



## A COMPARATIVE STUDY OF SELECTED PHYSIOLOGICAL VARIABLES BETWEEN MALE BOXING AND JUDO PLAYERS

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**Abstract:-** The purpose of the study was to compare selected physiological variables between male Boxing and Judo Players. This study was conducted on 30 subjects, 15 from each Game (Boxing & Judo), the age ranged from 18-25 years. The Physiological variables selected for the study were Vital Capacity, Resting Pulse Rate, Positive Breath Holding Capacity, and Resting Respiratory Rate. The t-test was used at 0.05 level of significance. Result showed that there is statistically insignificant difference between the means of male Boxing and Judo players on the scores of vital capacity, resting pulse rate, positive breath holding and resting respiratory rate.

**Keywords:** Physiological, Vital capacity, Resting Pulse Rate, Breath Holding Capacity & Resting Respiratory Rate.

### 1. INTRODUCTION

Scientific research has contributed to the body of knowledge in every field and that is true in case of Physical Education and Sports also. Exercise physiology is an interdisciplinary area, which has taken a prominent place in contributing scientific knowledge to physical education and sports. Various physiological parameters characteristics play an important role in the attainment of high level of sports performance that can ultimately be realized by taking into consideration the various physiological variables.

Games and sports have been part of human life almost since the time immemorial. Be it a necessity for his survival i.e. hunting for food, shelter and safety from wild animal or other enemies, or as a pursuit of pleasure. The games and sports have been indispensable to mankind, and have become part of the culture. Different sports events demand a combination of different physiological variables for high quality performance there are certain physiological components, which are discussed at various levels in relation to performance. Physical performance in various competitive sports events depends largely on the integrated status of the different physiological mechanisms of the individual i.e. the state of health and capacity for physiological responses to meet the challenges of the competitive situation, apart from the technique, tactics and skill. Boxing and judo are a sport of intermittent nature, characterized by short duration, high intensity bursts of activity.

### 2. OBJECTIVE OF THE STUDY

The purpose of the study was to compare selected physiological variables i.e. Vital Capacity, Resting Pulse Rate, Positive Breath Holding Capacity and Resting Respiratory Rate between male Boxing and Judo Players

### 3. MATERIALS AND METHODS

#### 3.1 Subjects

This study was conducted on 30 subjects, 15 from each Game (Boxing & Judo), the age ranged from 18-25 years.

### 3.2 Variables

These physiological variables were selected for this study:

1. Vital Capacity
2. Resting Pulse Rate
3. Positive Breath Holding Capacity
4. Resting Respiratory Rate

### 3.3 Criterion Measures

Vital Capacity was measured by using wet spirometer in Liters. Pulse Rate and Resting Respiratory Rate was obtained by manual counting using standard Stop watch. Positive Breath Holding Capacity was measured during holding of the breath after full inhalation and the result was recorded in seconds.

### 3.4 Statistical Analysis

To compare selected physiological variables between male Boxing and Judo Players mean, standard deviation and Independent 't' test was employed. The level of significance was set at 0.05 level of confidence. Data analysis was performed using SPSS 17.0 software under windows.

## 4. RESULT & DISCUSSION

Mean and Standard deviation of selected physiological parameters of male Boxing and Judo Players are given in table-1.

