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## Comparative effect of designated physical fitness variables between pacer and orthodox batsman in cricket

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### Abstract

The aim of the study is to compare the selected Physical fitness variables between male fast bowler and Batsman in cricket. A total of 30 state level male subjects age ranged between 15-19 years were selected for this study from Cricket Coaching Centre, Barasat (North 24 pgs) approved by CAB. The purposive sampling method was used to obtain the objective of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. They were further divided into two groups of 15 each (N1=15; fast bowler and N2 =15; batsman). The “P” test was employed to find out the significant differences between male fast bowler and Batsman. To test the hypotheses, the level of significance was set at 0.05. The results revealed insignificant differences between fast bowler and Batsman on the all selected physical fitness variables i.e. speed, strength, agility, muscular endurance and cardiovascular endurance.

**Keywords:** Pacer, batsman, cricket, speed, strength, agility, muscular endurance and cardiovascular endurance

### Introduction

Cricket has become one of the most popular game in the world & of all major games in India. It is the only one that has been jealously preserved by all those who play or support it.

In earlier days cricket was pre dominantly a game of royal people. The maharajas played during their leisure time. So people had no idea or very idea about the actual demands of the game. But today with advancement in technology in every sphere of life, cricket has gone down from sport less while dress to track suit and royal cricket grounds to scientific gymnasiums and laboratory.

To discuss the art of batting, the batting is the hardest branch in which to excel. Batting is always more enjoyable when one is making runs in matches, but it is to be remembered there are no short-cuts to consistent run-making. Batting is a ball to ball battle with the bowler. A batsman must make up his mind about which stroke he intends making until the ball has left the bowler's hand, and in that function of a second he will have to decide whether to play forward or to play back. He must do one or the other; otherwise, he is in a batsman's no man's land. Fast bowling is one of the three main approaches to bowling in the sport of cricket, the others being spin bowling and medium-pace or swing bowling. Practitioners of pace bowling are usually known as fast bowlers, quicks, or pacemen. They can also be referred to as a *seam* bowler or a 'fast bowler who can swing it' to reflect the predominant characteristic of their deliveries. Strictly The aim of fast bowling is to deliver the ball in such a fashion as to cause the batsman to make a mistake. This is achieved by making the hard cricket ball deviate from a predictable, linear trajectory at a speed that restricts the amount of time in which the batsman can compensate for it. For deviation caused by the ball's stitching (the seam), the ball will bounce off the pitch and deflect either away from the batsman's body, or inwards towards them.

The game of cricket requires considerable amount of physical fitness and mastery of skills. A cricket player ought to possess specific speed, strength, power, agility flexibility & endurance in abundance so as to learn & master the techniques of the game (Gosh,1982) [4].

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For a player striving for success in cricket there are there vital components in preparing

1. Physical fitness
2. Technique practice
3. Proper mental preparation.

Physical fitness lays the foundation for both technique practice and mental preparation. Poor physical condition can predispose one to premature tiredness and cause a loss in concentration, resulting in a lesser performance. There is also no doubt that fit players are less likely to be injured than those who are unfit. (Amarnath, 1996) [5]. So the physical fitness is one of the deciding factors for the successful participation of cricketers at higher level. Although, plenty of research work had been done on comparison on physical fitness variables between cricketers but only few studies were conducted on comparison between medium fast bowler and batsman. Therefore, this study had been deigned to compare the physical fitness variable between male fast bowlers and batsmen.

## Method and procedure

**Table 1:** Mean, Standard Deviation, Standard Error of the Mean, t- value and p- value of Fast Bowler and Batsman

Variables	Mean		SD		SEM		T value	p value
	Fast Bowlers	Batsman	Fast Bowlers	Batsman	Fast Bowlers	Batsman		
Speed	6.65	6.78	.28	.16	.072	.042	1.185	.92
Strength	6.13	6.13	1.40	1.35	.363	.350	1.035	1.007
Agility	9.59	9.94	.438	.266	.113	.068	2.617*	.10
Muscular Endurance	40.33	39.33	5.30	2.28	1.36	.590	.671	.84
Cardiovascular Endurance	1.55	1.54	.216	.030	.558	.007	.83	.23

\*significant at tab "t" .05 (28) = 1.701

## Results

### Speed

Table no. 1 the descriptive statistics shows the mean and SD value of fast bowler on the variable of speed as 6.65 and .28 respectively. However, batsman had mean and SD values as 6.78 and .16 respectively. The 't' - value -1.185 as shown in the table above was found statistically insignificant.

### Strength

The descriptive statistics shows the mean and SD value of fast bowler on the variable of strength as 6.13 and 1.40 respectively. However, batsman had mean and SD values as 6.13 and 1.35 respectively. The 't' - value 0.00 as shown in the table above was found statistically insignificant.

