



**COMPARATIVE STUDY AMONG FEMALE CRICKET AND HANDBALL PLAYERS ON HAND REACTION TIME AND EYE HAND CO-ORDINATION**

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**ABSTRACT**

The aim of the study was to analyze the hand reaction time and eye hand co-ordination among female cricket & handball players. The study was conducted on 50 female players in which 25 crickets & 25 handballs selected as a sample from different colleges of Punjabi University, Patiala. All the samples participated at least Interschool level tournament. The age of the sample ranged from 18-25 years & all the samples were selected from random basis. To measure the hand reaction time, Digital Reaction Time Tester was preferred & to assess eye hand co-ordination, Ball transfer test was used. The scoring was done according to rule led down by the authors. This test is highly reliable & valid for measuring hand reaction time & eye hand co-ordination of selected subjects. The 't' test was used to find out significant difference between two groups i.e. cricket players & handball players. Results found that Female cricket players have slow auditory reaction time (ART) & faster visual reaction time (VRT) as compared to female handball players. Female cricket players have poor eye hand co-ordination (EHC) as compared to female handball players.

**Keywords:** Hand Reaction Time (HRT), Eye Hand Co-ordination (EHC), Female Players (Cricket & Handball) etc.

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## 1. INTRODUCTION

Sport activities often have a close relationship between perception and action therefore temporally constrained sport tasks require that players extract the most valuable source of visual information and use this information to quickly anticipate the opponent's movement outcome (SHIM et al., 2006). There are evidences which support the claims of vision playing an important role in the perceptual ability of an athlete relating proportionately to his/her motor response. Revien & Gabor (1981) stated that visual abilities affect sports performance and the acquisition of motor skills, which can be improved with training. Supporting the same Quevedo et al. (1999); stated that sports vision training is conceived as a group of techniques directed to preserve and improve the visual function, with the goal of incrementing sports performance through a process that involves teaching the visual behavior required in the practice of different sporting activities. West & Bresson (1996) indeed indicated a positive effect on the performance of cricketers to judge the length of ball after specific visual training program. Salmela & Fiorito (1980), showed improved performance in hockey players, when accurate pre shot visual clues were obtained. The results of several other studies also assert the claim that visual skills training can improve sports performance.

Reaction time is defined as the period of time that elapses between the occurrence of a stimulus and initiation of the movement. It involves reception of the stimuli by the sense organ, conduction of the information through the nerve to the brain and from the brain to the muscle contraction, and the movement of the muscle. The contribution of the central processes in the brain is usually far larger than all the others put together (Welford 1977). Visual reaction time is the time taken by an individual to react to a visual stimulus. (Bamne, Fadia, Jadhav 2011)

An essential skill, hand-eye coordination involves your visual system coordinating what you see to guide the hands in a specific task. Different activities entail various degrees of co-ordination development; catching a ball requires a greater sense of coordination than pouring a glass of milk, for example. Improving your hand-eye co-ordination can make every day and athletic movements easier ( www.livestrong.com. 2017).

Many things that you do throughout your day that you probably don't even think about require hand-eye coordination. Applying makeup, brushing your hair, pouring water into the coffee maker, writing and folding your clothes are all examples of simple tasks that use hand-eye coordination. Drills to improve hand-eye coordination can be borrowed from sports; the simple act of playing catch, horseshoes or handball can help you to develop a better sense of overall coordination ( www.livestrong.com., 2017)

There are so many activities in the field of Physical Education. That is performing with the help of Eye Hand coordination. Eye hand coordination is compulsory in our body like steam. Team games help the player to work in the group. This team is used to identify those games in which the group of player represents a single unit.

## 2. METHODOLOGY

### 2.1 Sample

The total no. of 50 Female subjects in which 25 cricket players & 25 handball players were selected as a sample. All the samples selected from different colleges of Punjabi University, Patiala & all the selected players represented in at least intervarsity level

tournament. The age of the selected subjects ranged from 18-25 years and all the samples were selected from random basis.

**2.2 Tool Used**

To assess the hand reaction time, of selected female players, Digital Reaction Time Tester was used. For measuring eye hand co-ordination, Ball transfer test was adopted. The scoring was done according to the rule led down the authors. This test is highly reliable & valid for measuring hand reaction time & eye hand co-ordination of selected samples.

**2.3 Statistical Analysis**

To find out significant difference among cricket & handball players ‘t’ test was used.

**3. RESULTS & DISCUSSION**

To compare cricket & handball player’s on eye hand co-ordination, mean, standard deviation & ‘t’ test were computed and data pertaining to this have been presented in table 1. To 3 and depicted figure 1 to 3.

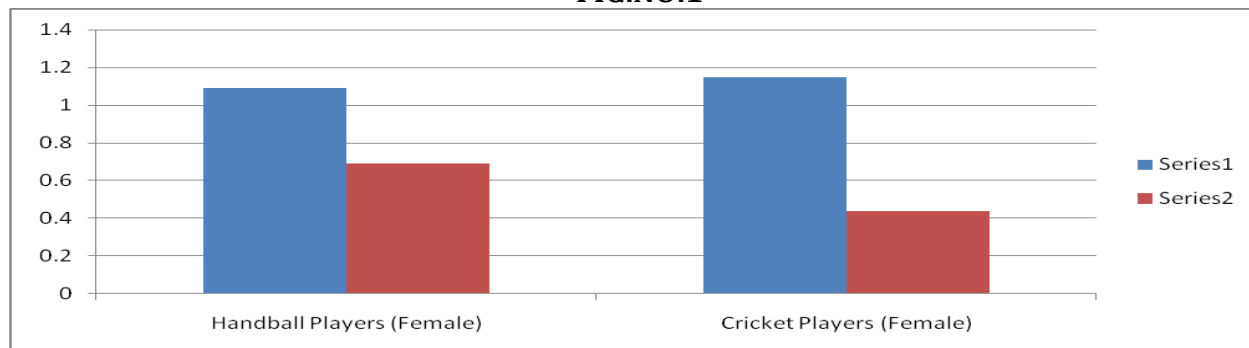
**TABLE 1  
COMPARISON BETWEEN FEMALE CRICKET & HANDBALL PLAYERS ON AUDITORY REACTION TIME (ART)**

