

## RELATIONSHIP STUDY OF SELECTED PHYSIOLOGICAL VARIABLES TO DRAG FLICK PERFORMANCE IN FIELD HOCKEY

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### ABSTRACT

The purpose of the study was to find out relationship of selected physiological variables of drag flick performance in field hockey. Thirty (30) male drag flickers were selected as subjects for the purpose of this study. Positive breath holding capacity, anaerobic capacity, cardiovascular endurance and percentage of fat were the selected physiological variables. Speed of the drag flick skill was measured by a Speed Radar Gun. It was recorded in kilometers per hour. To find out the relationship of physiological variables to drag flick skill, zero order correlations were computed using Pearson's Product Moment Correlation. It is also concluded that only positive breath holding capacity was significantly related to drag flick performance in field hockey. Anaerobic capacity, cardiovascular endurance and percentage of fat were not significant related to drag flick performance in field hockey

**Keyword:** Anaerobic capacity, positive breath holding capacity and drag flick

### INTRODUCTION

Physiological variables may be defined as those variables which are directly linked with various physiological systems such as heart rate, blood pressure, vital capacity, fat percentage, respiratory rate and hemoglobin. Physiological variables such as cardiovascular efficiency, percentage of fat, reaction time, vital capacity etc should be taken into consideration while selecting hockey players. Cardio-respiratory endurance denoted capacity of individual to work effectively with the help of oxygen which is collected, transported and utilized by lungs, blood and muscles respectively. Any work as daily task or form of physical activity is directly related to energy supplying system which in turn is the cardio respiratory endurance. Cardiovascular endurance varies from individual to individual and one of the important variables for establishing top class performance in hockey as the game involves work of long duration / endurance type.

The drag flick can be the most deadly offensive weapon used at a Penalty Corner. A good drag flick can top speeds of 70mph and can leave the goalkeeper with no chance of making a save. You can curl it, squeeze it, put topspin on it, shoot high, shoot low, be deceptive with it and above all else score goals with enormous regularity. In Sydney 2000, 62% of all Penalty Corner goals were scored with a drag flick.

Drag flicking is the most sought after specialist skill on a hockey field. There are very few people in the world who have mastered the skill, even fewer who have mastered teaching it. The drag flicker is a vital member of any hockey team often it is a good performance or indeed a faulty one which makes the difference between victory and defeat. The drag flicker has not less than 16 primary function and responsibilities, and when we acknowledge that mostly one of this is to convert penalty corner into goal, important crucial a player he had become. Drag flickers mostly required specialized skills and cause for an outlook rather different from other players. The Drag flickers do bear the peculiar responsibility of being the one who more than anybody else can win the match by a conversion of penalty corner. Thus, we can say that while performing drag flicking, speed of ball is an important factor for successful performance of drag flick in field hockey.

Skill do play vital role in any games and sports. Perfect execution of various skills in different games and sports depends upon lots of technical aspects. Field hockey is called as game of skills where as each skill do have significance importance. Drag flick is among most complicated skill of field hockey and very few players have master over this skill. But this skill does make a huge difference in winning the game. After a through review on the available literature the research scholar found that very less research work has been done on this particular skill.

### METHODOLOGY

Thirty (30) male drag flickers of different states were selected as subjects for the purpose of this study. The selection of subjects was based on their participation in national level tournaments. The subjects belonged to various state and union territories. Physiological variables were also measured by using standard tests for body composition through skin fold measurements, Harvard step test for cardiovascular endurance, Sargent jump for anaerobic power, manual method for positive breath holding capacity. Speed of the drag flick was measured by a Speed Radar Gun. It was recorded in kilometers per hour. To study the relationship of physiological variables to drag flick performance, zero order correlations were computed using Pearson's Product Moment Correlation.

**FINDINGS**

The scores of each of the physiological variables and drag flick performance were correlated using Pearson’s Product Moment Correlation for finding out the relationship between them. The coefficients of correlation have been presented in Table-01.

