



# ANALYSIS OF AEROBIC ENDURANCE AMONG MALE BOXING, JUDO AND WRESTLING PLAYER

Mr. Harpreet Singh\*

Dr. Dalwinder Singh\*\*

Research Scholar, Department of Physical Education, Panjab University, Chandigarh\*

Professor, Department of Physical Education, Panjab University, Chandigarh\*\*

## Abstract:

The present study was designed to assess aerobic endurance among male boxing, judo and wrestling players. Total sixty (N=60) male subjects, which includes twenty ( $n_1=20$ ) boxing players, twenty ( $n_2=20$ ) judo players and twenty ( $n_3=20$ ) wrestling players, who had participated in the inter-college competitions in boxing, judo, and wrestling and were studying at various colleges affiliated to Panjab University, Chandigarh during the session 2018-19. The purposive sampling technique was used for the selection of subjects. The age of the subjects was ranged between 19 to 25 years. 12- minute run & walk test was used to measure the aerobic endurance of subjects. Analysis of variance (ANOVA) was employed to assess aerobic endurance among male boxing, judo and wrestling players. The level of significance was set at 0.05. Result revealed no significant difference among boxing, judo and wrestling players.

**Keywords:** Aerobic Endurance, Boxing, Judo, Wrestling, Players

## INTRODUCTION

Physical fitness has been considered as one of the most important aspects of human existence. A sound body and an active mind are inter-related. In other words physical fitness can also considered as that state of body, through which a person can do work for a longer duration without undue fatigue. Fitness is the state which characterizes the degree to which a person is able to function efficiently. Implies the ability of each person to live most effectively with his potentialities. Ability to function depends upon the physical, mental, emotional,

and moral components of fitness: all of which are related to one another and are mutually inter-dependent.

**AAHPERD (1965)** defined fitness as a state which characterizes the degree to which a person is able to function efficiently. Fitness is considered an individual matter, because it allows the person to live most effectively within his potentialities. Endurance is the ability to sustain or continue activity. In other words, it is the ability of the body to work for a long time without getting fatigued. It is one of the important components for middle- and long-distance races, and also required for major games, like football, hockey, basketball and hand-ball etc. It can be improved through distance run or time factor races (**Yobu, 2010**).

Combat sports are physically demanding, requiring a diverse physical and physiological profile to be successful in competition. Striking movements such as punches and kicks require explosive strength and power, while grappling movements can require a greater emphasis on isometric and concentric strength. Additionally, combat sports are comprised of many different sports-specific movements which will influence the physical load. For instance, sports such as boxing, judo and wrestling exert a greater demand on the endurance. However, combat sports do not typically involve a single execution of one particular technique, but instead involve repeated executions interspersed with lower intensity actions. The high-intensity repeat-effort nature of combat sports typically results in a large aerobic response during exercise as demonstrated by athletes reaching near maximal heart rates and oxygen consumption during simulated competition.

Endurance is the ability to do sports movements, with the desired quality and speed, under conditions of fatigue (**Singh, 1991**). Aerobic endurance is the amount of oxygen intake during exercise. During aerobic work, the body is working at a level that demands oxygen which acts as fuel for body's intake. Aerobic capacity is the capacity of large skeletal muscle groups to adapt to work by using energy obtained as a result of aerobic metabolism. Aerobic capacity is used as a physiological criterion to determine the exercise capacity of the athletes. Physiologically, maximum endurance is articulated as the maximum aerobic capacity of the individual. In other words, it is the total amount of oxygen that can be used by an individual during an exercise of maximal stress (**Tamer, 1996**). Keeping the importance of aerobic endurance in mind for the games in question, the investigators therefore, designed the present study to assess the aerobic endurance among boxing, judo and wrestling players.

## **OBJECTIVES OF THE STUDY**

1. To assess significant difference with regard to aerobic endurance among collegiate boxing, judo and wrestling players.

## **HYPOTHESIS OF THE STUDY**

1. It was hypothesized that there would be no significant difference on aerobic endurance among boxing, judo and wrestling players.

**METHODOLOGY:**

The sample consists of sixty (N=60) subjects who had participated in the inter-college competitions in boxing, judo, and wrestling and were studying at various colleges affiliated to Panjab University, Chandigarh during the session 2018-19. All the subjects, after informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. The age group of subjects was ranged between 19-25 years. The purposive sampling technique was used to attain the objective of the study. The 12-Minute run-walk (AAPHER test) was applied to assess the aerobic endurance among boxing, judo and wrestling players. Analysis of variance (ANOVA) was employed to assess significant difference on the variable aerobic endurance among male boxing, judo and wrestling players. The level of significance was set at 0.05 to test the hypothesis.

