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## Comparison of selected physiological components between offensive and defensive kho-kho players

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### Abstract

The purpose of the study was to compare of selected physiological components between offensive and defensive kho-kho players. To achieve this purpose of this study, thirty kho-kho players who participated in the Inter collaged during the year 2014 – 15 were selected as subjects and their age ranged between 18 to 25 years. Among them, fifteen offensive and fifteen defensive kho-kho players were selected. The selected criterion variables such as pulse rate and vital capacity were tested by using stop watch and micro spirometer, disposable cardboard moth pieces, sprit and cotton respectively. The independent 't' ratio was used to analyse the significant differences between offensive and defensive kho-kho players, if any separately for each criterion variable. The .05 level of confidence was fixed to test the level of significance. The results also showed that there was a insignificant difference between offensive and defensive kho-kho players on selected physiological variables namely pulse rate and vital capacity.

**Keywords:** physiological components, offensive, defensive

### Introduction

An anatomy investigates the basic structure of the body and connections between various parts of the body. Physiology is from Ancient Greek φύσις (Physis), meaning "Creation, Origin", and -λογία (-logia), meaning "Learning" [1, 5]. It is scientific discipline that deals with biological processes or functions, or body tests. We allow us to understand and predict body responses to actions; Understanding and how the body keeps the situation under a minimum level of values in front of a constantly changing area [2, 5]. Exercise is based on this study of anatomy and physiology, and we examine how our bodies and functions are changed when we face severe and permanent exercises. Basically studying how the body exchanges excessive or the stress of short-term exercise, the constant depression or long-term physical training. Sports Physiology also uses these visions from exercising direct training for the runner and promoting sports running within certain sports. Exercise and sports are to improve performance, to know how the body works during gymnastics, and to use scientific principles to allow your body to better train, improve and recover quickly. Exercise helps runners gain beauty, e.g. It is now known that Olympic training and plyometric training are two ways to maximize the height [3, 5]. Physical exercise is based on the ability, length and frequency of operation and natural conditions [4, 5]. During the exercise, oxygen and substrate requirements of the muscle tend to increase, as metabolites and carbon dioxide are released. Chemicals, mechanical and thermal stimulants have transformed the function of metabolic, cardiovascular and ventilatory to meet these growing needs.

### Purpose of the Study

The main purpose of this study was to compare selected physiological components between Offensive and Defensive Kho-Kho players. The allied objectives of the study are as follows:

1. To compare the pulse rate of Offensive and Defensive Kho-Kho players.
2. To compare the vital capacity of Offensive and Defensive Kho-Kho players.

### Methodology

#### Selection of Subjects

For this study the researcher selected 30 male Kho-Kho players randomly selected from Late

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Dattatraya Pusadkar Arts College, Nandgaon peth, Amravati. (MS) were selected as subjects and the age ranging from 18-25 years.

**Selection of Variables**

Keeping the feasibility criterion in mind, the researcher selected the following variables for the present study – selected physiological variables.

**Criterion measures**

For the present study researcher uses the following units for measuring physiological variables:

**1. Pulse Rate:** To measure the pulse rate stop watch is used and is measured in beats/minutes.

**2. Vital Capacity:** To measure Micro spirometer, Disposable cardboard moth pieces, sprit and cotton used and is measured in liters.

**Result and Dissection**

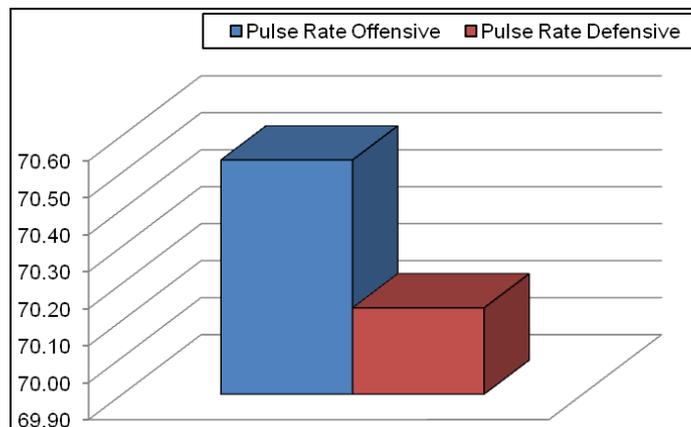
The data of some physiological variables of Offensive and Defensive Kho-Kho players of Late Dattatraya Pusadkar Arts College, Nandgaon peth, Amravati was collected by pulse rate, Micro spirometer and then ‘t’ test was applied for the statistical treatment in the Microsoft Excel 2007. The statistical analysis and interpretation was done on the basis of data collection. The data was analyzed and interpreted by using ‘t’ test. The level of significance was kept at 0.05, to testing the hypothesis.

**Table 1:** Compare the pulse rate between Offensive and Defensive Kho-Kho players

Variable	Group	Mean	SD	SE	MD	Ot	df	Tt
Pulse Rate	Offensive	70.53	1.85	0.70	0.40	0.58	28	2.04
	Defensive	70.13	1.96					

Table No.-I reveals that there is difference between means of Offensive and Defensive Kho-Kho players because mean of offensive is 70.53 which is greater than the mean of defensive

which is 70.13 and calculated value of ‘t’ is found as 0.58, is less than tabulated ‘t’ which is 2.04 at 0.05 level of significance. This is presented graphically in graph No.1.



