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**Praveen kumar Mishra**  
HOD of Physical Education  
Swaminarayan Vidyapith,  
Anand, Gujarat, India

## Comparison of selected psychomotor abilities between football and hockey male players

**Praveen kumar Mishra**

### Abstract

The aim of this study was to investigate difference of psychomotor abilities between footballer and hockey male players. To attain this study, 30 (15 footballer and 15 hockey players) represented inter-university tournament with age ranging from 20 to 25 years were randomly selected from Lakshmbai National Institute of Physical Education, Gwalior. The statistical technique employed for this study was independent  $t$ -test at 0.05 level of significance. As per the statistical analysis the Football and Hockey players in Visuo-Spatial Coordination Psychomotor Mobilization and Eye- Arm Coordination as the sig. value is less than the 0.05 and also shows the insignificant difference in Visuo-Motor Coordination as the sig. value is more than the 0.05.

**Keywords:** psychomotor abilities, statistical technique, Coordination Psychomotor.

### Introduction

The application of the psychological principles to the improvement of performance in sports has now-adays received greater attention. There are certain accepted psychological principles which have to be applied so that the athletes and players can maximize their performance. Coaches, physical educationists and sportsscientists have always felt a great need to know about those psychological principles, which are helpful in improving the motor skills of the players. To understand and explain movement-oriented behavior, the identification of the factors that contribute to the successful motor performance is required. The future prospect of athletes definitely depend on their psychomotor endowment which can, of course, be groomed at the later stage by providing adequate and suitable environmental support.

The psychomotor domain is mainly concerned with bodily movements and their control. Such behaviors when performed in a general way represent a general movement pattern and when highly specific and task-defined, indicate a skill or sequence of skills. They include the following kinds of behavior which may take place in combination to each other or may become independent:

- Controlling, manipulating or moving an object,
- Controlling the body of objects as in balancing,
- Moving and/or controlling the body or parts of the body in space with timing in a brief or long act or sequence under predictable and unpredictable situations.

Psychomotor domain of behaviour refers to motor patterns initiated by psychological backing to the entire movement sequence. Singer (1979) reported that activities which are primarily movement oriented and emphasis on physical responses bear the label 'psychomotor'. They encompass controlling, manipulating and/or moving an object; controlling the body of the object such as balancing, moving and/or controlling the body or the part of the body in space with timing in a brief or long act or sequence under predictable and unpredictable situation.

### Psycho-Motor Abilities

Various psychomotor parameters have been selected by the investigator in order to obtain the basic, general and global view of the psychomotor make-up of the subjects under investigation so that their comparative functional status in case of individual and team players can be ascertained to prepare their psychomotor profiles. This is the principal aim of the present study.

**Correspondence**  
**Praveen kumar Mishra**  
HOD of Physical Education  
Swaminarayan Vidyapith,  
Anand, Gujarat, India

flexibility, agility, balance, cardiovascular endurance, strength, reaction time, power etc, (general motor qualities) which are appropriate for a specific age group.

**Objective of Study**

The objective of the study was to compare psychomotor abilities between footballer and hockey male players.

**Methodology**

**Selection of Subjects**

Thirty (15 footballer and 15 hockey) inter-university players from Lakshmibai National Institute of Physical Education Gwalior were selected as participant randomly. The age of the participant was range from 20 to 25 years.

The psychomotor parameters researched in the study are described below:

1. Visuo- Spatial Coordination
2. Psychomotor- Mobilization

3. Eye- Arm Coordination
4. Visuo- Motor Coordination

**Methodology**

**Design**

Descriptive Survey Method was followed in the present study. The data was collected with help of different tests of Psychomotor Abilities. T-test technique was used to analyze the data.

**Sample**

**Selection of Subjects**

Thirty (15 footballer and 15 hockey) inter-university players from Lakshmibai National Institute of Physical Education Gwalior were selected as participant randomly. The age of the participant was range from 20 to 25 years.

**Tools Used**

**Table 1:** Test / Tool Motor Element Psychomotor Ability tested

S.NO.	Test / Tool	Psychomotor Ability tested	Motor Element
1	Standing Broad Jump Test	Visuo-Spatial Coordination	Limb Coordination
2	Skipping Rope Jump Test	Psychomotor Mobilization	Hand-Leg Coordination
3	Basketball Wall Pass Test	Eye –Arm Coordination	Two –Arm Coordination
4	Volleyball Wall Volley Test	Visuo-Motor Coordination	Arm- Shoulder Coordination

**Data Analysis**

For data, an analysis response was express as mean and standard deviation. Independent test were performed for comparisons means between two group (football and hockey male players),  $p < 0.05$  was considered statistically significant. Data analysis performed using SPSS 20.0 software under windows.

