



COMPARISON OF COORDINATIVE ABILITIES AND ANTHROPOMETRIC MEASUREMENTS AMONG DIFFERENT SPORTS

Dr. Pankaj Singh Chandel

Associate Professor ,

V.S.S.D Collage, Department of Physical Education, Nawabganj, Kanpur, U.P.

ABSTRACT

The purpose of the study was to investigate the comparison of selected co-coordinative abilities and anthropometric measurements of Hockey and Football players. 12 male Hockey players and 12 male Football players from Jhansi district were selected as subjects. The necessary data for comparing the selected anthropometric variables and coordinative abilities was collected and total of 4 anthropometric variables and 4 selected coordinative abilities were selected for this study. The data was analyzed by using Independent t-test to find out the difference between Anthropometric Variables and Coordinative abilities between two groups and it was concluded that there was no significant difference in Anthropometric variables as well as Co-coordinative abilities between Hockey and Football players.

KEY WORDS: Orientation ability, Differentiation ability, Reaction ability, Balance ability, anthropometric measurements.

INTRODUCTION

The motor performance qualities commonly recognized in hockey are strength, speed, endurance, power, agility, flexibility and co-ordination. Many a times when the winner cannot be decided in a prescribed regular duration, the players have to continuously fight successfully against the opponents in the fixed time. As such a top class hockey player today requires tremendous speed, agility, power, strength and unlimited endurance and absolute top physical and mental fitness to withstand the strains and stress of the competition. It is the technique of expressing quantitatively the size, the shape of man, whether living or dead, and consists primarily in the measurements of dimensions of the body. Within certain limits, body types may be used as an indication of athletic ability. For example, the piknic type usually will be interested in a sports such as football, soccer and hockey whereas the athletic type will choose running or tennis.



Classification based on body types, however, is not always reliable and physical educator's should be careful as to how much to rely on them. As a basis for classifying groups for physical education activities, age, physiological maturing, interests, skill, size, strength, physical fitness and other similar criteria should be used with various body type classifications in making judgment. Coordination is important for exhibiting top class performance in game and sports and Hockey and football is no exception to it. The coordinative ability play a

significant role for learning consolidation and mastery of skills. The purpose of this study was to compare the coordinative abilities and anthropometric measurements between Hockey and Football players. The study was delimited to selected male Hockey and Football players of Jhansi district and further delimited to the following coordinative abilities i.e. Orientation ability, Differentiation ability, Reaction ability, Balance ability and further delimited to the following selected anthropometric measurements i.e. Standing Height, weight, thigh girth and calf girth. Present study was hypothesized that there would be significant difference of Anthropometric Measurements between Hockey and Football players and there would be insignificant difference of Coordinative abilities between Hockey and Football players.

METHODOLOGY

In this study twelve male Hockey players and twelve male football players of respective match practice groups of Jhansi district were selected as subjects with age ranged between 19-24 years. The coordinative abilities and anthropometric measurements selected for the study were presented in table 1.

Table 1
Criterion variables of selected coordinative abilities and anthropometric

Selected Components	Variables	Test
Coordination Abilities	Orientation ability	Numbered Medicine Ball run test
	Differentiation ability	backward Medicine Ball throw test
	Reaction ability	Ball reaction exercise test
	Balance ability	long nose test
Anthropometric Measurements	Standing Height	Wall scale
	Weight	weighing machine
	Thigh girth	Gulic tape
	Calf girth	gulic tape

The data was collected by administered onselected coordinative ability tests suggested by Peter Hirtz and on selected anthropometric measurements. The necessary markings were done before the start of each test and they were demonstrated and explained to the subjects as well as sufficient chance of practice were given to familiar them with the tests. The data was collected in the evening after proper warm up. To compare the coordinative abilities and anthropometric measurement among Hockey and Football players, independent t test was employed. The level of significance chosen was at 0.05.

FINDING

Table 2
SIGNIFICANCE OF DIFFERENCE BETWEEN FOOTBALL AND HOCKEY PLAYERS IN ANTHROPOMETRIC MEASUREMENTS

Variables	Football			Hockey			t-test
	Mean	S.D.	σ DM	Mean	S.D.	σ DM	
1. Height	168.83	4.87	1.40	170.91	4.10	1.18	1.13
2. Weight	63.41	4.54	1.31	65.58	7.40	2.13	.864
3. Thigh Girth	54.41	20.2	5.63	51.66	3.96	1.14	.463
4. Calf Girth	34.33	2.18	.63	34.25	2.66	.76	.084

$$t_{0.05} (22) = 2.07$$

Table 1 reveals that there was no significant difference in standing height between Hockey and Football players because the calculated value (1.13) was less than the tabulated value (2.07) at the 0.05 level

of significance. There was no significant difference in total body weight between Hockey and Football players because the calculated value (.864) was less than the tabulated value (2.07) at the 0.05 level of significance. There was no significant difference in thigh girth between Hockey and Football players because the calculated value (.463) was less than the tabulated value (2.07) at the 0.05 level of significance. There was no significant difference in calf girth between Hockey and Football players because the calculated value (.084) was less than the tabulated value (2.07) at the 0.05 level of significance.

Table 3
SIGNIFICANCE DIFFERENCE BETWEEN FOOTBALL AND HOCKEY PLAYERS IN CO-ORDINATIVE ABILITIES

Variables	Football			Hockey			t-test
	Mean	S.D.	σ DM	Mean	S.D.	σ DM	
1. Balance Ability	9.39	1.03	.29	9.46	1.44	.41	1.50
2. Differentiation Ability	9.16	3.12	.90	11.16	3.40	.96	1.49
3. Reaction Ability	.99	.25	7.25	.91	.37	.10	.594
4. Orientation Ability	7.12	.51	.14	7.11	.57	.16	.041

$$t_{0.05} (22) = 2.07$$

Table 3 reveals that there was no significant difference in Balance Ability between Hockey and Football players because the calculated value (1.50) was less than the tabulated value (2.07) at the 0.05 level of significance. There was no significant difference in Differentiation Ability between Hockey and Football players because the calculated value (1.49) is less than the tabulated value (2.07) at the 0.05 level of significance. There was no significant difference in Reaction Ability between Hockey and Football players because the calculated value (.594) was less than the tabulated value (2.07) at the 0.05 level of significance. There was no significant difference in Orientation Ability between Hockey and Football players because the calculated value (.041) was less than the tabulated value (2.07) at the 0.05 level of significance.

CONCLUSION

Analysis of data reveals that there is no significant difference between Football and Hockey players between all the chosen Anthropometric variables. The subjects were attending various activities besides their own preferred game that is Football and Hockey. Subjects had been practicing about 3 hours in general activities and they were devoting only about 1 hour for either Football or Hockey. The activity routine follows by professional physical education students must have resulted in the insignificant findings.

Analyses of data further reveal that there was no significant difference between all the selected variables of coordinative abilities between Football and Hockey players. This too may be attributed to the reason that selected subjects were physical education professional who were attending different activities for a considerable period of time every day and only limited time was spent in the chosen sports. Participation in different activities by players of Hockey and Football must have nullified the effect of Football and Hockey and that must have contributed to insignificant difference.

The findings of the study reveal that there is no significant difference in anthropometric variables between the Football and Hockey players. Hence, the first hypothesis selected for the present study was rejected. The findings of the study further reveal that there is no significant difference in the selected coordinative abilities between Football and Hockey players. Hence, the second hypothesis was accepted.

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