

COMPARISON OF SHOULDER AND LEG STRENGTH AMONG RACQUET GAMES PLAYERS

Dr. Brij Kishore Prasad
Associate Prof. (HOD),
Institute of Professional Studies,
Gwalior (M.P.),



INTRODUCTION

Today sports have become a form of mass participation. Many participate in sports activities for the fun, health, strength and fitness. It is taking the shape of profession to some with high skills, with ample, financial benefits linked with high degree of popularity. Today almost every nation in the world attaches great importance to the development of sports in order to improve the nation health and for the wellbeing of the future generation. Hence a large number of governmental and para governmental organization are, in close collaboration with private bodies, administer and supervise the development of sports. Certain nation like USA, China, Australia and Russia try to project the superiority of their political ideology and their political and social system through achievement in the field of sports. The poor performance of Indian sports persons at the international and national competition has been of a great concern. Efforts have to be made to develop proper means and methods so that stagnating factors might be eliminated for higher level performance. Since it is difficult for the teachers and coaches to impart systematic and technical training in all component of physical performance and to determine their degree of influence in connection with the performance, they can be best, expose their trainee, to a programme of physical fitness development which might enhance their performance in games and sports in general. There are numerous factors which are responsible for the performance of sportsmen. The physique and body composition including the size, shape and form are known to play a significant role in this regard.

Fitness was based on the attributes an individual has, meaning what he is born with or has acquired, in other words through training. Thus, performance is influenced by inherited abilities (genetic) and training status. An individual who is "naturally gifted" was still need proper training to make the most of their talent. Different sports require different fitness components. During a game the exercise intensity varies continually thus fitness training should be as realistic

as possible. Training should not only develop the specific muscles involved in match play, but also improve technical and tactical skills and help keep players interested.

Racquet games are among the world's popular sports, played practically in every nation at varying levels of competence. Successful participation in these sports requires from each player a high level of technical and tactical skills and suitable anthropometric characteristics. All ball games require comprehensive abilities including physical, technical, mental, and tactical abilities. Explosive strength is always dynamic and is an important ability in almost all the sports. Explosive strength is a complex conditional ability and is a combination of strength and speed.

The Strength is the ability of muscles to overcome the resistant. It is the capacity of the individual to release maximum force in the shortest period of them. It is the ability of the sportsmen to overcome resistance with high speed. The explosive strength is always dynamic and is an important ability in almost all the sports. Explosive strength is a complex conditional ability and is a combination of strength and speed.

Strength training for players has become a major part of the modern game. Players are stronger, faster, and more flexible. Serious players now get fit to play games and sports, they don't play games and sports to get fit. The training regimes used by many of the top pros are reflective of a different type of game, one where fitness is a defining element. The games of good players are in part built around superior fitness, allowing them to chase down every ball over a 2-3 hours match and still have enough strength to crush winners from all areas of the court. The off-season may be very short but the player use this time to strength train in a way they can't during the normal season.

METHODOLOGY

Total thirty (30) subjects were randomly selected as subjects. Fifteen (15) subjects from Tennis specialization group and fifteen (15) subjects from Badminton specialization group from LNUPE, Gwalior, (M.P.). The standard of the selected subjects were up to the Intervarsity level. These subjects ranged in age from 18 to 25 years as per the University records and living in the University hostels which is the most useful for the study and researcher can easily control their daily life style and habits too. The variable of this study is shoulder strength and leg strength. Shoulder strength was measured by push-ups and leg strength was measure by standing broad jump. The scores were taken the best of three distances recorded in centimeters and meters only

the best trial was recorded where in case of push-ups only one trail was given. In order to compare shoulder strength and leg strength of Tennis and Badminton players independent “t” test was employed as statistical technique.

FINDINGS

To analyzing the collection of data, one shot experimental research design was applied to compare leg strength of in order to compare leg strength of Volleyball and Basketball players independent “t” test was employed as statistical technique Volleyball and Basketball players, level of significance was set at 0.05 and independent “t” test was applied.

Table No. 1
Descriptive Analysis of Shoulder Strength among Tennis and Badminton players
(Push-Ups)

Player	Mean	Standard Deviation	Degree of freedom	Mean Difference	Standard Error	‘t’-test
Tennis	24.25	0.68	28	3.09	1.3	2.38
Badminton	21.16	0.89				

*Significant at 0.05 level $t_{(0.05)(28)} = 2.048$

Table No.1 shows that there is no significant difference of shoulder strength between Tennis and Badminton players as the obtained “t” value 2.38 is significantly higher than the tabulated “t” value 2.048 at the 0.05 level of significance. Graphical representation of above table is made in fig. no. 1.

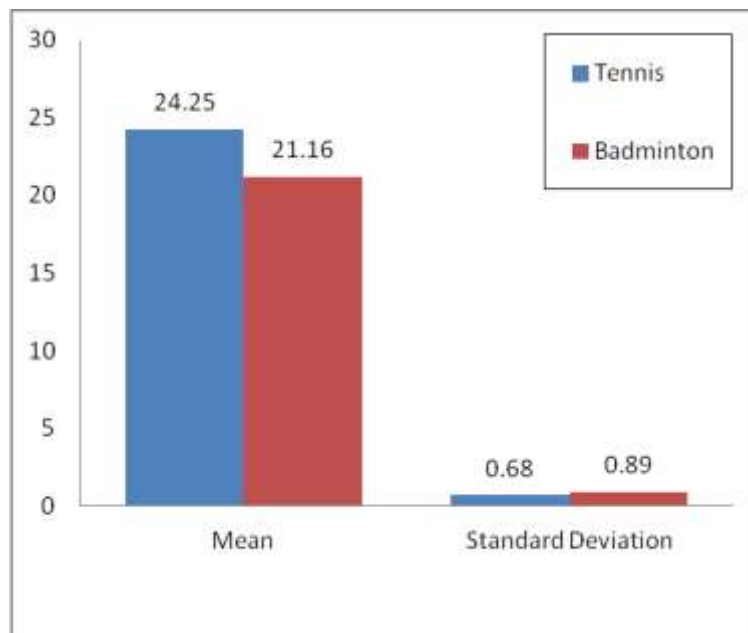


Fig No. 1: Mean and Standard Deviation Values of Tennis and Badminton Players in relation to Push-Ups.

