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Analysis of agility among male boxing, judo and wrestling players

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Abstract

The present study was designed to examine the Agility 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 employed for the selection of subjects. The age of subjects was ranged between 19 to 25 years. Shuttle run test was conducted to measure the agility of subjects. Analysis of Variance (ANOVA) was employed to assess the significant differences among male Boxing, Judo and Wrestling players with regard to the variable Agility. Least Significant Difference (LSD) Post-hoc test was applied to find out the direction and degree of differences, where 'F' value found significant. The level of significance was set at 0.05. Results revealed significant differences among Boxing, Judo and Wrestling players with regard to the variable Agility.

Keywords: Agility, boxing, judo, wrestling

Introduction

Physical education is the art and science of movement. It is a wide field of interest commonly connected with human movement. It is a combination of science, humanities and art. It gathers information from many other disciplines and sub-disciplines, some of which are long-standing and some are of recent development. Physical education and sports provide ideas to learn skills such as discipline and leadership and also convey core principles that are important in democracy, such as tolerance, solidarity, co-operation and respect. Physical activity is any activity in which one is moving his/her body. Physical activity is essential for the development of wholesome personality of a child which would depend upon the opportunities provided for wholesome development of the mental, physical, social and spiritual aspects. There are five physical fitness components. These are directly or indirectly inter-related. Each component has its own importance in different games and sports. These are Strength, Speed, Endurance, Flexibility and Agility. Agility is the ability to be quick and graceful movements. Agility is one of the main fitness components, important for success in many sports, such as in the team sports of football and hockey, and in individual sports of tennis and squash. Judo, boxing and wrestling are the sport in which movements are powerful, delivered in a short period of time, usually against the force of the opponent. Agility helps the body to maintain proper alignment and posture during movement. Additionally, agility drills encourage our body to learn how to maintain correct body placement. It also helps with stopping and starting which requires good basic strength. It is common knowledge that agility and change-of-direction- speed are used inter-changeably in sport literature. Therefore, a significant proportion of real sport agility depends on quick and accurate responses to stimuli specific to sport environments (Spasic *et al.*, 2015) [7]. The agility that is accepted among the mentioned factors is stated as acceleration, deceleration and changing direction frequently and also described as starting and stopping in a quick manner (Young *et al.*, 2004) [8]. In many branches of sports activities that comprise sudden changes, quickness and agility are of utmost importance (Miller *et al.*, 2006) [4]. Agility has classically been defined as simply the ability to change direction rapidly and accurately (Barrow & McGee, 1971) [1].

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Keeping the importance of agility in mind for the games in question, the investigators therefore, designed the present study to assess the agility among boxing, judo and wrestling players.

Objectives of the study

To assess significant differences with regard to agility among collegiate boxing, judo and wrestling players.

Hypothesis

It was hypothesized that there would be significant differences on Agility among Boxing, Judo and Wrestling players.

Methodology

The purposive sampling technique was employed for the selection of subjects. Total Sixty (N=60) male subjects, which includes twenty (n₁=20) boxing players, twenty (n₂=20) judo players and twenty (n₃=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 age of subjects was ranged between 19 to 25 years. Shuttle run test was conducted to measure the agility of subjects. Analysis of Variance (ANOVA) was employed to assess the significant differences among male Boxing, Judo and Wrestling players with regard to the variable Agility. Least Significant Difference (LSD) Post-hoc test was applied to find out the direction and degree of differences, where ‘F’ value found significant. The level of significance was set at 0.05 to test the hypotheses.

Results

Table 1: Descriptive statistics of male players (Judo, Boxing and Wrestling) on the variable Agility

Sr. No.	Groups	N	Mean	Std. Deviation	Std. Error
1	Judo	20	5.10	.42	.09
2	Boxing	20	5.36	.32	.07
3	Wrestling	20	5.41	.34	.07
	Total	60	5.29	.38	.05

The table-1 depicts the results of male judo, boxing and wrestling players with regard to the variable agility. The score of male players from different sports (judo, boxing and wrestling) showed the Mean and SD values as 5.10 and .42, 5.36 and .32, 5.41 and .34 respectively.

Table 2: One-Way Analysis of Variance (ANOVA) results with regard to male players (judo, boxing, and wrestling) on the variable Agility

Source of variance	Sum of square	Df	Mean square	F-ratio	Sig. (p-value)
Between groups	1.12	2	.56	4.14*	.02
Within groups	7.75		.57	.13	
Total				8.88	59

*Significant at 0.05

It can be observed from table-2 that significant differences were found with regard to the variable agility among (judo, boxing and wrestling) male players. As the P-value (sig).02 was found lesser than the 0.05 level of significance (P<0.05). Therefore, LSD Post-hoc test was applied to find out the degree and direction of difference between paired means among Judo, Boxing and Wrestling players with regard to the variable agility. The results of the Post- hoc test have been presented in table-3.

