



## RELATIONSHIP BETWEEN THE COORDINATIVE ABILITIES AND PLAYING ABILITY AMONG SELECTED SPORTS GROUP

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### ABSTRACT

*The objective of the study was to investigate the relationship of Coordinative Abilities to Playing Ability in Ball, and Racket Sports. For the purpose of this study 80 male students (20 subjects each) from various games and Sports viz. Ball, and Racket Sports of University level were selected and they were from Bundelkhand region. There dependent variables considered for the present study were the components of Coordinative Abilities viz. Differentiation ability, Orientation ability, Reaction ability, Balance ability and Rhythm ability. The independent variables were the Playing Ability of Ball, Racket and Combative Sports namely Basketball, Football, Badminton, and Table Tennis respectively. The data was collected by scholar on all five Coordinative Abilities tests as suggested by Peter Hirtz. All the five tests were administered to 80 subjects, 20 from selected games / Sports. After the completion of the Coordinative Abilities tests, the subjects were tested on their specific Playing Abilities tests for Basketball, Football, Badminton and Table Tennis. In order to investigate the relationship of Coordinative Abilities and Playing Ability of Ball and Racket Sports, Pearson's Product Moment Correlation was used as a statistical technique.*

**KEYWORDS:** relationship of Coordinative , Playing Ability of Ball, Racket and Combative Sports .

### INTRODUCTION

Sport is as old as human society and has achieved a universal status in modern society. It enjoys the popularity, which out strip any other form of social. activity, it has become an integral part of the educational process. Many participate in sports activity for the fun of it or for health, fitness and well-being. Sports have become an important social and cultural activity of the modern world which is being given the rightful place it deserves by the nations and societies of the world (Singh 1995).

Coordinative abilities are understood as relatively stabilized and generalized patterns of motor control and regulation processes. These enable the sportsman to do group of movements with better quality and effect. Coordinative abilities are primarily dependent on the motor control and regulation processes of CNS. The theory of motor co-ordination therefore is the basis for understanding the nature of coordinative abilities. For each component of coordinative ability the motor control and regulation processes function in a definite manner. When a particular aspect of these functions is improved then the sportsman is in a better position to do certain group of movements. The rhythm, flow, accuracy, consistency, amplitude etc., of a movement are expressions of motor coordination and hence highly dependent on coordinative abilities. Coordinative abilities enable the sportsman to do a group of movements with better quality and effect. The speed of learning a skill and its stability is directly dependent on the level of various coordinative abilities. Coordinative abilities are needed



for maximal utilization of conditional abilities, technical skills and tactical skills (Singh 1995).

The speed of learning of skill and its stability is directly dependent on the level of various coordinative abilities. Coordinative abilities are also needed for maximal utilization of conditional abilities, technical skills and tactical skills, in fact, the coordinative abilities to a great extent, determine the maximum limits to which sports performance can be improved in several sports especially the sports which depend largely on technical and tactical factors. Because of these reason assessment of coordinative abilities and the possibilities of their further development form an important part of the process of talent identification in sports (Bompa 1999).

The primary objective of the study was to investigate the relationship of coordinative abilities and playing ability of different sports group i.e. Ball, Racket and Combative sports. On the basis of the knowledge reflected by the available literature, research findings and scholar's own understanding, it was hypothesized that there would be a significant relationship between the Coordinative Abilities and Playing Ability in each of the sports group i.e. Ball and Racket Sports.

**METHODOLOGY**

For the purpose of this study a total of 80 male students (20 each from various games and sports) were selected from Bundelkhand District. All the selected subjects were University level players. The purposive sampling method was adopted to select the subjects for the study. All the subjects were in the age category of 18-25 years. For the purpose of the present investigation the dependent variables were Differentiation ability, Orientation ability, Reaction ability, Balance ability, Rhythm ability and independent variables were Playing ability of Ball, Racket Sports found appropriate and worthy of investigation. The following coordinative and playing ability tests were used for the present study were presented in table 1.

**Table 1**

<b>Coordinative ability tests</b>	<b>Specific playing ability tests</b>
<b>Numbered Medicine Ball Run Test for Orientation ability</b>	Johnson Basketball Test
<b>Backward Medicine Ball Throw Test for Differentiation ability.</b>	McDonald Soccer Test
<b>Ball Reaction Exercise Test for Reaction ability</b>	Lockhart-McPherson Badminton Test
<b>Long Nose Test for Balance ability</b>	Mott and Lockhart test for Table Tennis
<b>Sprint at the given rhythm test for Rhythm ability</b>	

The criterion measure adopted for the present study was the playing ability measured through Standard test batteries for the selected games and sports. However, the components of coordinative abilities were measured by the coordinative abilities tests suggested by Peter Hirtz. In order to ensure, that the investigator was well equipped with the technique of conducting the test. The investigator had number of practice sessions in testing. The necessary data was collected by administering selected coordinative abilities tests as suggested by Peter Hirtz. All the five tests were administered to 80 subjects from various games viz. Basketball, Football, Badminton, and Table Tennis. After the completion of the coordinative abilities tests, the subjects were tested on their specific playing abilities tests for Basketball, Football, Badminton and Table Tennis. In order to find out the relationship of Coordinative Abilities to Playing Abilities in Basketball, Football, Badminton, Table Tennis Pearson's Product Moment Correlation method was used. The level of significance was set at 0.05

## RESULT AND DISCUSSION

Table - 2

## Correlation of different coordinative abilities with basketball playing ability

Coordinative Abilities	Correlation Of Co-efficient
Balance Ability	-.035
Differentiation Ability	.111
Orientation Ability	-.947*
Reaction Ability	.636*
Rhythm Ability	.564*

\*Significant at 0.05 level,  $r_{05}(18) = 0.444$

Table 2 shows that there was a significant relationship of Orientation, Reaction and Rhythm Coordinative Ability with the Basketball Playing Ability as calculated value was greater than tabulated value, while there was no significant relationship in case of Balance and Differentiation Coordinative Ability with Basketball Playing Ability.

