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Comparative study of selected physical fitness components of female boxers, fencers and taekwondos

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Abstract
Most of the skill performances and execution of techniques in the sports such as boxing, Fencing and taekwondo were based on the basic fitness components. The purpose of the study was to determine the existence of statistically significant difference on selected fitness components (speed and endurance) among boxers, fencers and taekwondo. For this purpose, 90 sportsmen (30 boxers, 30 fencers, and 30 taekwondo) were selected. Their age ranged between 18 to 23 years. The selected variables were assessed using 50 metres dash and Harward step test. The data was analyzed by applying ANOVA and Scheffe post hoc test. The result showed that there were significant difference in all the selected physical fitness components among female boxers, fencers and taekwondo. The boxers showed a better capability in speed, while the taekwondo were better in endurance and fencers with better speed.

Keywords: boxers, fencers, taekwondo speed and endurance

Introduction
The fitness components are qualities that athletes must develop to physically prepare for sport competition. They are the building blocks of exercise and physical activity. Sports training programs are designed to build these components in the proper proportions that match the requirements of each sport. A basic definition of physical fitness is "the ability to complete daily tasks with energy, reduce health risks due to inactivity, and be able to participate in a variety of physical activities." The 5 fitness components that are deemed health-related are: cardio, strength, endurance, flexibility, and body composition In addition, speed, agility, power, balance, and coordination have been identified as performance-related. All of these qualities exist to some degree in most sports, but developing certain combinations is important in any given sport. While definitions are assigned to qualities that represent what "fitness" is, it can be operational zed in different ways for each sport. In other words, fitness for one sport is somewhat different for another.

In today society sports and physical fitness play an important role in physical well-being. In this material world man does not get enough time for doing physical activity. Spectral concept of health emphasize that the health of an individual is not static it is a dynamic phenomenon and a process of continuous change. The physical dimension of health is probably the easiest to understand. The state of physical health implies the notion of perfect functioning of the body.

Nowadays physical activities have a great role in maintaining better health. Meanwhile better health is only possible through doing some sort of physical activities. In this point of view, the combative sports like boxing, wrestling and judo are the good source of developing physical fitness and mental fitness. Comparing of selected physical fitness components of male boxers, wrestlers and judokas would reveal that significant difference exist as their physical fitness developed through participation in respective sports.

Procedure and Methodology
For the study total 90 females (30 boxers, 30 fencers, and 30 taekwondo) were selected. The age ranged between 18-23 years. The following variables were selected for the study 50 Meter and Harward step test. Statistical technique the data was analyzed by applying ANOVA. The level of significance was fixed at 0.05 level. Scheffe‟s post-hoc test was employed were “F‟ ratio found significant. Results showed the data on selected fitness components were analysed and tabulated in Table and figure 1 through 3. The mean values on speed and endurance of boxers, fencers and taekwondo were given in Table 1.

Table 1: Mean Scores on Selected Physical Fitness Components of Female Boxers, Fencers and Taekwondos

Variables	Boxers	Fencers	Taekwondo
Speed	6.6796	7.127	7.0353
Endurance	68.1796	78.0866	74.836

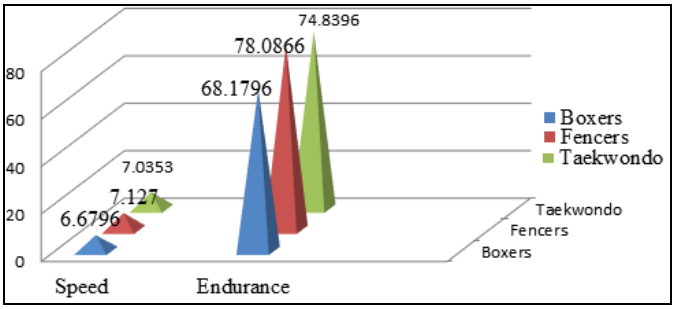

Fig 1: Mean scores on selected physical fitness components of female boxers, fencers and taekwondo

The data on selected fitness components was analyzed for statistically significant difference among female boxers, fencers and taekwondo using analysis of variance and it is given in table 2

Table 2: ANOVA on selected physical fitness components variables o0f male boxers, fencers and taekwondos

Variable	Source of variance	Sum of square	Df	Mean square	F value
Speed	Between	3.3509	2	1.6754	11.8991
	Within	12.2530	87	0.1408	
Endurance	Between	1530.4725	2	765.2362	18.08347
	Within	3691.5089	87	42.4311	

*Significant at F 0.05 level

There is a statistically significant difference on all the fitness components (speed, and endurance) confined to this study, as the obtained F ratio was found to be greater than the required table value of 3.10 at 0.05 level of confidence.

