



ASSESSMENT OF AEROBIC CAPACITY AMONG DIFFERENT FEMALE INDIVIDUAL GAME PLAYERS

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ABSTRACT:

The study's goal was to examine the aerobic capacity of various female individual game players. such as Judo, Taekwondo, Wrestling and Boxing. For this study investigator randomly selected forty (N=40) individual games female players (Judo=10, Taekwondo=10, Wrestling=10 and Boxing=10) were studying in colleges affiliated to Sant Gadge Baba, Amravati University those who have represented intercollegiate tournaments were randomly selected as subjects for this study. The age of the subjects were ranged from 18-25. The aerobic capacity was measured by applying Modified Queens College step test. The information was analyzed by applying descriptive statistics and one way analysis of variance (ANOVA) among different female individual game players. The level of confidence was fixed at 0.05 level of significance. Result: There was significant difference in judo, Taekwondo, wrestling and Boxing of aerobic capacity. As mean value is less than aerobic capacity is more and vice versa.

Keywords: aerobic capacity, Individual game

INTRODUCTION:

The word aerobic means with oxygen. During aerobic exercise, the body uses oxygen for energy. The more oxygen the body uses, the harder the cardiovascular system will work. When the cardiovascular system works hard, it becomes more fit. Aerobic exercise increases cardiovascular fitness better than any other type of activity. Aerobic exercises, also called cardiovascular exercises, are continuous activities that use the large muscle groups of the body, especially in the lower body. The muscles need additional energy to keep working for an extended period of time. The oxygen-rich blood provides energy or fuel to the muscles. Because of the increased need for oxygen-rich blood, the heart beats quicker and pumps more blood. Increasing your heart rate strengthens and trains your heart muscle. An excellent example of aerobic exercise is jogging for at least 15 minutes. Jogging propels you ahead by utilizing major muscle groups such as your leg and arm muscles. To replenish the energy expended by these muscles, fresh supplies of oxygen-rich blood are required. Your heart rate rises to fulfill these demands.

All activities that use the large muscle groups will raise your heart rate. However, some activities do not raise your heart rate enough to improve cardiovascular fitness. An activity must raise your heart rate to a level called the target heart rate zone. Aerobic workouts include activities such as running, walking, rope jumping, cycling, and Boxing. Aerobic activities include inline skating, step aerobics, aerobics programmes, and cross-country



skiing. All of these workouts teach your body how to utilize oxygen more effectively. Anaerobic (no oxygen) activities are those that use oxygen quicker than the body can recover it.[1]

METHODOLOGY:

Study's aim was to compare the aerobic capacity of among different female individual game players such as Judo, Taekwondo, Wrestling and Boxing. For this study investigator randomly selected forty (N=40) individual games female players (Judo=10, Taekwondo=10, Wrestling=10 and Boxing=10) were studying in colleges affiliated to Sant Gadge Baba, Amravati University those who have represented intercollegiate tournaments were randomly selected as subjects for this study. The age of the subjects were ranged from 18-25. The aerobic capacity was measured by applying Modified Queens College step test.

Data Analysis:

The information was analyzed by applying descriptive statistics and one way analysis of variance (ANOVA) among different female individual game players. The level of confidence was fixed at 0.05 level of significance. Data was analyzed using the Microsoft Excel.

Table 1: Descriptive statistics of different individual game players

Group	Mean	N	Standard Deviation	Standard Error	Minimum	Maximum
Judo	158.20	10	10.45	3.31	143	170
Taekwondo	156.30	10	12.77	4.04	142	174
Wrestling	147.60	10	9.44	2.99	140	170
Boxing	145.00	10	6.31	1.99	139	160

Table 2: Analysis of Variance (ANOVA) of the means of different individual game players with comparison of aerobic capacity

Source of Variation	SS	df	MS	F
Between Groups	1250.88	3	416.96	4.16*
Within Groups	3612.10	36	100.34	

*significant at 0.05 level

$F_{0.05}(3,36) = 2.866$

Table-2 reveals that there was significant difference between the means of judo, Taekwondo, wrestling and Boxing of aerobic capacity. The calculated 'F' was 4.16 where as tabulated 'F' was 2.866. Calculated 'F' is greater than the tabulated 'F', which shows significance in judo, taekwondo, wrestling and Boxing of aerobic capacity. Therefore, there is need of post hoc test.

