



---

## Comparison of selected Physiological Variables Between Bowlers and Wicket Keepers

**Dr. Mandeep Thour** Assistant Professor, Department of Physical Education, SGGGS College Sec-26, Chandigarh, Email id: [mandeepthour@gmail.com](mailto:mandeepthour@gmail.com)

**Dr Aman Thour** Assistant Professor, Department of Physical Education GGSCW Sec 26, Chandigarh.

---

### ABSTRACT

The aim of the present study is to compare the selected Physiological variables between male Bowlers and wicket keepers in cricket. A total of 30 state level male subjects age ranged between 16-19 years were selected for this study from Cricket Coaching Centre, Jind (Haryana) approved by BCCI. 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 (N<sub>1</sub>=15; Bowlers and N<sub>2</sub>=15; wicket keepers). The t- test was employed to find out the significant differences between male bowler and Wicket keepers. To test the hypotheses, the level of significance was set at 0.05. The results revealed that insignificant differences were found between bowler and Wicket keepers on the all selected Physiological variables.

**KEY WORDS:** Bowler, Wicket keepers, Resting Heart Rate, Breathing Hold, Blood Pressure.

### INTRODUCTION

Traditionally, Cricket has been perceived as a relatively mild sports from a psychology point of view. The intermittent nature of the game with its long rest intervals provides plenty of recovery time between any short spells of higher intensity activity. High level of performance of a cricketer might be dependent upon his physiological make up and it is recognized that physiological fitness is much needed for high level performance. It has numerous parameters such as aerobic capacity, anaerobic capacity pulse, vital capacity, blood pressure, breath holding time and etc. Certain physiological variables play important role in cricket. Physiology is one of the important area. The physiological traits depends upon the race. Geographical and climatically conditions of human beings. Therefore, it is receiving spotlight attention all the time. When physical training is done, the physiological changes occur in almost every system of the human body. Sports physiology tells about the complete story of various internal functions of the body during rest and play.

Physiology is the science of functioning of all the organs and systems of an organism. For the physiological system of the body to be fit, they must function well enough to support to specific activity that the individual is performing more over different activity make different demands upon the

organism with respect to circulatory, respiratory, metabolic and neurologic process which are specific to the activity. In physiology, one learn how the organs, systems, tissues, cells and molecules within cells work and how their functions are put together to maintain the internal environment. Physiology is the science dealing with the study of human body functions. Exercise physiology is the study of how body's structures and functions are changed as a result of exercise. It applies the concept of exercise physiology to training the athlete and enhancing the athlete's sports performance.

So the physiology 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 physiological variables between cricketers but only few studies were conducted on comparison between bowler and Wicket keepers. Therefore, this study had been deigned to compare the physiological variable between male Bowlers and Wicket keepers.

## METHOD AND PROCEDURE

### Selection of subjects

Subjects for the study were selected purposively from the Cricket Coaching Centre, Jind (Haryana) approved by BCCI. For the purpose of the study 15 Bowler and 15 Wicket keepers age ranged between 16-19 were selected. The Bowler and Wicket keepers both the groups were measured on the selected Physiological Variables Resting Heart Rate, Breathing Hold and Blood pressure.

### STATISTICAL ANALYSIS

Descriptive statistics such as mean and standard deviation of the variables i.e. Resting Heart Rate, Breathing Hold and Blood Pressure were calculated. Independent t-test was employed to compare the difference between male bowler and Wicket keepers. The level of significance was set at 0.05 level. The statistical analysis was conducted by using SPSS 16 software.

## RESULTS

Variables	Mean		SD		SEM		t-Value	P-value
	Bowlers	Wicket keepers	Bowlers	Wicket keepers	Bowlers	Wicket keepers		
<b>Resting Heart Rate</b>	45.93	46.73	5.58	7.51	2.41	2.41	.331	0.76
<b>Breath Holding</b>	20.40	20.44	3.13	3.13	1.14.	1.14	0.00	1.00
<b>Blood Pressure</b>	116.73	116.75	1.86	2.52	.81	.81	0.82	0.72

### Resting Heart Rate

Table no. 1 the descriptive statistics shows the mean and SD value of bowlers on the variable of Resting Heart Rate as 45.93 and 5.58 respectively. However, Wicket keepers had mean and SD values as 46.73 and 7.51 respectively. The 't' - value -0.331 as shown in the table above was found statistically insignificant ( $P > .05$ ).

