Comparison of Endurance and Explosive Strength among Single and Doubles Badminton Players

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Abstract

The purpose of the study was to compare the endurance and explosive strength between singles and doubles badminton player. Twenty singles and twenty doubles male players were taken as subjects for the study from VITS, Satna Madhya Pradesh at the time of inter university competition. The age group of subjects is ranged from 18 to 25 year. To measure endurance and explosive strength among single and double badminton player 600yards and broad jump test was conducted on the subject for the present study. To find out the difference, independent t-test was used at 0.05 level of significance. There was significant difference in endurance and no significant difference in explosive strength difference between single and doubles players.

Keywords: endurance, explosive strength and badminton players.

INTRODUCTION

Badminton is a popular fast-paced indoor sport. To be successful in badminton you need excellent court speed, agility, explosive strength with a good background of endurance. The fitness training for badminton should focus on speed, agility and endurance, with also explosive strength and flexibility also important. Badminton is an extremely demanding sport. At an elite level, players are often required to perform at their limits of speed, agility, flexibility, endurance and strength. On top of all of this, players must maintain a high state of concentration in order to meet the tactical / mental demands of dealing with their opponents. The varied potential stresses of competitive play are considerable. It is therefore essential that everyone involved with the modern game ought to be familiar with the fitness (physiological) requirements of the game and how 'Badminton fitness' can be enhanced. Endurance is a very important component of fitness for badminton. Badminton players cover a lot of ground during a match with little rest. Not only is aerobic fitness important for court play, but you need to be fit for long technical training sessions and to recover well between games during extended tournament play. Resistance training exercises should focus on those areas which are actively involved in playing badminton, such as the wrist, elbows, shoulders, neck, chest, abdomen, back, thighs, knees and ankles. The combination of strength and endurance results in muscular endurance - the ability to perform many repetitions against a given resistance for a prolonged period of time.

- **Explosive Strength** — It is the ability of muscle to get over resistance of sub-maximum intensity of stimulus as fast as possible.

- **Endurance** — The maintenance of working capacity and by the degree of resistance of the organism against fatigue and against the influence of unfavorable environmental condition.

Methods

Sample: A total of forty male subject (singles and doubles) ranging from 18 to 28 years of age were purposely selected from intern university badminton competition from different university.

Variables: keeping the feasibility of criterion measures in mind, especially in the case of availability of instrument, the following physical fitness variables were (explosive strength and endurance).

Criterion measures and administration of test

1. Explosive strength was measured by using broad jump.

2. Endurance was measured by 600yards.

VARIABLES	**TEST**	**MEASURES**
Explosive strength	Broad jump	Meters
Endurance	600yards	Minutes

Statistical analysis

The collecting data were calculated by using independent "t" test and level of significance was set at 0.05 level, after that the conclusion drawn on the basis of the findings.

Result

The mean and standard deviation of obtained data belonging to motor fitness item of explosive strength as measured by standing broad jump test of singles and doubles badminton player was presented in following tables.

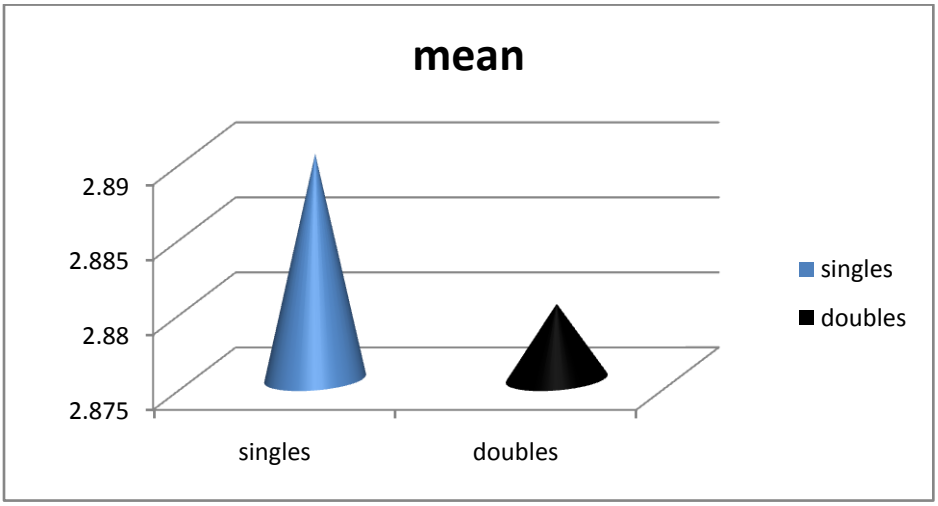
Table No. -I: comparison of Explosive strength between single and double badminton players.