Table 3: Analysis of Least Significant Difference (LSD) Post-hoc test among male players of (Judo, Boxing, Wrestling) on the variable Agility

Group (A)	Group (B)	Mean difference	Sig.
Judo (Mean=5.10)	Boxing	.26*	.02
	Wrestling	.31*	.01
Boxing (Mean=5.36)	Judo	.26*	.02
	Wrestling	.05	.66
Wrestling (Mean=5.41)	Judo	.31*	.01
	Boxing	.05	.66

*Significant at 0.05

A glance at table-3 showed that the mean difference between Judo and Boxing groups was found .26*. The p-value (sig) .02 showed that the Judo group had exhibited significantly better agility than their counterpart Boxing group. The mean difference between Judo and Wrestling groups was found .31*. The p-value (sig) .01 revealed that the Judo group had demonstrated significantly better agility than their counterpart wrestling group. The mean difference between Boxing and Wrestling groups was found .05. The p-value (sig).66 showed that the Boxing group had exhibited better agility than their counterpart wrestling group through insignificantly. The graphical representation of mean scores of Judo, Boxing and Wrestling players has been exhibited in figure-1.

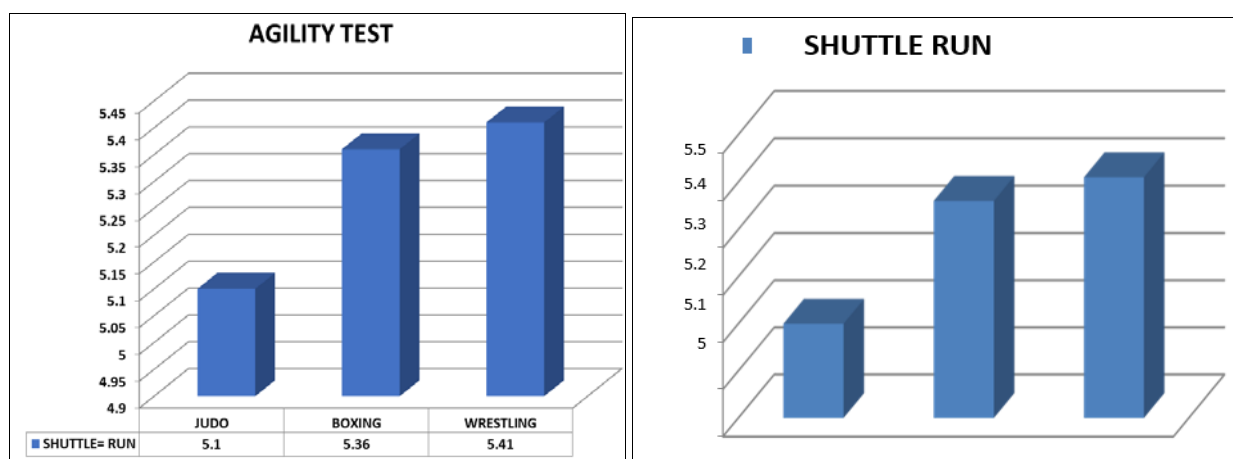


Fig 1: Graphical representation of mean scores of Judo, Boxing and Wrestling players with regard to the variable Agility.

Discussion of Findings

It has been observed from (Table 1-3) that significant differences have been found among boxing, Judo and wrestling players. While calculating the mean values of all the combative sports players, Judo players had exhibited significantly better agility than boxing and wrestling players. The findings of the present study might be attributed to the fitness level of judokas which enabled them to outdo their counterpart boxing and wrestling players. Gill *et al.* (2010) ^[2] had compared physical fitness components; 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 agility. Sharma *et al.* (2016) ^[6] had revealed that the agility of boxers is significantly better than that of judokas and wrestlers. Sharma (2017) ^[5] had conducted a comparative study on strength and agility between wrestlers and judokas. Results of the study revealed that there was significant difference in strength and agility variables between wrestling and judo male players.

Conclusion

It is concluded that significant differences have been found among judo, boxing and wrestling players with regard the variable agility. While comparing the mean values of entire groups, it is further concluded that judo players had exhibited significantly better agility than boxing and wrestling players.

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