

## COMPARISON OF PERFORMANCE RELATED VARIABLES BETWEEN COLLEGE LEVEL HANDBALL AND BASKETBALL PLAYERS

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### ABSTRACT

*The purpose of the study was to compare the speed and agility between handball and basketball players of Pondicherry University. For this purpose thirty (30) male students from Department of Physical Education and Sports, Pondicherry University were selected. The age of the subjects ranged from 18 to 24 years. The selected subjects were tested on speed by 50 yard dash and agility by shuttle run which was selected as criterion variable. The collected data was analyzed using independent t test to find out the significant difference between handball and basketball players. The result of the study showed that handball players have greater speed than basketball players. However, no significant difference was elicited between handball and basketball players for the variable of agility.*

**Keywords:** Handball, basketball, speed, agility.

### 1. INTRODUCTION

Speed is one of the most valuable assets a handball and basketball players have. More often, players need to be able to make short, lateral bursts and sharp cuts while already in motion. Generally speaking, individuals who are gifted with great speed have a high level of fast-twitch muscle fiber, which lends itself to quicker reactions and the ability to create short, explosive bursts. As this is the case, building fast-twitch muscle fiber is the key to increasing speed (Gorostiaga, Granados, Ibáñez, Izquierdo, 2005). Having great speed is one of the most useful and versatile characteristics a handball and basketball players can have. Speed

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allows players to get more rebounds and loose balls, and can be the secret to lockdown defense. It's still important to develop all the different aspects of the game, but a high level of speed offers an undeniable advantage over slower players. Whether you are sprinting down the court on a fast break, driving to the basket for a shot or chasing down an opponent on defense, you must use speed to execute basketball's most crucial plays. However, the type of speed you need on the court is not necessarily developed by running endless miles. Basketball requires a player to start and stop throughout the game, forcing a player to accelerate, decelerate and change direction with equal proficiency (Rani, Singh, & Kalsi, 2013).

Agility is one of the main fitness components, important for success in many sports, such as in the team sports of handball and basketball, and in individual sports of tennis and squash. A vote of the top sports requiring agility has the sports of soccer, basketball and tennis ranked highest. Agility is also influenced by body balance, coordination, the position of the center of gravity, as well as running speed and skill. Agility can be improved with agility training drills but also by improving the specific individual fitness elements of speed, balance, power and co-ordination (Benetti, Schneider, & Meyer, 2005). The performances of athletes in sports today have dramatically elevated the level of agility necessary for performance success. Agility training provides the athlete with performance benefits: neuromuscular adaptation, improved athleticism, injury prevention and decreased rehabilitation time (Massuca, Branco, Miarka, & Fragoso, 2015). When instructing athletes on the execution of agility exercises it is critical to instruct athletes on technique as a priority and speed of movement only after technique has been mastered (Gabbett, Sheppard, Pritchard-Peschek, Leveritt, & Aldred, 2008; Katiyar, & Rastogi, 2013).

Thus considering the importance of speed and agility this study was conceptualised and the purpose of the study was stated as to compare the performance related variables between college level handball and basketball players.

## **2. METHODS AND MATERIALS**

### **2.1 Subjects**

The purpose of the study was to compare the speed and agility of handball and basketball players of Pondicherry University (PU), Pondicherry, India. For the purpose of the study thirty (30) male students were recruited from the Department of Physical Education and Sports, PU, Pondicherry. The age of the subjects were ranged from 18 to 24 years. Among the selected subjects 15 subjects were handball players and remaining 15 were basketball players.

## 2.2 Variables and Tests

Variables	Test	Unit of Measures
Speed	50 Meter Dash	Seconds
Agility	Shuttle run	Seconds

## 2.3 Data Collection

Prior to data collection field marking was done. All subjects were asked to go for warm-up. The tests for speed and agility were demonstrated and instruction to complete the test was given to the subjects. When subjects were ready for the test, the data was recorded by the administering the tests.

## 2.4 Statistical Analysis

The collected data was analyzed by using independent *t*-test to find out the significant difference between handball and basketball players on speed and agility. SPSS (v.17) statistic software was used for all statistical computation. The level of 0.05 was set for statistical significance differences.