### Agility

The descriptive statistics shows the mean and SD value of fast bowler on the variable of agility as 9.59 and .438 respectively. However, batsman had mean and SD values as 9.94 and .266 respectively. The 't' - value - 2.617 as shown in the table above was found statistically significant.

### Muscular endurance

The descriptive statistics shows the mean and SD value of fast bowler on the variable of muscular endurance as 40.33 and 5.30 respectively. However, batsman had mean and SD values as 39.33 and 2.28 respectively. The 't' - value .671 as shown in the table above was found statistically insignificant.

### Cardiovascular endurance

The descriptive statistics shows the mean and SD value of fast bowler on the variable of cardiovascular endurance as 1.55

## Selection of subjects

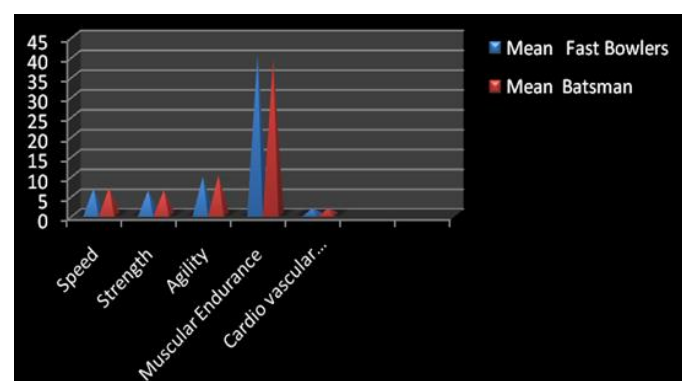
Subjects for the study were selected purposively from the Cricket Coaching Centre, Barasat (North 24 pgs) approved by CAB. For the purpose of the study 15 fast bowler and fifteen Batsman age ranged between 15-19 were selected randomly. The fast bowler and Batsman both the groups were measured on the selected physical fitness variables namely, speed, strength, agility, muscular endurance and cardiovascular endurance. The fast bowler and Batsman Speed was assessed by 50m dash test in seconds, Strength was measured by Pull-ups in numbers, Agility was assessed by shuttle run test in seconds, Muscular endurance was measured by sit-ups test in numbers and Cardiovascular endurance was measured by 600 meter run test in minutes.

## Statistical Analysis

Descriptive statistics such as mean and standard deviation of the variables i.e. speed, strength, agility, muscular endurance and cardiovascular endurance were calculated. Independent t-test was employed to compare between male fast bowler and Batsman. The level of significance was set at 0.05 level. The statistical analysis was conducted by using SPSS 16 software.

and .216 respectively. However, batsman had mean and SD values as 1.54 and .558 respectively. The 't' - value .83 as shown in the table above was found statistically insignificant.

**The comparison of mean scores of both the groups has been presented graphically in figure 1**



**Fig 1:** Graphical representation of mean scores of Fast bowler and Batsman the variables i.e. Speed, Strength, Agility, Muscular endurance and cardiovascular endurance

## Discussion and Conclusion

It is concluded from the above findings that the both significant and insignificant difference were found in the all selected physical fitness variables i.e. speed, strength, agility, muscular endurance and cardiovascular endurance between male fast bowler and batsman. The result might be due to the skills (Fast bowling and Batting) because both skills developed almost all selected physical variables correspondingly and the level of players is same. Now we are

trying to analyse the reason behind such findings.

### Speed

The insignificant difference was found in speed might be due to the fast bowler are in need of tremendous speed in run-up which helps them to release the ball with maximum speed and batsman also requires speed to running between the wickets for quick single.

### Strength

The insignificant difference was found in Strength might be due to fast bowler needs shoulder strength to release the ball with maximum velocity and batsman requires strength for static balance to eye on the ball and for executes shots.

### Agility

The significant difference was found in agility between batters and fast bowlers. That might be due to the fast bowlers requires a ample amount of speed to execute their action to deliver the ball in running motion, but the motion path and the point of delivery and follow through are same throughout the match or we can say technique will be the same in all cases. But in case of batsmen, there are a lot of uncertainty take place when a single or double or triple run have to perform between two batters. They have to change their direction all of a sudden as per the quickness showed by the fielding side or by any other occasion which was not pre assumed by the batters. So the batsmen require agility to move back quickly to his return crease after making singles or doubles run. May be due to this reason agility is much more important for the batsmen.

### Cardio vascular endurance

The insignificant difference was found in relation to cardiovascular endurance because Fast bowlers run in, on average, 25 yards (22m) every delivery. In a day where a bowler sends down minimum 10 overs (in case of ODIs's) (with 6 balls in each over), they've run 1150 yards (1051m). In case of batsmen who scores minimum 50 runs, have to run 30 runs in singles, doubles and triples. Not only that, he has to run for his partners also. So though unlike fast bowlers the batters do not have measurable distance to cover, but they also have to prepare for a long time to running between the wickets for better results.

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