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Comprative study of agility, reaction time, strength and flexibility measures of handball and netball players

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Abstract

The purpose of the study was to compare the agility, reaction time, strength and flexibility of Handball and Netball player to fulfill the objectives of the study, 150 Handball and 150 Netball players were selected from Punjab state. Who were participated in inter college tournament of Handball and Netball. The data were collected in inter college tournament the age of selected subjects arranged from 18-25 years. Test used for semo agility test, nelson foot reaction time test, vertical jump for strength test and flexibility (modified sit and reach test) were used to measure the selected physical fitness variables of players in order to analyze the data and significant different between handball and Netball players of Punjab. The mean, SD, MD, SE-IND and 't' values were calculated to find out the significant of differences between male handball and Netball players. Significant level is found out by the application of 't' test at 0.05 level. After comparing of the present data it is concluded that the reaction time of Netball players and Handball players contains slight difference and agility of Handball players is better than the Netball players. As the scores of agility is measured in seconds mean performance of explosives strength of Netball players have more than handball players. Which shows that explosives strength Netball players in better than the handball players and the flexibility of Netball players is better than the handball players. This study also helpful to guideline for players Students teachers and researchers.

Keywords: Agility, recreation time, strength, flexibility, players, handball, net ball

Introduction

For all sport of activity physical fitness is very essential. It is related 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 (employment or else participate) 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 be the not anything excluding single to facilitate is accountable meant for strength In the skill training video by the 'cologne' (Germany) showed that how much stress is given on training of the goal-keeper to improve their agility and reaction time.

Methodology

The following procedures including information regarding research design, source of data, sampling method, selection of subjects, criterion measures, selection of test, description of test and collection of data etc.

Sample: The data pertaining to this study was collected by administrating the appropriate tests described below on the inter-collegiate players of Punjabi university Patiala, who participated at least inter-collegiate tournaments held in Punjabi University Patiala. 150 male Netball players and 150 male Handball players, who had participated in inter college tournament be preferred as matters used for this learning. The period of the subject is range beginning eighty (18) years to twenty-five (25) years. The design of the field study was random group design, as 150 players from Netball and 150 players from Handball of field ground were select randomly for the purpose of the study.

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Tools: The test were conducted for testing the following measures are below:

- a. **Agility:** SEMO Agility Test
- b. **Reaction Time:** Nelson Foot Reaction Test
- c. **Strength:** Leg Strength (Vertical Jump)
- d. **Flexibility:** Trunk Flexibility (Modified Sit and Reach Test)

Analysis of Data: Statistical procedures constitute the means by which quantitative data – such as test scores from any individuals are organized, analyzed, and interpreted. Significant level is found out by the application of ‘t’ test. The mean, SD, MD, SE- IND and ‘t’ values were calculated to find out the significant of differences between male hand ball and Netball players. Significant level is found out by the application of ‘t’ test at 0.05 level.

Table 1: Comparison of agility between Net ball and Handball players

AGILITY									
	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Net Ball	150	13.57	1.04	0.0072	0.11	0.61	5.43*	1.96	0.05
Handball	150	12.96	0.90	0.0054					

It is seen from the table no. 1 that there is a difference in the mean performance of Netball (13.57) and Handball (12.96). The value of ‘t’ to be significant at 0.05 level at 298 degree of

freedom is 1.986. As the obtained value of ‘t’ was above 1.986 that is 5.439 which shows that there is a significant difference in agility of Net ball and Handball players.

Table 2: Comparison of Reaction Time of Right Leg between Net Ball and Handball players

REACTION TIME OF RIGHT LEG									
	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Net Ball	150	10.28	2.25	0.03	0.27	0.37	1.34*	1.96	0.05
Handball	150	10.65	2.53	0.04					

Insignificant at 0.05 level with 298 degree of freedom tab t = 1.96

It is seen from the table no. 2 that there is much similarity in the mean performance of Net ball (10.28) and Handball (10.65).The value of ‘t’ to be significant at 0.05 level at 298 degree of freedom is 1.986. As the obtained value of ‘t’ is

below 1.986 that is 1.349 which shows that there is insignificant difference in reaction time of right leg of Net ball and Handball players.

Table 3: Comparison of Reaction Time of left Leg between Netball and Handball players

Reaction Time Of Left Leg									
	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Net Ball	150	9.82	2.13	0.03	0.24	0.15	0.62*	1.96	0.05
Handball	150	9.67	2.21	0.03					

Insignificant at 0.05 level with 298 degree of freedom tab t = 1.96

It is seen from the table no. 2 that there is much similarity in the mean performance of Net ball (9.526) and Handball (9.673).The value of ‘t’ to be significant at 0.05 level at 298 degree of freedom is 1.986. As the obtained value of ‘t’ is

below 1.986 that is 0.624 which shows that there is insignificant difference in reaction time of left leg of Net ball and Handball players.

Table 4: Comparison of Strength between Net ball and Handball players

STRENGTH									
	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Net Ball	150	50.02	10.65	0.75	1.22	6.63	5.41*	1.96	0.05
Handball	150	43.39	10.57	0.74					

*Significant at 0.05 level with 298 degree of freedom tab t = 1.9

It is seen from the table no. 4 that there is a difference in the mean performance of Net ball (50.02) and Handball (43.39). The value of ‘t’ to be significant at 0.05 level at 298 degree of

freedom is 1.986. As the obtained value of ‘t’ is above 1.986 that is 5.410 which shows that there is a significant difference in strength of Net ball and Handball players.

Table 5: Comparison of Flexibility between Net Ball and Handball Players

Flexibility									
	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Net Ball	150	15.56	4.17	0.11	0.41	3.3	7.93*	1.96	0.05
Handball	150	12.26	2.91	0.056					

*Significant at 0.05 level with 298 degree of freedom tab t = 1.96

It is seen from the table no. 4 that there is a difference in the mean performance of Net ball (15.56) and Handball (12.26). The value of ‘t’ to be significant at 0.05 level at 298 degree of

freedom is 1.96. As the obtained value of ‘t’ is above 1.96 that is less than 7.93, which shows that there is a significant difference in flexibility of Netball and Handball players.

Findings and Conclusions

1. Netball and Handball players having great strength, agility, reaction time and flexibility, requires a high degree of maneuverability.
2. Through analysis and interpretation of data, similar reaction time of both legs is found in Net ball and Handball players.
3. The reaction time of Netball players and Handball players contains slight difference. Logically it is conclude that reaction time of both legs and both Netball and Handball players are more probably same the reason for this finding may be because of regular practice.
4. Mean performance of agility of Handball players (12.96) which is lesser than the mean performance of Net ball players (13.57) which shows that the agility of Handball players is better than the Net ball players. As the scores of agility is measured in seconds.
5. Mean performance of explosive strength of Netball players (50.02) have more (6.63) than Handball players (43.39) which shows that the explosive strength Net ball players is better than the Handball players.
6. Mean performance of flexibility of Net ball players (15.56) have little more (3.3) than Handball players (12.26) which shows that the flexibility of Net ball players is better than the Handball players.

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