## 3. RESULTS

**Table 1: Descriptive and *t* value of handball and basketball players**

Variables	N	Groups	Mean	SD	<i>t</i> value
Speed	15	Handball	7.41	0.26	3.62*
	15	Basketball	7.60	0.26	
Agility	15	Handball	14.46	0.13	1.55
	15	Basketball	14.61	0.16	

\*Significant

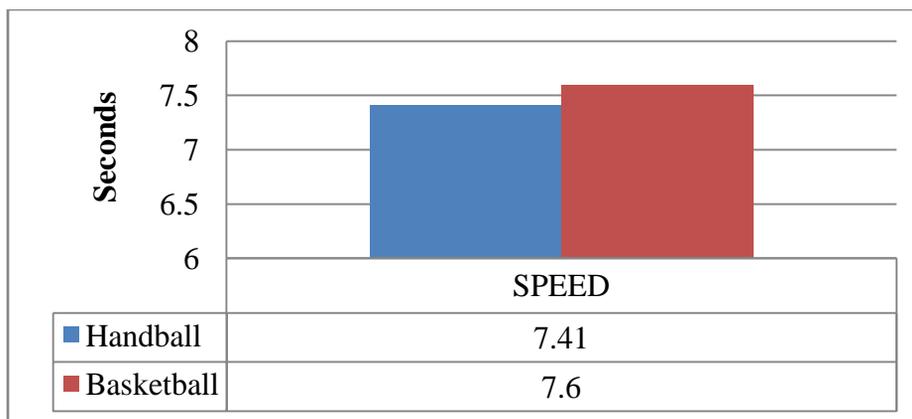
Tab  $t_{0.05 (28)} = 2.05$

The reading of table 1 clearly shows that mean value of speed for handball and basketball players were 7.41 and 7.60 respectively. The obtained *t* ratio on speed is 3.62, which is greater than the required table value (2.05) with 28 df and at 0.05 level of confidence. This shows that there is significance difference exist when speed is considered among handball and basketball players. This is also indicated that handball players showed greater sprinting ability when compared with basketball players.

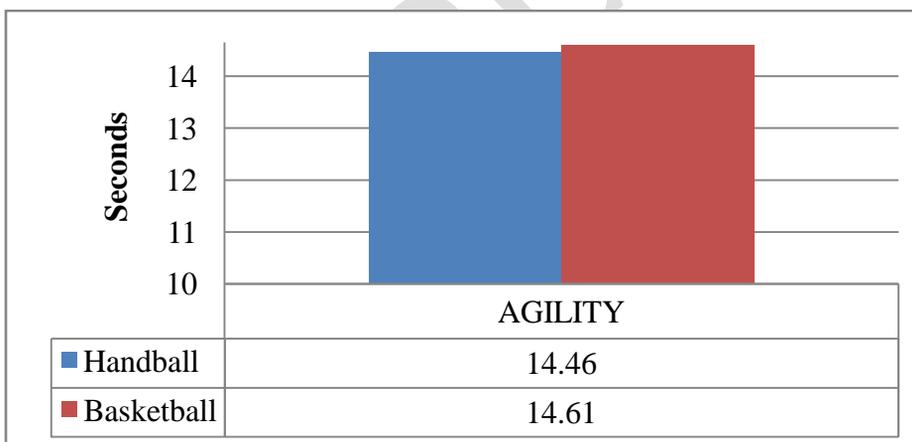
Further examination of the table it was found that mean value of agility for handball and basketball players were 14.46 and 14.61 respectively. The obtained *t* ratio on agility is 1.55, which is less than the required table value of 2.05 with 28

df. So, there is no significant difference on agility between handball and basketball players.

**Figure 1: Illustration showing speed of handball and basketball players**



**Figure 2: Illustration showing agility of handball and basketball players**



#### **4. DISCUSSION**

As the purpose of the study was stated earlier, that to find out the difference among handball and basketball players in their ability of speed and agility. Obtained results of the study showed that there is a significant difference exist among handball and basketball players as for as speed is concern. However, no significant difference was elicited between handball and basketball players for the variable of agility. This indicated that handball players showed greater sprinting

ability when compared with basketball players. Similar types of the results were reported by Pawan, (2013); Singh, Kumar, Bal, & Singh, (2014); Brechue, Mayhew, & Piper, (2010); Saharan, Singh & Singh, (2014). An insignificant difference in agility between handball and basketball was also obtained. The results of the study are in agreement with the findings of Singh (2013); Singh, *et al.* (2014).

## 5. CONCLUSIONS

With the limitations of the study it might be concluded that, there is a significant difference in speed between handball and basketball players and it shows that handball players are better in the speed ability than basketball players. Handball players scored higher scores in speed, but on the other hand there was no difference in agility. Speed and agility are vital to the performance of fundamental motor skills like throwing, kicking, jumping, striking, hopping and skipping.

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