

Comparison of Coordinative Abilities of Tennis and Badminton Players

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Abstract – Coordinative abilities are those abilities which stabilized and generalized pattern of motor control. These abilities help the sportsman to do a group of movements with better quality and effect. The present study seeks to investigate the comparison of professional tennis and badminton players in case of their coordinative abilities in the present scenario. For the meaningful comparison, total twenty [N = 10] University level male players (5 – badminton and 5 – tennis) were randomly selected as subjects. Static balance, Range of motion, and coordination were the selected variables to assess their coordinative abilities. The data was statistically analyzed by using independent t-tests for the variables at 0.05. level of significance. After analyzing the data, it was found that there were no significant differences in static balance as well as the range of motion and coordinative abilities between badminton and tennis players.

Keywords: Tennis, Badminton, Static Balance, Range of Motion, and Coordinative Abilities.

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INTRODUCTION

Coordination ability means an ability to quickly and purposefully perform difficult spatial-temporal movement structures. Within this context, coordination abilities are understood as an externally visible manifestation of the control and regulation processes of the motor activity of the central nervous system. The complex of coordination abilities consists of a group of basic coordination abilities.

Tennis and badminton are the best-known members of a family of related racket games. Despite their similarities, the two sports also have many differences in play and in strategy. Tennis and badminton are two racket sports that are favorite pastimes in many countries.

Tennis and badminton players have many similarities. Both the sports are played with rackets. Both involve hitting an object over the net and scoring when your opponent cannot return it. Both sports can be played singles or doubles. Tennis and badminton have worldwide appeal and are Olympic disciplines. There are many characteristics which are almost similar to each other. Tennis and badminton both emphasize on similar athletic skills like reaction time as players of tennis and badminton are able to quickly react to his opponent's strike. In spite of this researcher felt that there would definitely be many other characteristics with regards to coordinative

abilities, which make them distinguish from each other.

METHODOLOGY

Five tennis players and five badminton players men (N=10) with age range from 18 to 24 years, who represented Lakshmibai National Institute of Physical Education, Gwalior, in Inter University Competition were selected as the subjects for this study. Their mean and standard deviation of age was 20.95 ± 1.98 . All the subjects selected for the study were free from any diseases. For the purpose of the present study, the selected subjects [N = 10] (Badminton and Tennis) were assembled and the instructions were delivered by the researcher regarding procedure and administration of the test. To identify the coordinative abilities of the subjects, the selected parameters i.e. static balance assessed sensbalance (in degree), Range of motion (in second), coordinative abilities (in degree), test were selected as variables for the present study.

Statistical analysis was done with SPSS (Statistical Package for the Social Sciences, 20.0, USA). Mean and standard deviation was calculated as a descriptive statistics and independent t-test was used to find out the difference in each selected coordinative ability between badminton and tennis players' and if the mean change in scores was significant, the obtained "t" value was tested at 0.05 level of significance. The assumptions for applying

independent t-test were also taken into consideration. Effect size of each variable was calculated to find out the total magnitude of the mean differences along with its significance level

FINDINGS

The results of the descriptive (mean \pm standard deviation) as well as the comparative statistics (t-value) which were obtained in order to ascertain the group characteristics and the between group mean difference of selected coordinative abilities have presented below in Table 1.

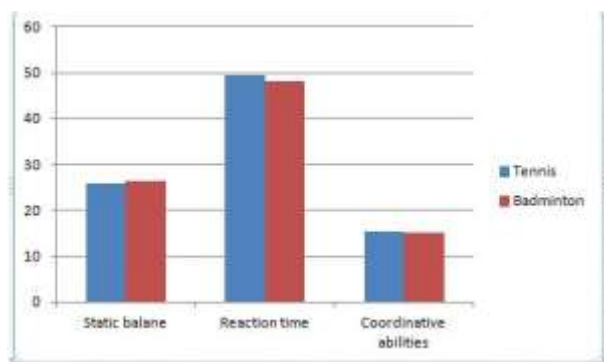
Table 1: Descriptive and Comparative Statistics of Selected Bio Motor Components

Variables	Tennis M \pm SD	Badminton M \pm SD	t-value	Significance
Static balance	25.98 \pm 0.92	26.44 \pm 0.54	0.947	0.25
Range of motion	49.53 \pm 2.63	48.27 \pm 1.47	0.930	0.19
Coordination	15.32 \pm 0.29	15.08 \pm 6.22	0.947	0.04

* p value < 0.05 is significant.

In Table 1, the collective information of descriptive (mean and standard deviation) as well as the comparative statistics (t value) of all selected coordinative abilities of both the groups is presented, in which the comparative result showed the significant difference in case of coordinative abilities ($p < 0.04$) as the descriptive statistics clearly indicated that the bowlers performed good by covering more average distance with less standard deviation (3227.0 \pm 155.0) in given time of periods.

On the other hand, the performance of static balance and Range of motion did not show any significant difference as the p value of test statistics was more than the alpha level ($p > 0.05$) as decided earlier in the beginning of the study.



Graphical representation of static balance, Reaction time, coordinative abilities of Tennis and badminton player

DISCUSSION & CONCLUSION

A significant difference has been observed in the variable coordination. In comparison to tennis players badminton players have better coordination

Masrath Jan and Dr. Jai Sanker Yadav (2017) revealed that due to the nature of regular exercise program might have developed the muscle tone, joint mobility and neuro-muscular coordination for the badminton players.

This may be also because in badminton the nature of the game is more strenuous than Squash and Lawn tennis players. Suresh Kumar Singh (2016).

The findings reveal that insignificant difference was found statistically for the both groups in case of static balance and reaction time. Further, suggested that the comparison can also be made between the non-players and players of other games in coordinative abilities.

CONCLUSIONS

Within the limitations of the present study, the following conclusions were drawn:

1. There was no significant difference in static balance between tennis players and badminton players
2. There was no significant difference in range of motion of tennis players and badminton players.
3. There was a significant difference in coordination among tennis players and badminton players.

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