**RESULTS:**

Table-1: Descriptive Statistics Analysis of Male Boxers, Judokas and Wrestlers on 12- Minute Run & Walk Test

Sr No.	Groups	N	Mean	Std. Deviation	Std. Error
1	Boxing	20	2.49	89.80	20.08
2	Judo	20	2.51	152.39	34.07
3	Wrestling	20	2.47	129.30	28.91
	Total	60	2.49	125.64	16.22

It can be seen from the table-1 that the Mean, S.D. and S.E. scores of male boxers are 2.49, 89.80, and 20.08 respectively. Moving to judokas the Mean, S.D. and S.E. scores are 2.51, 152.39, and 34.07 respectively. Finally, in case of wrestlers the Mean, S.D and S.E score are 2.47, 129.30 and 28.91 respectively.

Table- 2: One-Way (ANOVA) results with regard to Boxing, Judo and Wrestling Players on the Variable Aerobic Endurance

Source of variance	Sum of square	Df	Mean square	F-ratio	Sig. (p-value)
Between groups	19223.33	2	9611.66	.60	.55
Within groups	912195.00	57	16003.42		
Total	931418.33	59			

It has been observed from the table-2 that results of One- Way (ANOVA) among boxing, judo and wrestling players with regard to variable aerobic endurance were found statistical insignificant. The P-value (Sig.).55 was found higher than the 0.05 level of significance ( $p>0.05$ ), therefore, there is no need to apply LSD post-hoc test to see the degree and direction of differences.

### DISCUSSION OF FINDINGS:

It has been observed from table-2 that insignificant differences have been found among boxing, judo and wrestling players. While calculating the mean values of all the three groups, it has been observed that Judo group had exhibited better aerobic endurance, than boxing and wrestling players. **Gill et al. (2010)** had conducted a study to compare physical fitness components namely speed, strength, endurance, agility and flexibility between female students belonging to rural and urban area. The result shows that rural female students were found to be superior in endurance. **Thakur et al. (2012)** had carried out a study to compare the physical fitness components between table tennis and badminton male player. The results found noticeable difference in speed, and agility, whereas there was no difference with reference to their explosive strength, endurance and flexibility components. **Nara (2017)** had carried out a study of physical fitness between basketball and football players of Haryana. The result shows that football players were found to be superior in endurance. **Dhanda (2018)** revealed that heavy weight judo players demonstrated significantly better speed and endurance than middle weight judo players and similarly middle weight judo players demonstrated significantly better speed and endurance than light weight judo players. **Kolkur and Malipatil (2019)** had conducted a study to compare the motor fitness components between judo and wrestling male players. The results also showed that on motor fitness components i.e endurance and flexibility judo players were found to be better than wrestling players.

### CONCLUSION:

It is concluded that insignificant differences have been found among boxing, judo and wrestling players with regard to the variable aerobic endurance. However, while calculating the mean values of all groups, it has been observed, that Judo players had exhibited better aerobic endurance than boxing and wrestling players.

### REFERENCE:

- AAHPER (1965). AAHPER Youth Fitness Test Manual Revised; Washington, D.C., American Alliance for Health, Physical Education, and Recreation. P.79.
- Dhanda, R.S. (2018). Comparative Analysis of Selected Physical Fitness Components Women Judo Players of Weight Categories. *International Journal of Physiology, Nutrition and Physical Education*, 3(2), 725-727.

Patiala, *Journal Anthropologist*, 12 (1), 17-21.

Hunsicker, P. (1976). American Alliance for Health, Physical Education and Recreation. AAHPER Publication-Sales, Washington D.C. 20036, U.S.A.

Kolkur, S., & Malipatil, R. (2019). Comparison of Motor Fitness Components between Judo and Wrestling male players. *International Journal of Physiology, Nutrition and Physical Education*, 4(1), 618-619.

Nara, K. (2017). A study of physical fitness between basketball and football players of Haryana. *International Journal of Physiology, Nutrition and Physical Education*. 2(1): 01-04

Singh, H. (1991). Science of Sports Training. New Delhi: D.V.S

Tamer, K. (1996). The relationship between aerobic fitness and recovery from high intensity intermittent exercise. *Sport Med*. 31:1:11.

Thakur, V., Kumar, S., Chaurasia, S., & Singh, P.K. (2012). Comparative Study of Physical Fitness Components of Tennis and Badminton Male Players from Maharishi Markandeshwar University, Mullana. *International Journal of Sports Science and Fitness*, 2(1), 154-162.

Yobu, A. (2010). *Test, Measurement and Evaluation in Physical Education and Sports*. New Delhi: Friends Publications.