TABLE - 01  
RELATIONSHIP OF PHYSIOLOGICAL VARIABLES TO DRAG FLICK PERFORMANCE

S.No	Variables Correlated	Coefficient Correlation 'r'
1	Positive breath holding capacity	0.397*
2	Anaerobic power	0.154
3	Cardiovascular endurance	0.265
4	Percentage of fat	- 0.064

\*Significant at .05 level of significance  
 $r_{.05}(28) = 0.361$

Table-01 indicated that there were significant relationships between drag flick to positive breath holding capacity ( $r = .337$ ) as obtained value of correlation were greater than value of correlation .361 required for correlation significant at .05 level of significance.

Table-01 also indicated that there were insignificant relationships between drag flick to anaerobic capacity ( $r = .154$ ), cardiovascular endurance ( $r = .265$ ), and percentage of fat ( $-.64$ ) because these values were less than correlation value of (.361) required for significant. Graphical representation of table no. 01 is presented in figure-1.

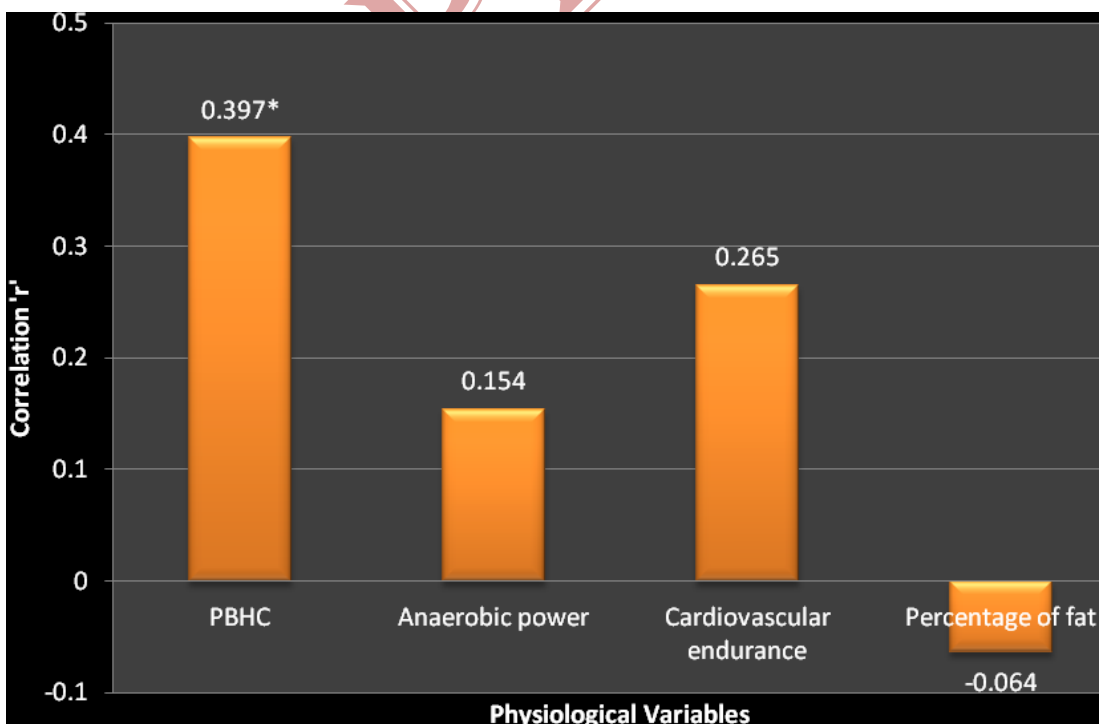


Figure 1 : Relationship of Physiological Variables to Drag Flick Performance

### DISCUSSION OF FINDING

The significant relationship of positive breath holding capacity with performance of drag flick may probably be due to reason that greater inhalation prior to drag flick and its maintenance during the execution phase helps in generating more force. It is generally seen that weight lifter also takes a deep breath prior to the execution of a movement so as to generate more force. In addition, deep breath holding may also result in greater concentration which might play a significant role in giving more thrust to the ball by means of drag flick.

### CONCLUSION

It is also concluded that the following physiological variables i.e. positive breath holding capacity were significantly related to drag flick skill in field hockey. Anaerobic capacity, cardiovascular endurance and percentage of fat were not significant related to drag flick skill in field hockey.

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