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A comparative study on eye-hand coordination between basketball players and table tennis players of BVDU Pune

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Abstract

The purpose of this study was to compare on eye-hand coordination between Basketball Players and Table Tennis Players of BVDU Pune. For this study a total of 60 subject were age group between 18 to 25 years selected. 30 Subject from Basketball player and 30 subject from Table Tennis Player of BVDU College of Physical Education Pune were selected. The data was collected through an administration of Eye Hand-Coordination Wall Toss Test. By using independent "t" test with a significance difference of 0.05. The result of a Comparative Study on Eye Hand Coordination between Basketball player and Table Tennis Player of BVDU Pune differ significantly.

Keywords: BVDU & Pune, eye-hand, basketball, table tennis

Introduction

The ability of the vision system to synchronize the information acquired by the eyes in order to control, guide, and steer the hands in order to execute a certain job, such writing by hand or catching a ball, is known as eye-hand coordination. With hand-eye coordination, the hands carry out a task while the eyes focus attention. The process of comprehending what the eyes see is called vision. Simple visual acuity the capacity to discern minute details is not enough. Fixation and eye movement skills, accommodation (focusing), convergence (aiming), binocularity (eye teaming), and hand-eye coordination control are also components of vision. The ability of the vision system to synchronize the information acquired by the eyes in order to control, guide, and steer the hands in order to execute a certain job, such writing by hand or catching a ball, is known as eye-hand coordination.

With hand-eye coordination, the hands carry out a task while the eyes focus attention. The process of comprehending what the eyes see is called vision. Simple visual acuity the capacity to discern minute details is not enough. Fixation and eye movement skills, accommodation (focusing), convergence (aiming), binocularity (eye teaming), and hand-eye coordination control are also components of vision. The capacity to regulate muscular movements through the neural system and locomotive organs is known as coordination. The term "eye-hand coordination" describes a pattern where the (AHWT) has been used in research with youth, children, and university students. The following were the features of earlier research employing AHWT: With the exception of a few trials (3ft in the Marcus research, and 5 and 1 m in the Weed study on *et al.* 6), the majority were carried out using distances of 2 m, independent of age. Therefore, regardless of age, the exams assessed the same degree of difficulty. Without eyesight, humans can use their sense of proprioception to aim eye movement toward the hand with only slight inaccuracies resulting from internal knowledge of limb position. It has been demonstrated that when the hands are used to guide eye movement, the proprioception of the limbs causes saccadic overshoots in both active and passive movement. Instead of prior hand movement, these overshoots in studies are caused by the control of eye saccades. This suggests that limb-based proprioception can be converted into ocular motor coordinates to direct eye saccades, enabling the hands and feet to steer the saccades. Due to injury to the brain itself, degeneration of the brain from disease or aging, or an apparent inability to coordinate senses completely, a variety of ailments, diseases, and disabilities have been reported to cause disruptions in eye-hand coordination.

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One of the most popular indoor games in the world is table tennis. There are two teams of one or two players each. The game is played on a table tennis table that is split in half by a net. Every player's primary goal is to strike the ball in a way that makes it difficult for his opponent to hit it. The players receive points, which ultimately determine the game's winner. Basketball is a game that is often played inside on a rectangular court between two teams of five players each. In order to score, each team throws the ball through the opponent's goal, which is a basketball net and an elevated horizontal hoop. Only passing the ball or dribbling (bouncing the ball) will move him. A player cannot dribble or move with the ball once they have two hands on it (not including catching it); instead, the ball must be passed or shot.

Methodology

For the purpose of a study total 60 players were selected. 30 from Basketball players and 30 from Table Tennis Players of 18 to 25 years' age group were selected for a subject. The purposive sampling technique was used to select the subject. Eye-hand Coordination was the variable for this study. The data pertaining from the study were selected subjects by using alternative hand wall toss.

Table 1: Descriptive statistical on hand-eye coordination between basketball player and table tennis players.

Variable	Group	N	Mean	SD
Eye-hand Coordination	Basketball	30	25.07	4.81
	Table Tennis	30	24.37	4.13

It shows that on Eye Hand coordination ability of Basketball Group mean value was 25.07 and Standard Deviation was 4.81. On other hand Table Tennis mean value was 24.37 and Standard Deviation was 4.13.