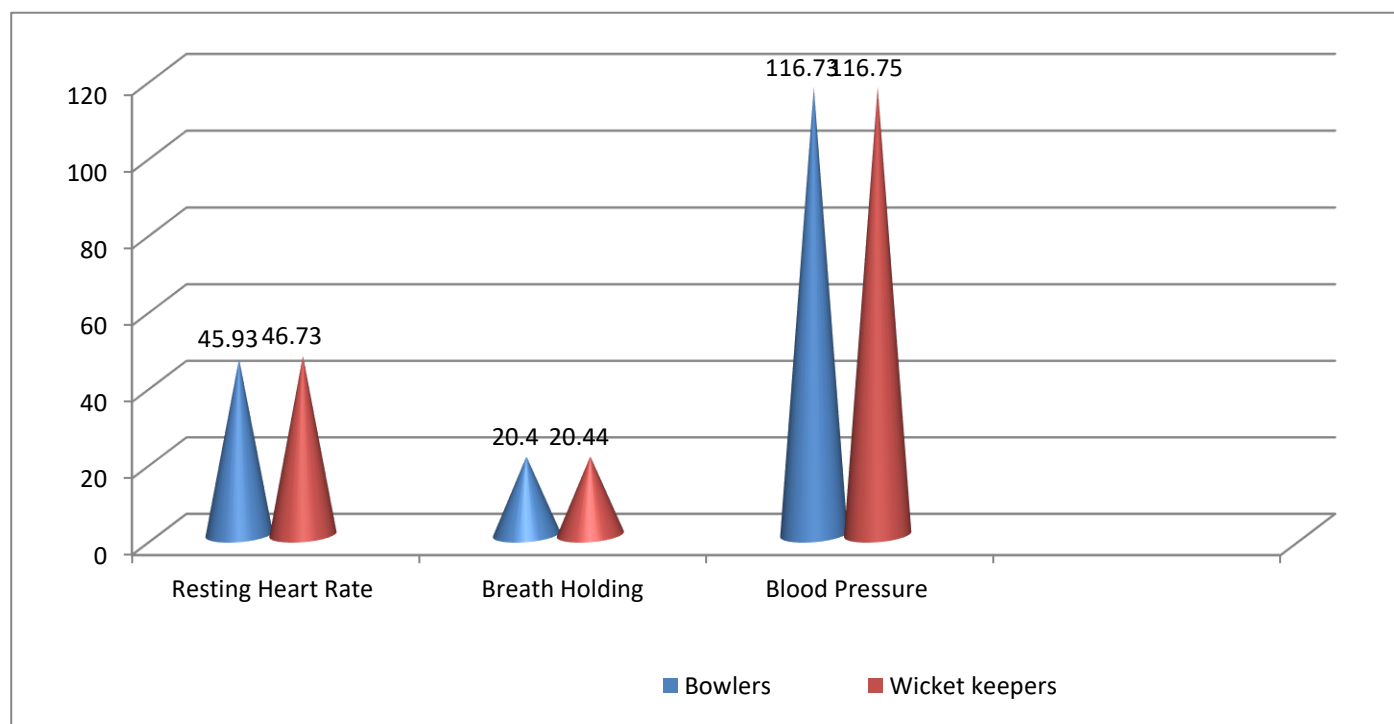
### Breathe Holding

The descriptive statistics shows the mean and SD value of bowlers on the variable of Breathe Holding as 20.40 and 3.13 respectively. However, Wicket keepers had mean and SD values as 20.44 and 3.13 respectively. The 't' - value 0.00 as shown in the table above was found statistically insignificant ( $P > .05$ ).

### Blood Pressure

The descriptive statistics shows the mean and SD value of bowlers on the variable of Blood Pressure as 116.73 and 1.86 respectively. However, Wicket keepers had mean and SD values as 116.75 and 2.52 respectively. The 't' - value 0.82 as shown in the table above was found statistically insignificant ( $P > .05$ ).

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



### DISCUSSION & CONCLUSION

The findings reveal that insignificant difference was found statistically for the both groups (Bowlers and Wicket keepers). The insignificant differences may be attributed in the fact that both the groups i.e. Bowlers and Wicket keepers have correspondingly conditioned body and the level of the players is

same. The result of this study is also comparable with the studies of Frucht and Joki (1964), Buskirk and Jait (1985) and Lloyd (1987). These studies also have the similar type of result.

### **References:**

Consolazio, C. (1963). Physiological Measurements of Metabolic Functions in Man New York: McGraw Hill Book Co.

Lawrence, E. (1976). Physiology of Exercise (7<sup>th</sup> ed.) .Saint Louis : The C.V. Mosby Company.

Larry, G. S. (1981). Essentials of Exercise Physiology (Delhi: Surjeet Publications,

Strukic, P.J. (1981). Basic Physiology, Newyork: Springer Inc.

Singh. A. (2005). The effect of weight training and resistance training on the selected bio motor, physiological and skill variables among Tamil Nadu state hockey players. (Unpublished Ph.D thesis) Tamil Nadu: Anamalai university

William, G. 1964). Twentieth Century Dictionary Mumbai: Allied Publishers,

Woolmer, B. (2008). Bob Woolmer's art and science of cricket. United Kingdom: New Holland Publisher Ltd.

### **Internet Sources**

[www.shodhganga.infinet.in](http://www.shodhganga.infinet.in)

[www.en.wikipedia.org/wiki/Cricket](http://www.en.wikipedia.org/wiki/Cricket)

(<http://www.teachpe.com/fitness/health.php>)