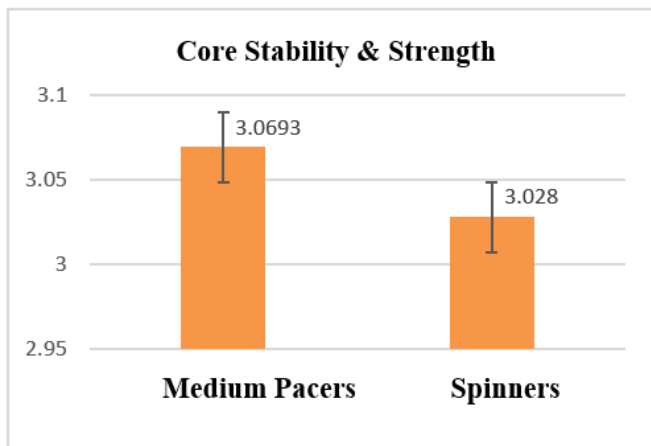


Fig. 2 Mean and S.D. values of Core Stability & Strength of Medium Pace Bowler and Spinner Bowler

Table-3 Comparison of Shoulder Strength between medium pace bowler and spinner bowler

Variable	Group	Mean	Std. Deviation	t – Value	Sig.
Shoulder Strength	Medium Pace Bowler	5.964	± 0.951	1.207	0.238
	Spinner Bowler	5.568	± 0.842		

P = 0.05, t = 2.048

Table-3 shows the mean value of medium pacers 5.964 and spinners 5.568 and shows the std. deviation ± 0.951 and ± 0.842 the t – value 1.207 which is less than the t – test table value 2.048. The p value is equal to 0.238 which is more than 0.05 which means it is show no significant difference between medium pacers and spinners regarding shoulder strength.

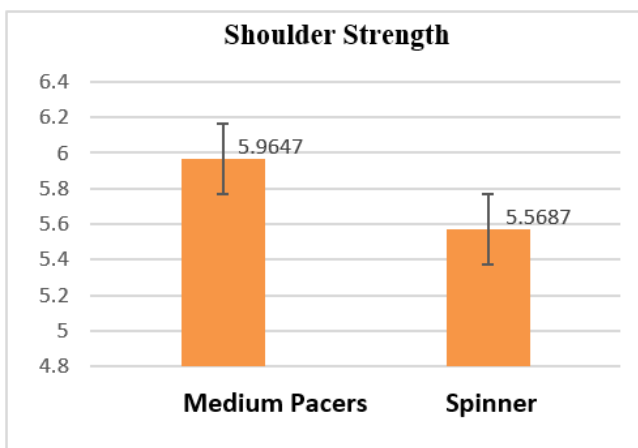


Fig. 3 Mean and S.D. values of Shoulder Strength of Medium Pace Bowler and Spinner Bowlers

Table-4 Comparison of Static Balance (Right Leg) between medium pace bowler and spinner bowler

Variable	Group	Mean Value	Std. Deviation	T – Value	Sig.
Static Balance (Right Leg)	Medium Pace Bowler	98.68	± 9.87	1.826	0.079
	Spinner Bowler	92.11	± 9.65		

P = 0.05, t = 2.048

Table-4 shows the mean value of medium pacers 98.68 and spinners 92.11 and shows the std. deviation ± 9.87 and ± 9.65 the t – value 1.826 which is less than the t – test table value 2.048. The p value is equal to 0.079 which is more than 0.05 which means it is show no significant difference between medium pacers and spinners regarding static balance of non – dominant foot.

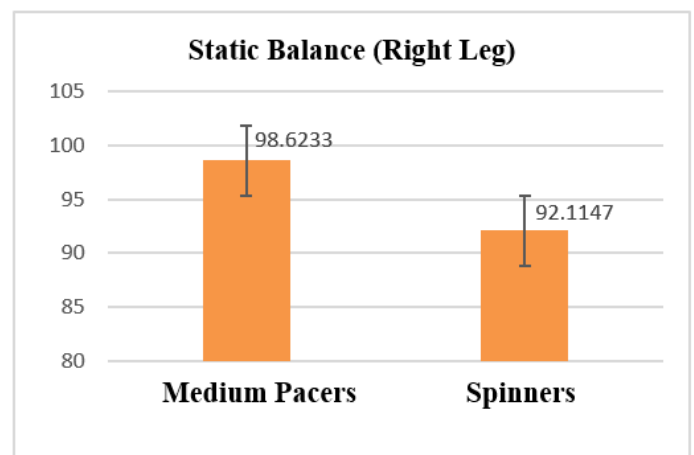


Fig. 4 Mean and S.D. values of Static Balance (Right Leg) of Medium Pace Bowler and Spinner Bowlers

