

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



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Abstract:

The main purpose of the study was to compare hand reaction time and eye hand co-ordination among male cricket & handball players. The study was conducted on 50 male players in which 25 crickets & 25 handballs selected as a sample from different colleges of Punjabi University, Patiala. All the samples participated at least Intersarsity level tournament. The age of the sample ranged from 18-25 years & all the samples were selected from random basis. To assess the hand reaction time, Digital Reaction Time Tester was used. For measuring eye hand co-ordination, Ball transfer test was preferred. 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 Male cricket players have faster auditory reaction time (ART) & visual reaction time (VRT) as compared to male handball players. Male cricket players have better eye hand co-ordination (EHC) as compared to male handball players & it is highly significant difference has been found between both groups.

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

Introduction:

In Modern days peoples are more involved in playing videogames, watching TV and movies, and exploring the Internet. With modernization, sports such as table tennis, volleyball, badminton, cricket, football are less preferred. Adequate sports activity improves health and physical development by increasing muscle strength, alertness, sensory development, muscle coordination, speed, strength and stamina. Playing badminton requires a constant analysis of the court, forcing the player to react precisely and quickly. That is why experienced badminton players have the ability to react quickly to the situation during the match and anticipate the opponent's movements. Research shows that a badminton player in the defensive position has 0.1 s to react to the opponent's attack. Hence, sports such as badminton, table tennis, and squash have been classified as reaction sports.

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. Visual reaction time is the time taken by an individual to react to a visual stimulus. Reaction time acts as a reliable indicator of rate of processing of sensory stimuli by central nervous system and its execution in the form of motor response. It determines the alertness of a person because how quickly a person responds to a stimulus depends on his reaction time. There are various factors such as age, sex, practice, fatigue, fasting, exercise, type of personality, and medical condition that influence reaction time. Many researches show that more experienced players react more quickly than their less experienced counterparts, and there is significantly decreased reaction time in athletes as compared to nonathletic persons.

Eye hand coordination is part of mechanism, which is used for daily routine works in the absent of eye hand coordination. Most people are unable to do simple work like-carrying book from table or playing video games. For example: When a child learns drawing he makes the position of his hand by which he holds the pencil so that he makes lines. This movement is possible by small muscles. Eye hand Co-ordination also known as a Hand Eye Co-ordination.

Methodology:

Following methodological steps have been taken to verify the hypothesis established by the investigator:-

Samples:

From 50 Male Players in which 25 cricket & 25 handball Players from different colleges of Punjabi University, Patiala. The age of the sample ranged from 18-25 years and all the samples were selected from random basis.

Tools:

To assess the hand reaction time, of selected players, Digital Reaction Time Tester was used. For measuring eye hand co-ordination, Ball transfer test was preferred. The scoring was done according to the rule led down the authors. This test is highly reliable & valid for measuring reaction time & co-ordination of selected samples. The 't' test was used to find out significant difference among cricket & handball players.

Results & Discussion:

Mean, standard deviation & 't' test were computed to compare cricket & handball player's scores and data pertaining to this have been presented in table given below:-

TABLE NO-I

COMPARISON BETWEEN MALE CRICKET AND HANDBALL PLAYERS ON AUDITORY REACTION TIME (ART)

Groups	N	Mean	SD	MD	t-value
Handball Players (Male)	25	1.45	0.77	0.69	0.028
Cricket Players (Male)	25	0.76	0.33		

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

From table no. I, result indicated that male cricket players have faster auditory reaction time (ART) (M=0.76, SD= 0.33) as compared to male handball players (M=1.45, SD= 0.77) because lesser the timing faster the ART. The 't' value is 0.0028, so that there is no significant difference has been found at 0.05 level.

FIG NO-I

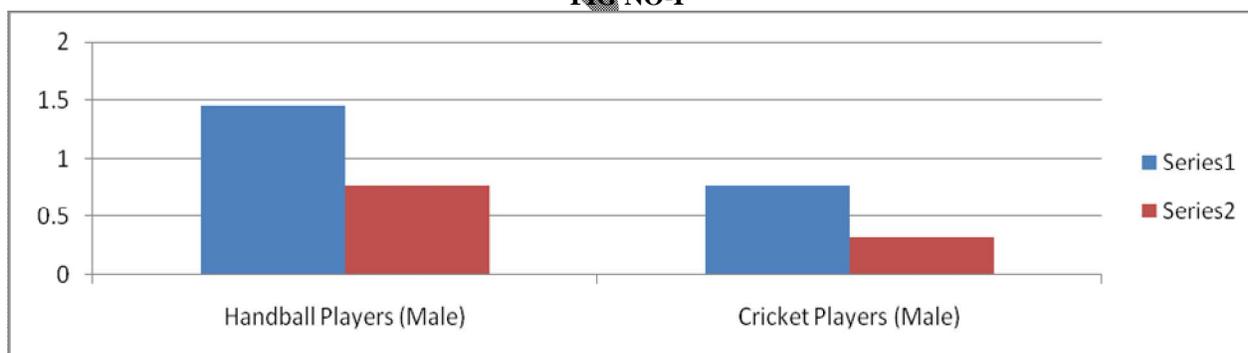


TABLE NO-II

COMPARISON BETWEEN MALE CRICKET & HANDBALL PLAYERS ON VISUAL REACTION TIME (VRT)