Groups	N	Mean	SD	MD	t-value
Handball Players	25	1.09	0.69	0.06	0.69
Cricket Players	25	1.09	0.69		

‘t’ (0.05) = 1.98, ‘t’ (0.01) = 2.61

From table no. 1, result showed that female handball players have faster auditory reaction time (ART) (M=1.09, SD= 0.69) as compared to female cricket players (M=1.15, SD= 0.44). The ‘t’ value is 0.69, so there is no significant difference has been found at 0.05 level , because the calculated value which is less than the tabulated value.

**FIG.NO.1**



**TABLE 2  
COMPARISON BETWEEN FEMALE CRICKET & HANDBALL PLAYERS ON VISUAL REACTION TIME (VRT)**

Groups	N	Mean	SD	MD	t-value
Handball Players	25	0.76	0.32	0.06	0.35
Cricket Players	25	0.69	0.18		

‘t’ (0.05) = 1.98, ‘t’ (0.01) = 2.61

From table no. 2, result indicated that female handball players have slow visual reaction time (VRT) (M=0.76 SD= 0.32) as compared to female cricket players (M=0.69, SD= 0.18 because greater the timing lesser the VRT. The ‘t’ value is 0.35, so there is no significant

difference has been found at 0.05 level because the calculated value which is less than the tabulated value.

FIG.NO.2

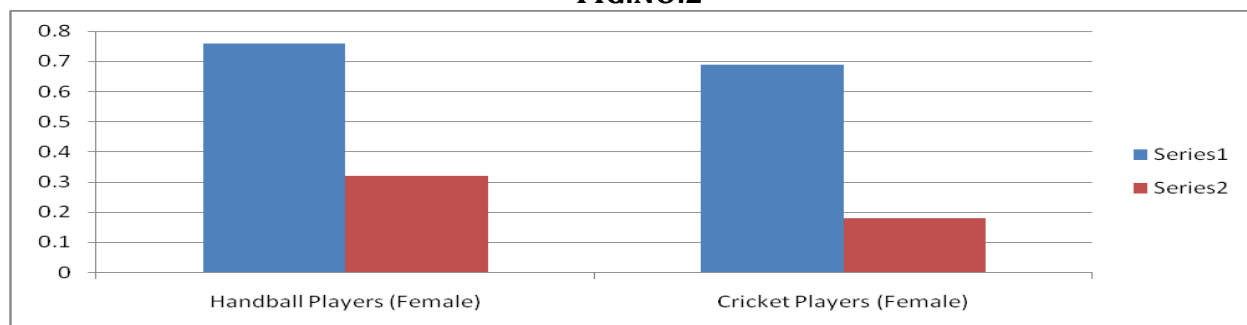


TABLE 3

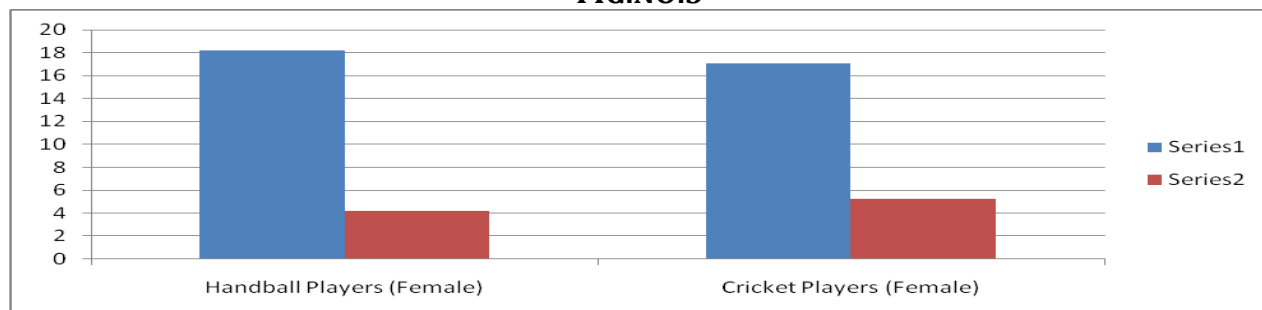
COMPARISON BETWEEN FEMALE CRICKET & HANDBALL PLAYERS ON EYE HAND COORDINATION (EHC)

Groups	N	Mean	SD	MD	t-value
Handball Players	25	18.16	4.22	1.08	0.88
Cricket Players	25	17.08	5.25		

't' (0.05) = 1.98, 't' (0.01) = 2.61

From table no. 3, result found that the female cricket players have poor eye hand co-ordination (EHC) (M=17.08, SD= 5.25) as compared to female handball players (M=18.16, SD=4.22). The 't' value is 0.88 so there is no significant difference has been found at 0.05 level because the calculated value which is less than the tabulated value.

FIG.NO.3



#### 4. CONCLUSIONS

- i) Female cricket players have slow auditory reaction time (ART) as compared to female handball players.
- ii) Female cricket players have faster visual reaction time (VRT) as compared to female handball players.
- iii) Female cricket players have poor eye hand co-ordination (EHC) as compared to female handball players.

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