**Graph 1:** Mean of pulse rate between Offensive and Defensive Kho-Kho players

**Table 2:** Compare the vital capacity between Offensive and Defensive Kho-Kho players

Variable	Group	Mean	SD	SE	MD	Ot	df	Tt
FVC	Offensive	2.80	0.47	0.17	0.18	1.06	28	2.04
	Defensive	2.97	0.44					
FEV1	Offensive	2.71	0.41	0.15	0.04	0.29	28	2.04
	Defensive	2.76	0.39					
PEFR	Offensive	337.93	39.19	17.62	9.00	0.51	28	2.04
	Defensive	346.93	55.85					

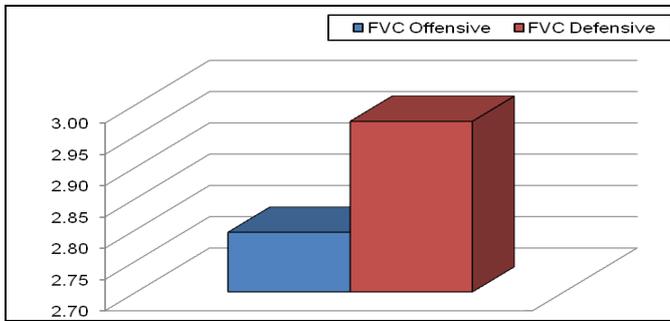
\*\*Forced Vital Capacity =(FVC), Forced Rpxpiratory Volume in First Second= (FEV1) and Peak Expiratory Flow Rate=(PEFR).

Table No.-II reveals that there is difference between means of Offensive and Defensive Kho-Kho players because mean of offensive is 2.80 which is less than the mean of defensive which is 2.97 and calculated value of ‘t’ is found as 1.06, is less than tabulated ‘t’ which is 2.04 at 0.05 level of significance. This is presented graphically in graph No.2.

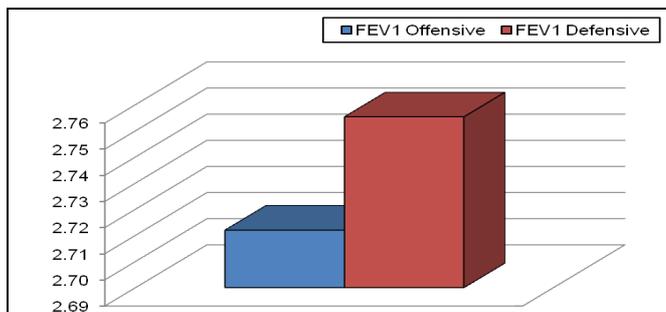
Table No.-II reveals that there is difference between means of Offensive and Defensive Kho-Kho players because mean of offensive is 2.71 which is less than the mean of defensive

which is 2.71 and calculated value of ‘t’ is found as 0.29, is less than tabulated ‘t’ which is 2.04 at 0.05 level of significance. This is presented graphically in graph No.3.

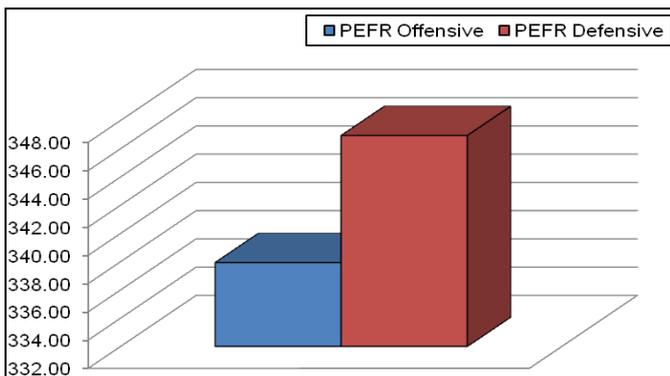
Table No.-II reveals that there is difference between means of Offensive and Defensive Kho-Kho players because mean of offensive is 337.93 which is less than the mean of defensive which is 346.93 and calculated value of ‘t’ is found as 0.51, is less than tabulated ‘t’ which is 2.04 at 0.05 level of significance. This is presented graphically in graph No.4.



**Graph 2:** Mean of Forced Vital Capacity between Offensive and Defensive Kho-Kho players



**Graph 3:** Mean of Forced Rpiratory Volume in First Second between Offensive and Defensive Kho-Kho players



**Graph-3:** Mean of Peak Expiratory Flow Rate between Offensive and Defensive Kho-Kho players

**Conclusion**

Within the limitations of the study and from statistical analysis the following conclusion was drawn.

1. There was insignificant difference in pulse rate between the Offensive and Defensive Kho-Kho players.
2. There was insignificant difference in Forced Vital Capacity between the Offensive and Defensive Kho-Kho players.
3. There was insignificant difference in Forced Rpiratory Volume in First Second between the Offensive and Defensive Kho-Kho players.
4. There was insignificant difference in Peak Expiratory Flow Rate between the Offensive and Defensive Kho-Kho players.

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