Table No. 2

**Descriptive Analysis of Leg Strength among Tennis and Badminton players
(Standing Board Jump)**

Player	Mean	Standard Deviation	Degree of freedom	Mean Difference	Standard Error	't'-test
Tennis	2.35	0.89	28	0.03	0.09	0.33
Badminton	2.32	0.58				

*Significant at 0.05 level $t_{(0.05)(28)} = 2.048$

Table No.2 indicates that there is significant difference of leg strength between Tennis and Badminton players as the obtained "t" value 0.33 is significantly lesser than the tabulated "t" value 2.048 at the 0.05 level of significance. Graphical representation of above table is made in fig. no. 2.

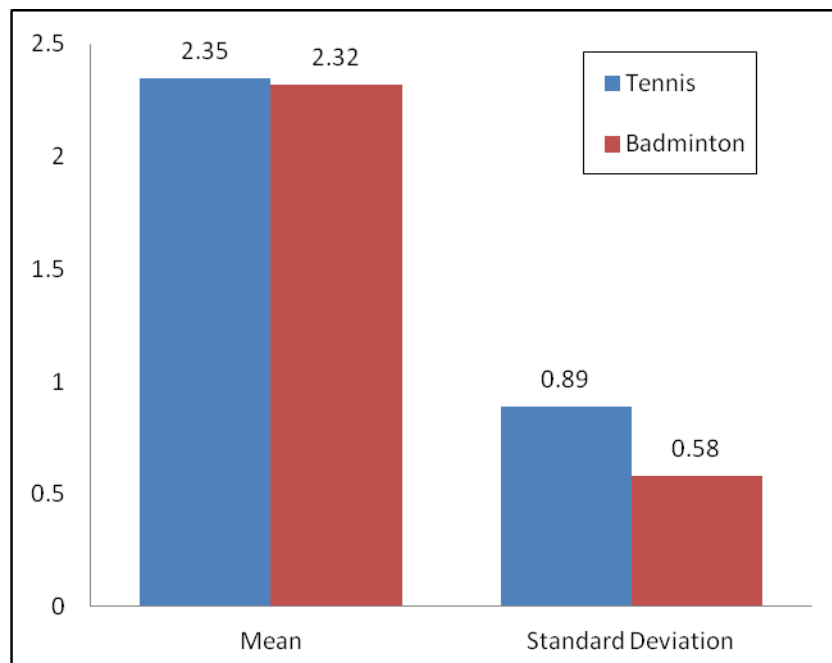


Fig No. 2: Mean and Standard Deviation Values of Tennis and Badminton Players in relation to Push-Ups.

DISCUSSION OF FINDINGS

Findings of the study show that there is significant difference in arm strength among Tennis and Badminton players it may be due to so many reasons. But one of the main reasons behind difference in arm strength of Tennis and Badminton player is nature of games and object use. Players have to use different sized and weight racquet to play game which requires different arm strength. Basically Tennis players have to use heavy racquet to play with heavy ball in compare to shuttle cock i.e., Tennis players do have more arm strength than Badminton players. Similar kind of finding was found by Neelam and Rajeev (1999) in their research work on Tennis and Shooting players.

On the other hand it is found that there is no significant difference was found in leg strength of Tennis and Badminton players. In this study standing board jump was measured to compare leg strength of Tennis and Badminton which is used measure explosive leg strength of individual. Apart from various other reason one of the main reason is that both games requires similar kind of leg movement to play the games. Results obtained in our study are in coincide with Roy and Martin (2001) work done on Badminton and Squash.

CONCLUSION

On the bases of results of this study it is concluded that there is no significant difference of shoulder strength between Tennis and Badminton players whereas in case of leg strength between Tennis and Badminton players no significant difference was found.

References:

Barrow H.M., Man and Movement: Principles of Physical Education, Philadelphia and W.S.Sunder and Co., 1972.

Mathew K. Donald, Measurement in Physical Education (Philadelphia: W.B. Saunders Company, 1978). p.144.

MATVEYER L., Fundamentals of Sports training (Moscow: Progress Publishers, 1981), P.14.

Nicholls Keith, Modern Volleyball (London: Lepus Books, 1978), pp. 220-227

Singh Hardayal, Sports Training General Theory and Methods (Patiala: Nataji Subhash National Institute Of Sports 1984), P. 103

Otsuki T., Maeda S., Iemitsu M. And Saito Y., "Post Exercise Heart Recovery Accelerates in Strength-Trained Athletes". Journal of American College of Sports Medicine, Vol. 39, No. 2, 2007, pp. 365-370.

Peter D., "Effect of Physical Education Home Work on Physical Fitness Concepts among Fourth Grade Students". D.A. International. Vol. 67 No. 4, 2006, P. 1267a.

Pfeiffer K.A., Dowda M. And Dishman R.K. "Cardio Respiratory Fitness in Girls-Change from Middle to High School". Journal of American College of Sports Medicine, Vol. 39, No. 12, 2007, pp. 2234-2241.

Rami Bissonnette, "A Factor Analytic Description Physical Fitness in Elementary School Boys" Dissertation Abstract International. Vol 35 No. 2, 2003, Pp. 86-87.

<http://www.racquettrainer.com/benefits/tennis-strength-training/>