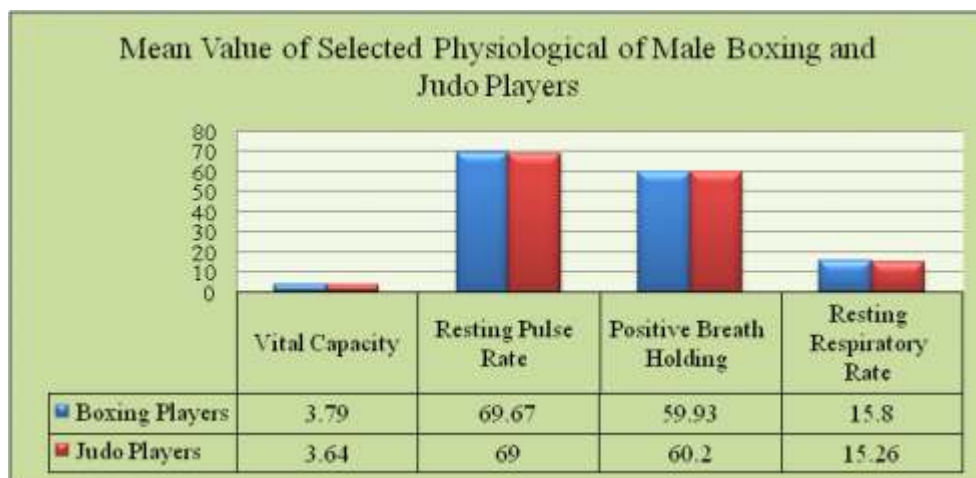
**Table-1**  
**Mean and standard deviation of selected physiological variables between Male Boxing and Judo Players**

Variables	Groups	Mean	Standard Deviation
Vital Capacity	Boxing	3.79	0.43
	Judo	3.64	0.29
Resting Pulse Rate	Boxing	69.67	5.08
	Judo	69.00	6.17
Positive Breath Holding	Boxing	59.93	9.41
	Judo	60.20	7.30
Resting Respiratory Rate	Boxing	15.80	1.65
	Judo	15.26	1.90

From table-1 it is inferred that there was difference in vital capacity between male Boxing and Judo players. Mean of male Boxing players (M=3.79) was better than male Judo players (M=3.64). In resting pulse rate there was little difference in mean of male Boxing players (M=69.67) and male Judo players (M=68.00). In positive breath holding there was little difference in between male Boxing players (M=59.93) and Judo players (M=60.20). In resting respiratory rate there was not much difference in mean of male Boxing players (M=15.80) and male judo players (M=15.26).

The graphical representation of mean values of vital capacity, resting pulse rate, positive breath holding and resting respiratory rate of male Boxing and Judo players has been exhibited in figure-1

Figure-1



The 't' ratio of selected physiological parameter of male Boxing and Judo players are given in table-2

**Table-2**  
Significant difference between the Means of physiological variables between Male Boxing and Judo players

Variables	Mean		MD	SED	't' ratio
	Boxing Players	Judo Players			
Vital Capacity	3.79	3.64	0.15	0.13	1.10
Resting Pulse Rate	69.70	69.00	0.70	2.06	0.32
Positive Breath Holding	59.93	60.20	-0.27	3.07	-0.08
Resting Respiratory Rate	15.80	15.26	0.53	0.65	0.81

\* Significant,  $t_{0.05}(28) = 2.048$

It is evident from table- 2 that there was insignificant difference between the means of Boxing and Judo players on the scores of vital capacity, resting pulse rate, positive breath holding and resting respiratory rate.

- In case of vital capacity the obtained value of 't' (1.10) was lesser than the tabulated value of 't' (2.048) at (28) degree of freedom with 0.05 level of significance.
- In case of resting pulse rate the obtained value of 't' (0.32) was lesser than the tabulated value of 't' (2.048) at (28) degree of freedom with 0.05 level of significance.
- In case of positive breath holding the obtained value of 't' (-0.08) was lesser than the tabulated value of 't' (2.048) at (28) degree of freedom with 0.05 level of significance.
- In case of resting respiratory rate the obtained value of 't' (0.81) was lesser than the tabulated value of 't' (2.048) at (28) degree of freedom with 0.05 level of significance.

**5. CONCLUSION**

On the basis of finding and within the limitation of present study the conclusion is that there is insignificant difference between the means of male Boxing and Judo players on the scores of vital capacity, resting pulse rate, positive breath holding and resting respiratory rate.

**6. RECOMMENDATIONS**

The following Recommendations are made on the basis of the results from the study which may be useful for the future research work.

- ◆ The study may be repeated to other physiological and physical fitness variables on the same subjects.

- ♦ The study may be repeated to other physiological and physical fitness variables on different parameters.

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