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Analysis of Power and Kinesthetic Perception between University and State Level Handball Players

S.Mariyappan[1] & Dr.Louis Raj[2]

[1]*M.Phil Research Scholar, Department of Physical Education & Sports Sciences, SRM University, Chennai, Tamilnadu, India.*
[2]*Assistant Professor, Department of Physical Education & Sports Sciences, SRM University, Chennai, Tamilnadu, India.*

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Abstract

Handball is a game which demands for more physical strength, agility, flexibility, skill and tactics have now become the important aspect of the game to score the points rather than merely using muscle power kinesthetic perception. The present study was to compare the power and kinesthetic perception between handball players. Out of thirty students, fifteen (15) University level handball players and State level handball players (15) were selected randomly from Alagappa University and Tamil Nadu state handball players. The age ranges of subject are 18-25 years. Explosive hand strength was measured six pound medicine ball throw test in meters and explosive leg strength was standing broad jump in meters and kinesthetic perception was measured by distance perception jump test in centimeters. Mean and standard deviation of different variables were calculated. Collected data on the selected variables were also analyzed through application of t-ratio. The level of significance for the present study was set at 0.05 level. Statistical significance was tested at p<0.05 level of confidence. All the statistical operations were done through SPSS software. After statistical calculation results were interpreted, analyzed and discussed.

Keywords: Power, Kinesthetic perception, University and State level handball players.

Introduction

Physical fitness can be defined as a general state health and well-being or more specifically as the ability to perform aspects of sports or occupations. Motor fitness is a term that describes an athlete's ability to perform effectively during sports or other physical activity. An athlete's motor fitness is a combination of five different components, each of which is essential for high levels of performance. Improving motor fitness involves a training regimen in all five. Performance in any sports activity depends to a large extent on physical fitness. Sports trainers concentrate on improving the physical fitness and motor abilities of a players, i.e., speed, strength, endurance, flexibility. Muscular strength is ability of muscle or muscle group to exert force to overcome the most resistance in one effort. Strength can be measured based on the amount of weight lifted. Upper body and lower body strength are measured separately. Strength tests include the bench press for upper body, the squat for lower body and the dead lift for lower back and leg assessments. Relative strength is based on a ratio of weight lifted to body weight. For example, if two people lifted the same weight, the person who weight less has greater relative strength. power, which is often referred to as speed, strength, is an important factor in sporting activities, but it is also used in everyday activities such as moving fast, running up a flight of stairs, or just keeping up with your kids. This book will incorporate power exercises into its program not only for these reasons, but also for the added benefits of these exercises such as increased caloric expenditure, increased work capacity and increased overall body strength.

The word kinesthetic sense has been used inconsistently to refer either to perprioception alone or to the brain's integration of proprioceptive and vestibular inputs. It is the ability to be aware of muscular movement and position by providing information through receptor about muscles, tendons, joints and other body parts. The kinesthetic sense helps control and coordinates activities such as walking and talking. Researchers have difficulty defining this term but perceptual-sensory-motor processes and their effect upon growth, development and learning has been extensive studied. Both of the state level and university level player have much more needed of this variables but is there any difference of those variables between two groups with such background researcher was to compare the power and kinesthetic perception between university and state level handball players. Possibly the result would be helpful to the coaches for selecting and constructing training programs for the future players.

Correspondence
S.Mariyappan
E-mail: aucpescholars@gmail.com

Methodology

To achieve the purpose of this present study thirty players are selected from Alagappa university handball players and Tamil Nadu state level handball players. Out of thirty students, fifteen (15) University level handball players and State level handball players (15) were selected from Alagappa University and Tamil Nadu state handball players. The age ranges of subject are 18-25 years. Of which Group I University level handball players (UKKP), Group II State level handball players (SKKP).

Explosive hand strength was measured six pound medicine ball throw test in meters, explosive leg strength was standing broad jump in meters and kinesthetic perception was measured by distance perception jump test in centimeters.

Statistical Technique

Mean and standard deviation of different variables were calculated. Collected data on the selected variables were also analyzed through application of t-ratio. The level of significance for the present study was set at 0.05 level. Statistical significance was tested at $p<0.05$ level of confidence. All the statistical operations were done through SPSS software. After statistical calculation results were interpreted, analyzed and discussed.