Table - 3

## Correlation of different coordinative abilities with football playing ability

Coordinative Abilities	Correlation Of Co-efficient
Balance Ability	.149
Differentiation Ability	.459*
Orientation Ability	.331
Reaction Ability	.039
Rhythm Ability	.026

\*Significant at 0.05 level,  $r_{05}(18) = 0.444$

It can be observed in table 3 that there was a significant relationship of Differentiation Ability with the Football Playing Ability as calculated value was greater than tabulated value, while there was no significant relationship in case of Balance, Reaction, Orientation and Rhythm Coordinative Ability with Football Playing Ability.

Table -4

## Correlation of different coordinative abilities with badminton playing ability

Coordinative Abilities	Correlation Of Co-efficient
Balance Ability	.124
Differentiation Ability	.090
Orientation Ability	.065
Reaction Ability	-.841*
Rhythm Ability	.020

\*Significant at 0.05 level,  $r_{05}(18) = 0.444$

Table 4 reveals that there was a significant relationship of Reaction ability with the Badminton Playing Ability as calculated value was greater than tabulated value, while there was no significant relationship in case of Balance, Differentiation, Orientation and Rhythm Coordinative Ability with Badminton Playing ability.

Table -5

**Correlation of different coordinative abilities with table tennis playing ability**

Coordinative Abilities	Correlation Of Co-efficient
Balance Ability	-.195
Differentiation Ability	.514*
Orientation Ability	.169
Reaction Ability	-.859*
Rhythm Ability	.421

\*Significant at 0.05 level,  $r_{05}(18) = 0.444$

It was found in table 5 that there was a significant relationship of Differentiation and Reaction ability with the Table Tennis Playing Ability as calculated value was greater than tabulated, while there was no significant relationship in case of Balance, Orientation and Rhythm Abilities with Table Tennis Playing Ability.

Basket Ball is a game wherein the entire Coordinative Abilities play a dominant role. So, the outcome generated by this study may be attributed to the growth and developmental maturation of the subjects. Coordination abilities, such as, Orientation, Differentiation, Reaction, Balance and the technical skills are necessary parts of the Basketball players' practice. While there was no significant relationship in case of Balance and Differentiation Coordinative Ability with Basketball Playing Ability, the reason may be that Basketball is a game where a high degree of perfection in separate body movements or mastery in motor skills is not much required (Differentiation ability) and hence, practiced less in comparison to the other Coordinative Abilities. Further, the data was analyzed to find out the relationship of Coordinative Ability to Playing Ability of Football players. Amongst all the Coordinative Abilities, only Differentiation Coordinative Ability was significantly correlated with the Football Playing Ability. The causes for this finding may be attributed to the factor that the nature of activity involved in Football does not expose to any practices efficiently which can increase the other Coordinative Abilities like, Rhythm, Orientation, Balance and Reaction. The strong relationship of Differentiation ability and Football might be because of the increasing/decreasing range of movement of one or more body part or might be because of the high accuracy exercise after strength exercises under fatigue condition. In a lay man's term, the players may have got a sense of body movements because of the training being imparted to them. Under the continuum of Racket sports, the Playing Ability of Badminton and Table Tennis players were correlated with all the five Coordinative Abilities separately. The analysis had revealed that in Badminton there was a significant relationship of Reaction Ability with the Playing Ability, while there was no significant relationship in case of Balance, Differentiation, Orientation and Rhythm Ability with Badminton Playing Ability. The factors responsible for the aforesaid findings can be attributed to nature of movements required in the Badminton game. It's a game where the players need to react quickly and effectively to the opponents attack causing the improved reaction ability. In Table Tennis there was a significant relationship of Differentiation and Reaction Ability with the Playing Ability, while there was no significant relationship in case of Balance, Orientation and Rhythm Ability with Table Tennis Playing Ability. Again the nature of activities involved in Table Tennis gives an individual or player a sense of movements as well as they need quick movements as quick reactions to the balls coming from the opponents side. Apart from this the nonsignificant relationship of Balance, Orientation and Rhythm Coordinative Ability might be caused due to the factor that game does not involve the change of position and movements of the body in time and space in relation to a definite field of action. The game also lacks the much needed Balancing ability or the Rhythmic motor movements.

**CONCLUSION**

On the basis of the finding of the present study it has been concluded that there was a significant relationship of orientation, reaction and Rhythm Coordinative Ability with the Basketball Playing Ability and there was a significant relationship of Differentiation Ability with the Football Playing Ability. There was a

significant relationship of Reaction Ability with the Badminton Playing Ability and significant relationship was also found between Differentiation and Reaction Ability with the Table Tennis Playing Ability.

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