Table-5 Comparison of Static Balance (Left Leg) between medium pace bowler and spinner bowler

Variable	Group	Mean	Std. Deviation	t – Value	Sig.
Static Balance (Left Leg)	Medium Pace Bowler	104.95	± 9.62	2.367	0.025
	Spinner Bowler	96.58	± 9.75		

P = 0.05, t = 2.048

Table-4 shows the mean value of medium pacers 104.95 and spinners 96.58 and shows the std. deviation ± 9.62 and ± 9.75 the t – value 2.368 which is more than the t – test table value 2.048. The p value is equal to 0.025 which is less than 0.05 which means it is showing significant difference between medium pacers and spinners regarding static balance of dominant foot.

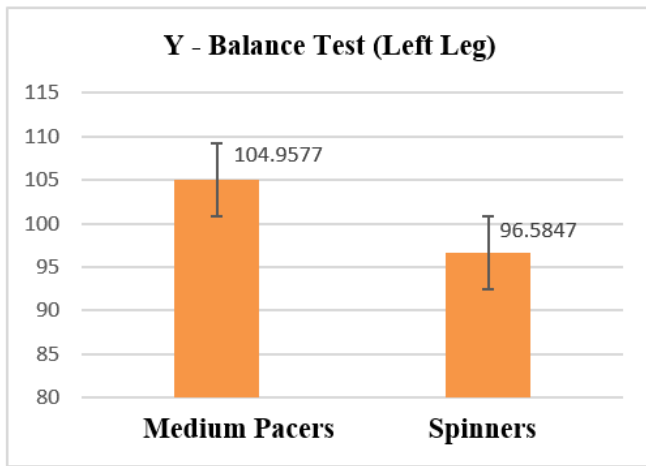


Fig. 3 Mean and S.D. values of Static Balance (Left Leg) of Medium Pace Bowler and Spinner Bowler

Discussion of Findings:

The physical fitness is important factor in modern time of cricket and in this study the researcher investigated the difference in physical fitness between medium pacers and spinners. The above table-1 was indicated the mean values between both groups 36.906 and 36.146 and t-test indicated the 'p' value 0.625 which was greater than 0.05 also no significance difference was found regarding to hand grip strength.

In table-2 was indicated the mean values of both group 3.069 and 3.028 respectively and t-test indicated the 'p' value is 0.941 which was greater than 0.05, also no significance difference was found regarding to their core strength in prone bridge test.

In table-3 was indicated the mean value 5.964 for medium pacers and 5.568 for spinners and t-test indicated the 'p' value 0.238 which was greater than 0.05, also no significance difference was found regarding to their shoulder strength.

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In table-4 was indicated the means value of non – dominant foot of the both group was 98.68 and 92.11 and t – test indicated the 'p' – value 0.079 was greater than 0.05, also no significance difference was found regarding to their static balancing ability of non – dominant foot and in the table-5 was indicated the mean value of both groups' dominant foot 104.95 and 96.58 and also in t –test indicated the 'p' – value 0.025 which was less than 0.05, also significant difference was found between both groups regarding to their static balancing ability of dominant foot.

From the related studies Shanbhag, Kumar(2021)(Khichadiya& Kanase, 2017) showing the significance difference related to hand grip strength between medium pacers and spinners or Borra (2016)(Boora, 2016) is also showing the significance difference related to shoulder strength between both group and also the Shiv (2017)(Bhardwaj Vikrant, 2016) showing the significant difference related to anthropometry variables. In this study the researcher found there is no – significant difference between medium pacers and spinners regarding to physical fitness level because they having same level of physical fitness, same timing of workout and also same pattern of the training schedule and intensity or may also same environmental condition that's why the results are showing no – significant difference.

Conclusion:

In the present study, the investigator concluded that the test items used for data collection are very useful for identifying talent and are also used to evaluate an athlete's fitness. In this study, there were no significant differences found related to hand grip strength, shoulder strength, core strength. There was a Y - balance test used to measure an athlete's balance ability. In that test, there was a significant difference found in respect of dominant foot but there was no – significant difference in respect of non – dominant foot.

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