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Comprative investigation of selected physical fitness components between handball and basketball players

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Abstract

The purpose of the study was to contrast the, reaction time, flexibility, agility and strength of Handball and Basketball players. To meet the purpose of the study, 150 Handball and 150 Basketball players who had participated at inter- college level; were selected. The age of subjects was in range between 19 to 24 years. Nelson foot reaction time test was used to measure the reaction time of the subjects, flexibility was measured with the help of modified sit and reach test, Agility was measure by using Modified Southeast Missouri (SEMO) agility test and Vertical jump test was applied to measure the strength of the subjects. T-test was applied as a statistical tool to find out the significant of differences among the Handball and Basketball players. After the comparison of the calculated data it was observed that there was a significance difference regarding the reaction time between Handball players and Basketball players and agility of basketball players was better as compared to Handball players. In terms of strength of Handball players were superior to the Basketball players and the flexibility of Handball players was better than the Basketball players.

Keywords: Investigation, physical fitness

Introduction

Physical fitness is necessary for all type of physical activities, games and sports. It is associated to the ability to meet the demands of the environment specially to preserve, to with stand stress to resist fatigue and to posses the energy for an abundant life physical condition is one's richest ownership, it cannot survive acquisitioned, along with it have to be earn from beginning to end every day schedule of physical work out. The same as strength is approved because the aptitude toward bring elsewhere each day behavior and employment, lacking redundant weariness along with sufficient power treasury meant for urgent situation. Physical strength is the competence of sensitivity, blood, vessels, lung and physique to occupation at best possible good organization physiological variables.

Procedure

The required data for this study was collected by using the appropriate tests described as follow; Nelson foot reaction time test was used to measure the reaction time of the subjects, flexibility was measured with the help of modified sit and reach test, Agility was measure by using Modified Southeast Missouri (SEMO) agility test and Vertical jump test was applied to measure the strength of the subjects. 150 male Handball players and 150 male Basketball players, who had participated in inter college tournament were selected from the various colleges of Panjab University Chandigarh. The age of the subjects was ranging between 19 to 24 years. Subjects for the study were select at random.

Analysis of Data

The mean, SD, MD, SE- IND and the t-values were calculated to find out the significant of differences among Handball and Basketball players. Significant level is found out by the application of t- test at the 0.05 level of significance.

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Table 1: Comparison of Reaction Time of Right Leg between Handball and Basketball players

	Number (N)	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Hand Ball	150	10.28	2.25	0.03	0.27	0.37	1.34*	1.96	0.05
Basketball	150	10.65	2.53	0.04					

It is seen from the table no. 1 that there is much similarity in the mean performance of Handball (10.28) and Basketball players (10.65).The t-value at 0.05 level of significance is 1.986. As the observed t- value is below 1.986 that is 1.349 which shows that there is insignificant difference in reaction time of right leg between Handball and Basketball players.

Table 2: Comparison of Reaction Time of left Leg between Handball and Basketball players

	Number (N)	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Hand Ball	150	9.82	2.13	0.03	0.24	0.15	0.62*	1.96	0.05
Basketball	150	9.67	2.21	0.03					

It is seen from the table no. 2 that there is much similarity in the mean performance of volley ball (9.526) and basketball (9.673). The t-value at the 0.05 level of significance is 1.986. As the observed t- value is below 1.986 that is 0.624 which shows that there is insignificant difference in reaction time of left leg between Handball and Basketball players.

Table 3: Comparison of Flexibility between Handball and Basketball players

	Number (N)	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Hand Ball	150	15.56	4.17	0.11	0.41	3.3	7.93*	1.96	0.05
Basketball	150	12.26	2.91	0.056					

It is seen from the table no. 3 that there is a difference in the mean performance of volley ball (15.56) and basketball (12.26). The t-value at the 0.05 level of significance is 1.986. As the observed t- value is above 1.986 that is 7.93 which shows that there is a significant difference in flexibility between Handball and Basketball players.

Table 4: Comparison of Agility between Handball and Basketball players

	Number (N)	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Hand Ball	150	13.57	1.04	0.0072	0.11	0.61	5.43*	1.96	0.05
Basketball	150	12.96	0.90	0.0054					

It is seen from the table no. 4 that there is a difference in the mean performance of Handball (13.57) and Basketball players (12.96). The t-value at the 0.05 level of significance is 1.986. As the observed t- value is above 1.986 that is 5.43 which shows that there is a significant difference in Agility between Handball and Basketball players.

Table 5: Comparison of Strength between Handball and Basketball players

	Number (N)	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Hand Ball	150	50.02	10.65	0.75	1.22	6.63	5.41*	1.96	0.05
Basketball	150	43.39	10.57	0.74					

It is seen from the table no. 5 that there is a difference in the mean performance of volley ball (50.02) and basketball (43.39). The t-value at the 0.05 level of significance is 1.986. As the observed t- value is above 1.986 that is 5.410 which shows that there is a significant difference in reaction time between Handball and Basketball players.

Findings and Conclusions
- Handball and Basketball players having great strength, agility, reaction time and flexibility, requires a high degree of maneuverability.
- Through analysis and interpretation of data, similar reaction time of both legs is found in Handball and Basketball players.
- The reaction time of Handball players and Basketball players contains slight difference. Logically it is conclude that reaction time of both legs and both Handball and Basketball players are more probably same the reason for this finding may be because of regular practice.
- Mean performance of agility of Basketball players (12.96) which is lesser than the mean performance of Handball players (13.57) which shows that the agility of

Basketball players is better than the Handball players. As the scores of agility is measured in seconds.
- Mean performance of explosive strength of Handball players (50.02) have more (6.63) than
- Basketball players (43.39) which shows that the explosive strength Handball players is better than the Basketball players.
- Mean performance of flexibility of Handball players (15.56) have little more (3.3) than Basketball players (12.26) which shows that the flexibility of Handball players is better than the Basketball players.

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