Groups	N	Mean	SD	MD	t-value
Handball Players (Male)	25	0.67	0.28	0.15	0.024
Cricket Players (Male)	25	0.52	0.16		

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

From table no. II, result found that male cricket players have faster visual reaction time (VRT) ($M=0.52$ $SD= 0.16$) as compared to male handball players ($M=0.67$, $SD= 0.28$) because lesser the timing faster the VRT. The 't' value is 0.0024, so there is no significant difference has been found at 0.05 level, because the calculated value is less than the tabulated value.

FIG NO-II

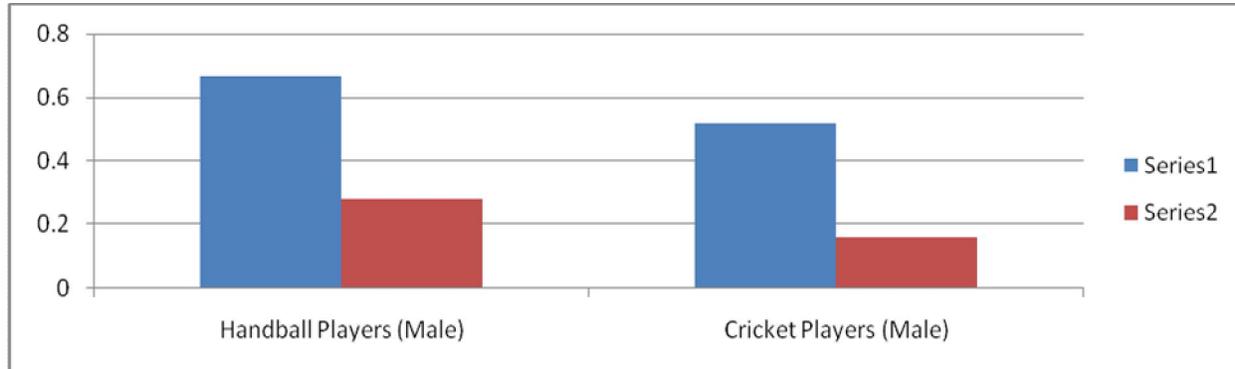


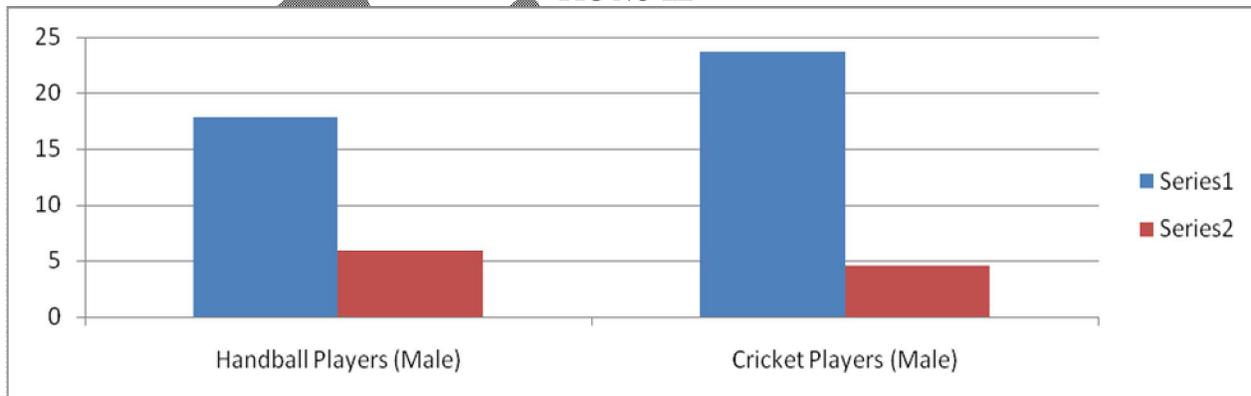
TABLE NO-III
 COMPARISON BETWEEN MALE CRICKET & HANDBALL PLAYERS ON EYE HAND COORDINATION (EHC)

Groups	N	Mean	SD	MD	t-value
Handball Players (Male)	25	17.88	5.91	5.76	3.86*
Cricket Players (Male)	25	23.64	4.52		

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

From table no. III, result showed that the male cricket players have better eye hand co-ordination (EHC) ($M=23.64$, $SD= 4.52$) as compared to male handball players ($M=17.88$, $SD=5.91$). The 't' value is 3.86, which is greater than the tabulated value, so it is highly significant at 0.05 level has been found.

FIG NO-III



Conclusions:

- Male cricket players have faster auditory reaction time (ART) as compared to male handball players.
- Male cricket players have faster visual reaction time (VRT) as compared to male handball players.
- Male cricket players have better eye hand co-ordination (EHC) as compared to male handball players & it is highly significant difference has been found between both groups

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