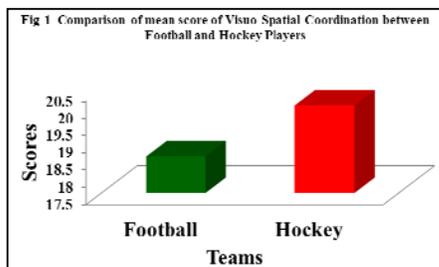
The minimum and maximum ages were similar in both the groups. The means and standard deviation (SD) of the psychomotor parametes, the means and standard deviations of the two groups has been present table -1, further equality of variances(Levene's test) along with the independent t' test has been present in table -2. The graphical representation of mean differences is shown in fig.1.

**Results**

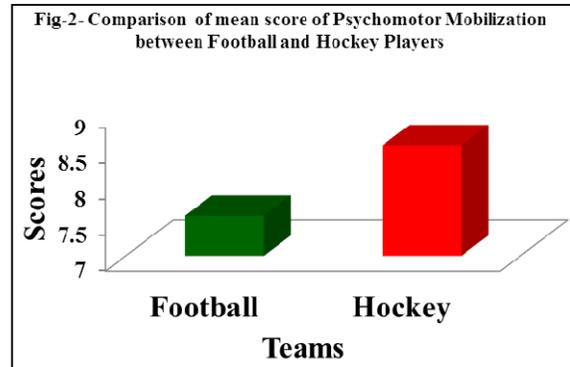
**Table 1:** Descriptive Statistics of the Groups

S.NO.	Psychomotor Parameters	Groups	Mean	SD
1	Visuo-Spatial Coordination	Football	18.5520	1.02913
		Hockey	20.0353	1.08324
2	Psychomotor Mobilization	Football	7.5580	0.48177
		Hockey	8.5347	0.69953
3	Eye –Arm Coordination	Football	11.4440	0.91837
		Hockey	10.1213	0.70536
4	Visuo-Motor Coordination	Football	1.7827	0.18348
		Hockey	1.8507	0.15262

**Table-1** shows the descriptive statistics of the Footballers and Hockey Players for Visuo-Spatial Coordination, Psychomotor Mobilization, Eye –Arm Coordination and Visuo-Motor Coordination. The Mean  $\pm$ SD values of groups.



**Fig 1:** Comparison of mean score of Visuo-Spatial Coordination between Football and Hockey Players



**Fig 2:** Comparison of mean score of Psychomotor Mobilization between Football and Hockey Players

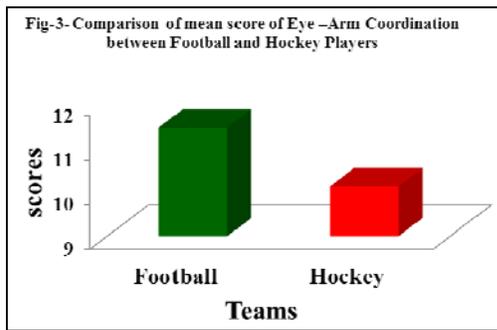


Fig 3: Comparison of mean score of Eye –Arm Coordination between Football and Hockey Players

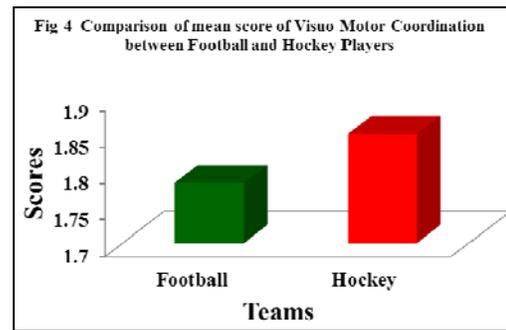


Fig 4: Comparison of mean score of Visuo-Motor Coordination between Football and Hockey Players

Table 2: Significance Difference of Mean of Psychomotor Parameters between Football and Hockey Players

		F	Sig.	t-value	Df	Mean Difference
Visuo-Spatial Coordination	Equal Variances Assumed	0.364	0.551	3.845*	28	1.48333
Psychomotor Mobilization	Equal Variances Assumed	0.846	0.366	4.453*	28	0.97667
Eye- Arm Coordination	Equal Variances Assumed	0.690	0.413	4.424*	28	1.3226
Visuo-Motor Coordination	Equal Variances Assumed	0.559	0.461	-1.104	28	-0.06800

\*Value of "t" at the level of 0.05

Table-2 shows the significance difference in the Football and Hockey players in Visuo-Spatial Coordination Psychomotor Mobilization and Eye- Arm Coordination as the sig. value is less than the 0.05 and also shows the insignificant difference in Visuo-Motor Coordination as the sig. value is more than the 0.05.

**Results**

The Football and Hockey players in Visuo-Spatial Coordination Psychomotor Mobilization and Eye- Arm Coordination as the sig. value is less than the 0.05 and also shows the insignificant difference in Visuo-Motor Coordination as the sig. value is more than the 0.05.

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