Group	Mean	S.D	t-value
Single	2.89	.111	.231
Double	2.88	.109	

*significant at 0.05 level, tabulated t.05 (40) = 2.04

Table- I clearly indicates that no significant difference was found between the Means of Single and Doubles badminton players as the observed T-ratio was .231 which was lower value than the required value (2.04) to be in significant at 0.05 level of significance.

Fig.1: Graphical Representation of Mean Between Single and Doubles Badminton Players on Explosive strength.



The mean and standard deviation of obtained data belonging to motor fitness items of endurance as measured by 600yard test of single and double badminton players was presented in following table.

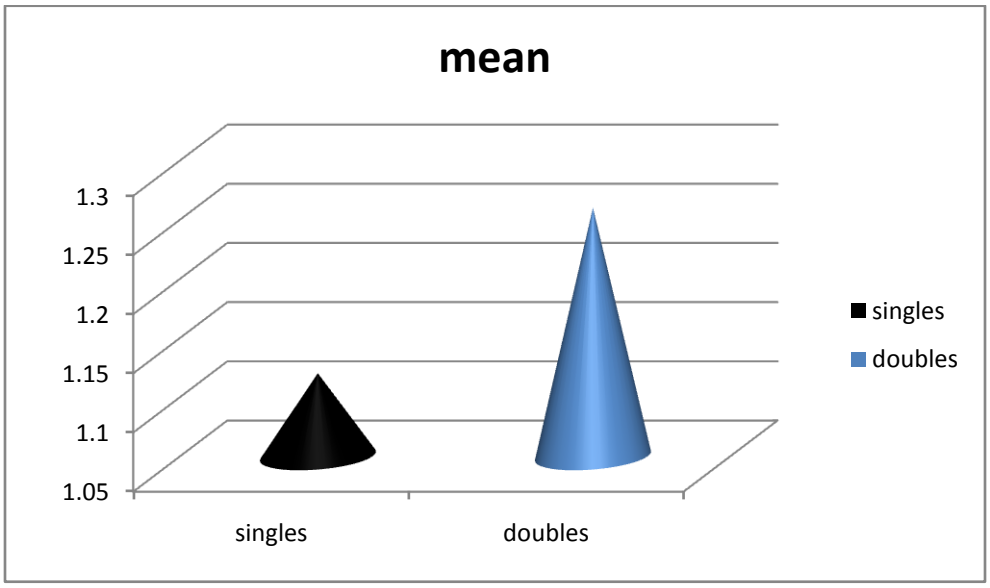
Table No. -2: comparison of Endurance between single and double badminton players.

Group	Mean	S.D	t-value
Single	1.12	.146	4.559
Double	1.26	.052	

*Significant at 0.05 level, tabulated t.05 (40) = 2.04

Table- IV clearly indicates that significant difference was found between the Means of Single and Doubles badminton player as the observed T-ratio was 4.559 which was higher value than the required value (2.04) to be in significant at 0.05 level of significance.

Fig.2: Graphical representation of Mean Between Single and Double Badminton Players on Endurance.



CONCLUSIONS: The Finding of the study can be concluded as under on the basis of t- test applied. The finding of the study concluded that single and Double show a Significant Different in Possessing endurance. No significant difference in explosive strength. It is due to different types of training and playing pattern. Singles players covers all the corner in badminton court during the game and double player cover half of the court entire the game. Singles player posses more endurance in compare to doubles. Jump smash, tap, drive, shots in badminton need explosive strength. It is played by both the player. That's why there is no significant difference in explosive strength. Singles was generally played at a higher intensity than doubles, however because the demands of badminton differ from game to game depending on the opposition and tactics employed, doubles can force a comparable intensity of play. Therefore, all players should aim to be at peak fitness so they are better equipped to maintain the quality of play, even when the game demands are exceptionally high since intensity changes from one match to another. Analysis of shots played indicated singles used more cross-court shots and shots played to the extreme fore- and rear-court whereas doubles involved more flat returns and attacking shots. This finding helped to explain why singles players took more steps and at a greater endurance but doubles involved a quicker game with more shots played per second. Given the considerable differences in endurance and no difference in explosive strength of singles and doubles, player should be specially trained in each discipline and training drills should be devised to reflect the specific discipline strategies.

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