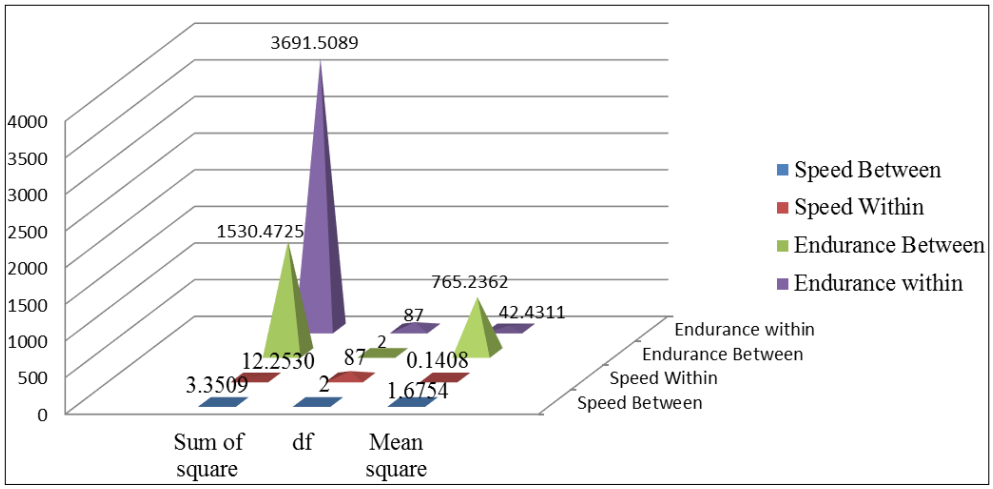

Fig 2: Anova on Selected Physical Fitness Components Variables of Male Boxers, Fencers and Taekwondos

Table 3: Scheffe"s Post-Hoc Test on Selected Physical Fitness Components of Female Boxers, Fencers and Taekwondos

Variables	Boxers	Fencers	Taekwondo	MD	CD
Speed	6.6796	7.127		0.4474*	0.23
	6.6796		7.0353	0.3557*	0.23
		7.127	7.0353	0.0917*	0.23
Endurance	68.1796	78.0866		9.907*	7.01
	68.1796		74.8396	6.66	7.01
		78.0866	74.8396	3.247	7.01

Since, significant difference exists, the post hoc test was applied to find out the paired mean difference among female boxers, fencers and taekwondo on each of the fitness components selected in this study. Reveals that boxers demonstrated significantly better speed performance compared to fencers and taekwondo, in case of speed fencers have notably better than boxers and wrestlers. Taekwondo have considerably superior endurance capacity than boxers.

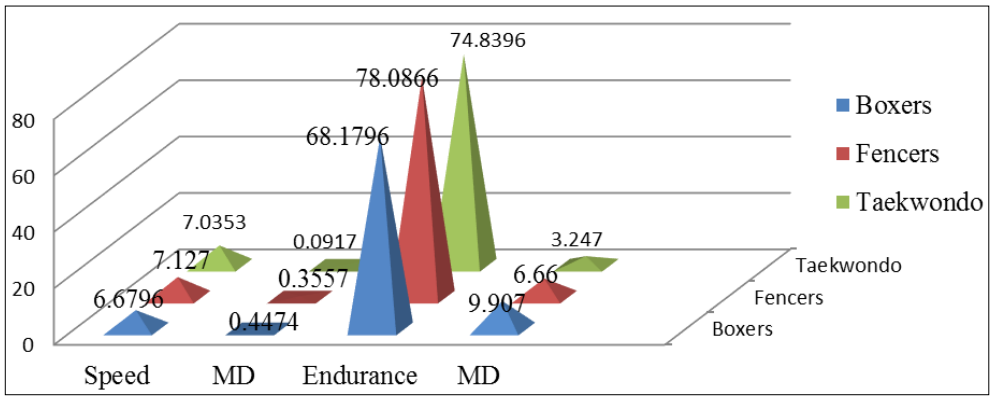

Fig 3: Scheffe"S Post-Hoc Test on Selected Physical Fitness Components Variables of Female Boxers, Fencers and Taekwondos

Discussions

In the present study boxers demonstrated significantly better speed performance compared to fencers and taekwondo, in case of speed fencers have notably better than boxers and Taekwondo. Taekwondo have considerably superior endurance capacity than boxers.

Earlier studies of (Daniels & Thornton, 1990; Reynes & Lorant, 2004) [4, 7], where Gernigon and Le Bars (2000) [5] stressed the compatibility of a competitive context and task orientation in such studies. Consequently, future studies might

take a closer look at the relationship between the characteristics of participants and the chosen sport.

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