Results and Discussion

Table 1

Mean standard deviation and t-ratio of Explosive Hand, Leg Strength & Kinesthetic Perception between University level and State level Handball Players

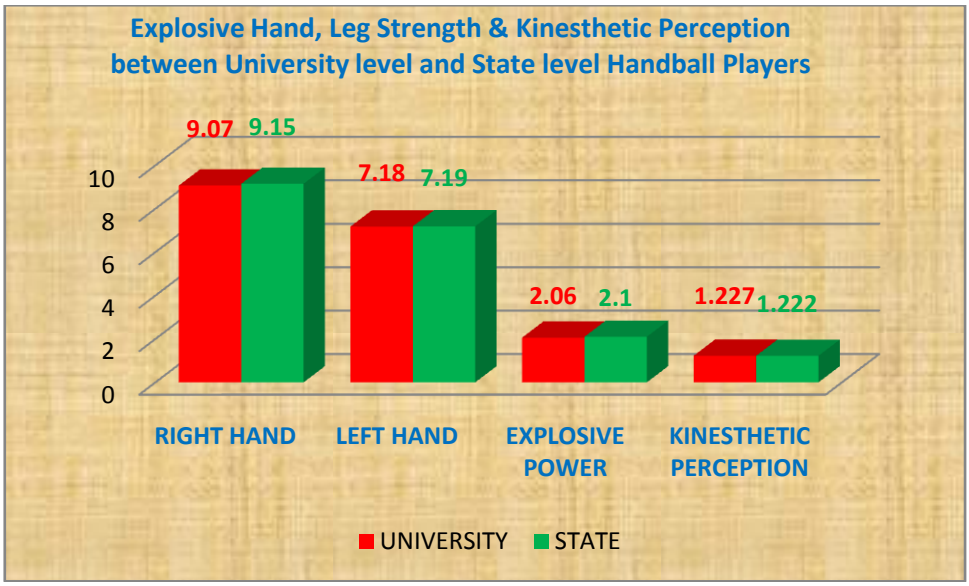
Variables		Explosive hand strength (Right)	Explosive hand strength (Left)	Explosive leg strength	Kinesthetic perception
University players	**Mean**	9.07	7.18	2.06	1.227
	SD	.5118	.142	.139	1.327
State players	**Mean**	9.15	7.19	2.10	1.222
	SD	.3916	.134	.135	1.475
T Ratio		4.48*	1.15	5.73*	1.47

*****level of confidence Significance at 0.05; df =28

Table value required for significant at 0.05 level with df 28 are 2.05

From the table 1 it appears that the mean value right hand powers for university and state level players were 9.07 and 9.15 meters respectively. From mean value of the group it observed that there were significance differences between the groups. To observed the significance differences 't' value was calculated and found to be 4.48*.which was significance at 0.05 level. So from the result it may be concluded that in right hand power, state players were significantly better than university level players. Simultaneously it is also appears that the mean value of left hand power for university and state level players were 7.18 and 7.19 meters respectively. From mean value of the group it observed that there were no significance differences between the groups. To observed the no significance differences't' value was calculated and found to be 1.15.which was significance at 0.05 level. So from the result it may be concluded that in right hand power, state players were significantly better than university level players. On other leg strength in the table 1 it appears that the mean value explosive leg powers for university and state level players were 2.066 and 2.10 meters respectively. From mean value of the group it observed that there were significance differences between the groups. To observe d the significance differences't' value was calculated and found to be 5.73*.which was significance at 0.05 level. So from the result it may be concluded that in leg explosive power, state players were significantly better than university level players. Simultaneously it is also appears that the mean value of kinesthetic perception for university and state level players were 1.227 and 121.6 centimeters respectively. From mean value of the group it observed that there were no significance differences between the groups. To observed the no significance differences't' value was calculated and found to be 1.47.which was significance at 0.05 level. So from the result it may be concluded that in kinesthetic perception, state players were significantly better than university level players.

Figure I
Bar diagram ordered mean values of Explosive Hand, Leg Strength & Kinesthetic Perception between University level and State level Handball Players



Discussion of Findings

The result of the present study revealed that significance differences were found on explosive strength in right hand and leg power between university and state level handball players. This may be due to the fact that all the state level players are better physically fit due to their performance level and they have more experience in their game due their competition level, training schedule, tactics practice. Although level of performance is better in state players than the university players. On other hand the study revealed that no significance differences were found explosive strength in left hand and kinesthetic perception between university and state level handball players. Because of that the approximately more of the players of both group is uses maximum in their right hand rather than the left hand. In a single ward more are the right handed people. For that they generally use less amount of time in their left hand. On other hand better performance is depends upon motor fitness and kinesthetic perception is one of the most essential components of motor fitness. Although the both group had better players in their levels for that the reason researcher was not found significance differences were found on kinesthetic perception between university and state level handball players.

Conclusion

On the basis of result and discussion the following conclusions:

1) State level handball players were better in Right hand power than the university players.
2) State level handball players were better in Left hand power than the university players.
3) State level handball players were better in Leg explosive power than the university players.
4) State level handball players were better in kinesthetic perception than the university players.

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