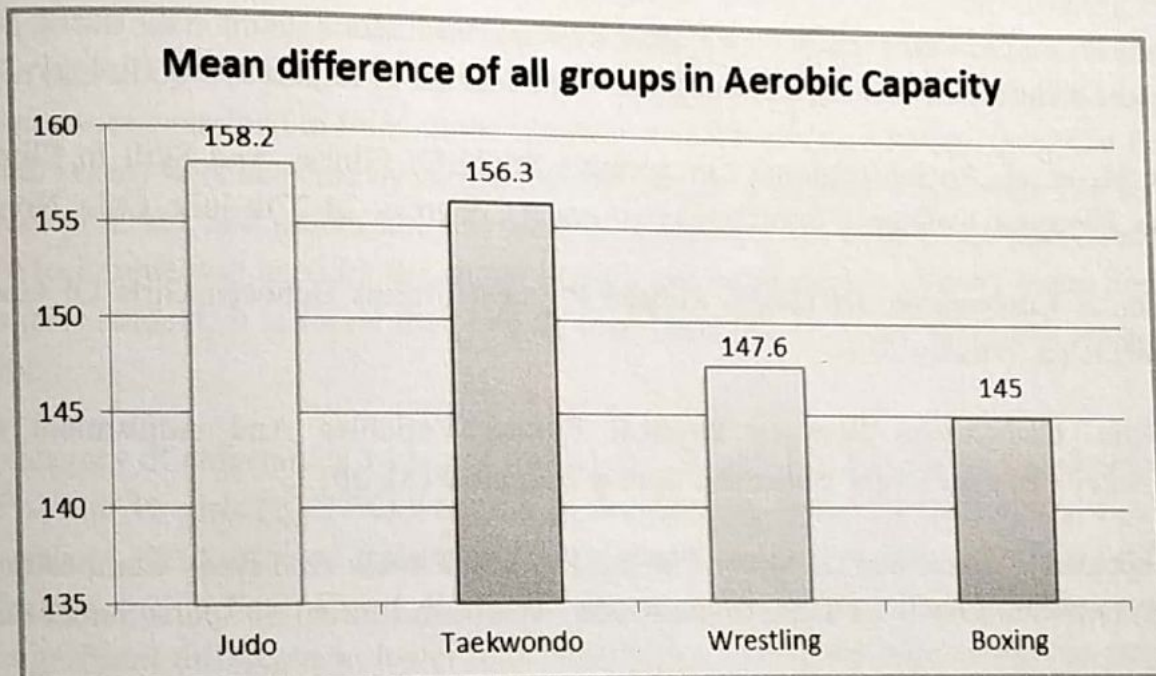
Table-3: Post hoc test table showing mean difference of all groups in aerobic capacity

Judo	Taekwondo	Wrestling	Boxing	M.D.	C.D.
158.20	156.30			1.90	9.23
158.20		147.60		10.60*	9.23



158.20					
	156.30	147.60	145.00	13.20*	9.23
	156.30		145.00	8.70	9.23
		147.60	145.00	11.30*	9.23
			145.00	2.60	9.23

Table-3 clearly revealed that significant difference was found between the means of judo and wrestling, judo and Boxing, taekwondo and Boxing as the mean difference of above tow was greater than the critical differences. Insignificant difference was found between the means of judo and taekwondo, taekwondo and wrestling, wrestling and Boxing as the mean difference was less than the critical difference. The sequence of aerobic capacity in all four groups was (158.20) judo > (156.30) Taekwondo > (147.60) wrestling > (145.00) Boxing. As mean value is less than aerobic capacity is more and vice versa.



Graph-1: showing mean difference of all groups in aerobic capacity

CONCLUSION:

The following conclusions were reached based on the results obtained using the aforementioned methods. There was a substantial difference in aerobic capacity between judo, Taekwondo, wrestling, and boxing. When the mean value is lower, the aerobic capacity is higher, and vice versa.

REFERENCES:

1. Jameson, Pam and Fresen, Sue. Personal Fitness. Bureau of Instructional Support and Community Services Florida Department of Education. 2002.



2. Lamb, K. L. et. al. Physical Fitness And Health-Related Fitness As Indicators Of A Positive Health State. *Health Promote International*, 3 (2), 2016.
3. Lehnhard, Holly R. et. al. Health-Related Physical Fitness Levels Of Elementary School Children Ages 5-9. SAGE Publications. 75 (3), 2000.
4. Lisboa, Salime Donida Chedid et. al. Health-Related Physical Fitness In Female Models", *Health*, 6 2015.
5. Malik, Ashok. A Comparative Study Of Selected Physical Fitness Components And Physiological Variables Of Kho-Kho And Kabaddi female Players. ISPERYS. 2012.
6. Namjoo, A. et. al. The Comparison Of Physical Related Readiness Factors With Health Between Urban And Rural Students Of Guidance And High-School. *European Journal of Experimental Biology*. 2 (5), 2012.
7. Peters, D. M. et. al. An International Comparative Study Of Fitness And Skill In Elite Female U18 Basketball Players. European College of Sport Science Annual Congress. 24-27th June, Oslo, Norway. (2009).
8. Rani, Geeta. A Comparative Of Health Related Physical Fitness Between Girls Of Government and Private School, ISPERYS, January 2012.
9. Sehgal, Nitin. Comparison Between Physical Fitness Variables And Adjustment Of Handball Volleyball And Hockey Female Players. *Subscribe/Renew Journal*, 3 (8), 2013.
10. Sharma, Rajkumar. Assessment Of Motor Fitness, Physical Fitness And Body Composition Of Women Football Players At Different Levels Of Their Participation. *American Journal of Sports Science and Medicine* 3 (2), 2015.