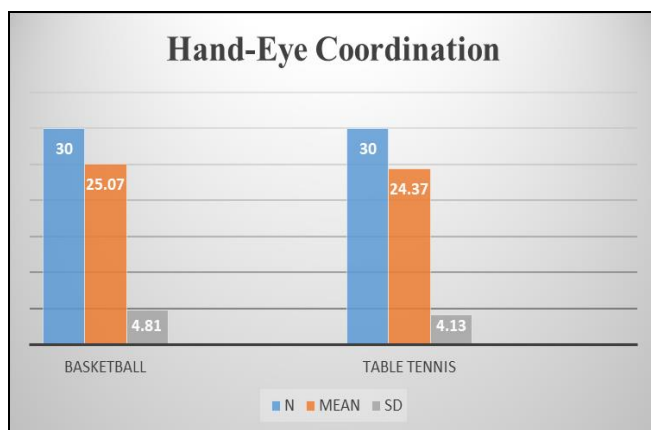


Fig 1: Graphical representation of eye hand coordination between basketball player and table tennis player

Table 2: Significance mean difference eye-hand coordination between table tennis and basketball players

Group	N	Mean	SD	SE	DF	Cal value	"T" Value
Basketball	30	25.07	4.81	1.158	58	0.6044	2.000
Table Tennis	30	24.37	4.13				

It shows that there was discernible difference in eye hand coordination between the basketball and table tennis players groups. The test's results indicate that there was discernible difference in the means of the two groups that were chosen. The result of this test indicates that the means of the two groups that were chosen did not differ significantly because the computed value of 0.273954 is less than the tabulated "t"

of 2.000 (58 degrees of freedom at the 0.05 level of confidence).

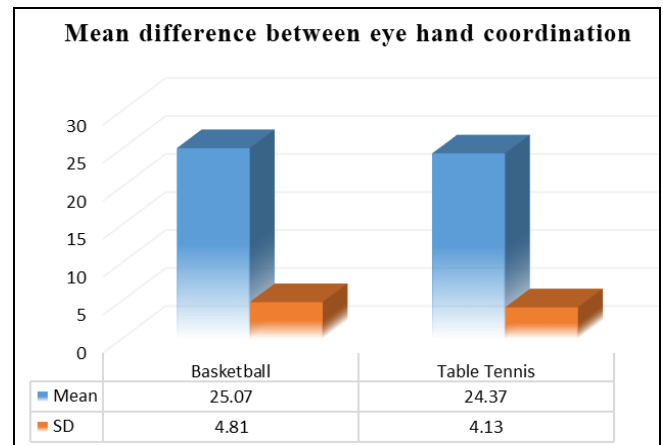


Fig 2: Graphical representation on mean difference on eye hand coordination of basketball and table tennis player

Results and Discussion

There is discernible difference in the hand-eye coordination skills of Table Tennis and Basketball players of BVDU Pune. Eye-hand coordination is necessary for both Basketball and Table Tennis Players of BVDU Pune.

References

- Alpine S, Devrilmez E, Karadzic S. Coincidence-anticipation timing requirements are different in racket sports. *Percept Mot Skills*. 2012;115(2):581-593.
- Carey DP. Eye-hand coordination: Eye to hand or hand to eye? *Curr Biol*. 2000;10(11):R416-419.
- Crawford JD. Spatial transformations for eye-hand coordination. *J Neurophysiol*. 2004;92(1):10-19.
- Fogt N. The influence of head movement on the accuracy of a rapid pointing task. *Optom*. 2002;73(11):665-673.
- Johansson RS. Eye-hand coordination in object manipulation. *J Neurosci*. 2001;21(17):6917-6932.
- Pelz J. The coordination of eye, head, and hand movements in a natural task. *Exp Brain Res*. 2001;139(3):266-277.
- Sailer U. Spatial and temporal aspects of eye-hand coordination across different tasks. *Exp Brain Res*. 2000;134(2):163-173.
- Udermann BE. Influence of cup stacking on hand-eye coordination and reaction time of second-grade students. *Percept Mot Skills*. 2004;98(2):409-414.