



**Short Communication**

## Effect of Binocular Depth Perception upon Throwing Accuracy of Male Basketball Players

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### Abstract

*Effect of binocular depth perception upon throwing accuracy of male basketball players was assessed in the present study. 100 male intercollegiate basketball players (Ave. age = 21.62 yrs.) were selected as sample for the present study. To assess throwing accuracy of selected male basketball players, Johnson Basketball Throw for Accuracy (Passing Test) was used. Depth perception of the selected subjects was recorded by a specially designed depth perception apparatus. Results reveal that throwing accuracy of male basketball players exhibiting superior binocular depth perception was found to be significantly better as compared to throwing or passing accuracy of male basketball players with average and inferior binocular depth perception. It was concluded that binocular depth perception affect throwing accuracy of male basketball players.*

**Keywords:** Binocular depth perception, Throwing, Basketball.

### Introduction

Depth perception is a useful psycho-motor ability by which distance between observer and object can be judged in three dimensional space.

One of the several sensory organs is vision which plays an important role in interacting with outer environment. The role of vision and specifically visual functioning has long been recognized in the world of sport<sup>1</sup>.

The role of visual abilities in sports performance has been highlighted by number of researchers<sup>2,3,4</sup>. The relationship between motor skill and visual capabilities as well as sports performance and vision was also established by the researchers<sup>5</sup>.

One such sport where visual skills important is basketball, hence keeping the death of studies on effect of visual ability on throwing or passing ability of male basketball players, the present study was planned.

**Hypothesis:** It was hypothesized that throwing accuracy of male basketball players with superior binocular depth perception will be significantly better as compared to male basketball players with average and inferior binocular depth perception.

### Methodology

The following methodological steps were taken in order to conduct the present study.

**Sample:** For present study, 100 male intercollegiate basketball players (Average age = 21.62 yrs.) were selected as sample. The selection of subjects was done from Inter-collegiate tournaments held in the State of Chhattisgarh India. The selection of sample was based on convenience sampling technique.

**Tools: Johnson Basketball Throw of Accuracy (Passing Test):** To assess throwing accuracy of selected male basketball players, Johnson Basketball Throw for Accuracy (Passing Test) was used. This test is highly reliable and valid. The direction of scoring for this test is “higher the score better is the ability”.

**Depth Perception:** Depth perception of the selected subjects was recorded by a specially designed depth perception apparatus. In this test the direction is scoring is “higher the deviation, lower the binocular depth perception”.

**Procedure:** Johnson basketball throw for accuracy (passing test) was administered to each subject as per their availability and convenience. Similarly depth perception of selected subjects was recorded.

To bifurcate cases into superior, average and inferior binocular depth perception categories, Q<sub>1</sub> and Q<sub>3</sub> statistical technique was used. Subjects whose depth perception scores lies below Q<sub>1</sub> was assigned to superior depth perception category, subjects whose scores lies above Q<sub>3</sub> was assigned to inferior depth perception category while scores on depth perception lying between Q<sub>1</sub> and Q<sub>3</sub> was assigned to average depth perception category.

To find out the effect of binocular depth perception on throwing accuracy, ‘t’ test was used. Results depicted in table-1.

**Table 1**

**Comparison of throwing accuracy between male basketball players on the basis of their binocular depth perception**

Categories of Binocular Depth perception	Throwing Accuracy		‘t’
	Mean	S.D.	
Superior (N=26)	17.57	3.93	7.17**
Inferior (N=27)	9.25	4.47	
Superior (N=26)	17.57	3.93	6.53**
Average (N=47)	10.34	4.82	
Inferior (N=27)	9.25	4.47	0.95(NS)
Average (N=47)	10.34	4.82	

\*\* Significant at .01 level; NS - Not Significant

**Analysis of Data:** Entries reported in table 1 indicate that the throwing accuracy of male basketball players exhibiting superior binocular depth perception (M=17.57) was found to be significantly better as compared to male basketball players with inferior (M=9.25) and average binocular depth perception (M=10.34) respectively. No significant difference was observed in throwing accuracy of male basketball players exhibiting inferior and average level of binocular depth perception (t=0.95, p>.05) Table 1.

**Results and Discussion**

**Results:** Male basketball players with superior binocular depth perception showed significantly better accuracy in throwing as compared to players with average and inferior level of binocular depth perception. No significant difference was observed in throwing accuracy of male basketball players exhibiting average and inferior binocular depth perception.

**Discussion:** Accurately throwing a ball in basketball requires a players to judge relative distance between objects and his own position in three dimensional space. Hence, a player who judgment of this distance is superior invariably throws the ball accurately. Hence the results of the present study are in expected direction.

**Conclusion**

On the basis of results, it may be concluded that binocular depth perception is an important visual ability which influence throwing ability of male basketball players.

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