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A comparative study on selected anthropometric and physical Fitness variables between football and hockey male players

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Abstract
The purpose of this study was to compare the selected anthropometric and physical fitness variables between football and hockey male players. Total thirty subjects were randomly selected (15 from football and 15 from hockey) for this study. The age of the players ranged from 20 to 30 years. The variables undertake for the study are: selected anthropometric variables namely height, weight, and physical fitness variables namely speed and agility were considered as criterion for the study. The physical fitness variables were measured by AAHPER Youth Fitness Test. Mean and standard deviation of each variable were calculated and independent t-test was computed to analyze the significance of difference between the means. All statistical calculations were done by standard statistical procedure. To determine the differences, if any, between the two groups of players, the independent t-test was calculated. Statistical significance was tested at 0.05 level of confidence. It is concluded from the result that no significant difference was observed between football and hockey male players.

Keywords: Anthropometric, speed, agility, football, hockey etc.

1. Introduction
The information of anthropometry equips us with the techniques of different body measurements Like height, body weight, diameters and the skin hold thickness, which ultimately deal with the Development of simple produces for the evaluation of physique and physical fitness rural, not Only help in their general wellbeing but are also expected to from the baseline criterion for screening school boy for appropriate games/sports. Numerous research studies conducted by many scientists have given the characteristics of various sportsmen for specific sports and game, to assist in the talent selection of sportsmen. Correlation between the anthropometric variable and performance, have led to more systematic examination of physical requirements, essential to
Gain excellent performance in competition. Chauhan (2003, 2005) [1, 2].
Physical fitness is one of the most important aspects in the field of physical education. But physical fitness is not the same with health; it plays an essential role in all aspects of health because they are very mooch related. Good health provides a solid foundation on which fitness rests and at the same time fitness provides one of the important keys to health and living one's Life to the fullest. Fitness is not a state for the young; it is reality for all ages. Fitness is a product of exercise and training has been shown through research to posse's important implication in the general health of people. Proper nutrition, adequate rest relaxation, health appraisal and good habits are all factors of implementation. The physical fitness is a concept which has both an absolute and a relative meaning. In absolute term the man can run faster, jump heist, lift and handle the heaviest burdens and attain the highest output during a working day, must be most fit the person for the particular activity. On the other hand when considered fitness in a relative term, a person of small size may not be able to complete in weight lifting with a bigger man and his maximum work out put may be much less. But still he may be physiologically most fit. Various researchers suggested that different body size, shape and proportions are beneficial in different physical activities (Malhotra *et al*., 1972; Kansal *et al*., 1986; Sidhu *et al*., 1996) [5, 3, 8]

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2. Methodology

2.1 Number of Subject

A total of thirty (N=30) subjects were randomly selected for this study. Out of 30 players, 15 players were from football and 15 from hockey. The age of the players ranged from 20 to 30 years. All these subjects played the game of football and hockey for a number of years and were trained by the qualified coaches. All the players were selected from Bilaspur.

2.2 Number of variables

For the present study the researcher selected anthropometric and physical fitness variables.
- Height
- Weight
- Speed
- Agility

2.3 Criterion Measure

Criterion measure in the present study was height, weight, speed and agility, the physical fitness components were measured by AAHPER Youth Physical Fitness Test.

- Height was measured by stadiometer and score were recorded in meters.
- Weight was measured by digital weighing scale and score were recorded in kilograms.
- Speed was measured by 50 meter dash run test and scores were recorded in second.
- Agility was measured by 10x4 meter shuttle run and scores were recorded in second.

2.4 Statistical analysis

The basic statistical parameters were calculated for all the data: the mean, standard deviation. To determine the differences, if any, between two groups of players, the independent t-test was calculated. The data was processed by means of the MS Excel Data Analysis tool pack. Statistical significance was tested at 0.05 level of confidence.

3. Results of the study

Table 1: Representing Mean, SD, mean difference and t-value in height, weight, agility and speed between football and hockey male players.

Variables	Football		Hockey		SED	Mean Difference	t value
	Mean	S.D.	Mean	S.D.			
Height	1.68	3.85	1.67	3.00	1.26	.79	.63
Weight	65.11	3.62	65.77	2.57	1.14	.65	.57
Speed	7.03	.06	6.99	.07	.02	.03	1.34
Agility	14.01	.07	14.07	.24	.06	.06	.90

From the above Table-1 show Mean 1.68 and SD 3.85 of height of football and hockey male players were respectively 1.67 and 3.00 and the calculated t value 0.63. The Mean and SD of weight of football and hockey male players were respectively 65.11 & 3.62 and 65.77 & 2.57 and the calculated t value 0.57. Speed of the Mean & SD of football male players 7.03 &.06 and hockey were 6.99 &.07, Mean difference 0.03, standard error 0.02 and the calculated t value 1.34; The Mean & SD of Agility of football players and hockey male players were respectively 14.01&.07 and 14.07 &.24 and the calculated t value 0.90.

In the above table the t value shows that in anthropometric variables namely height, weight there is no significant difference between football and hockey male players. When compared to the mean values of both the groups, finally it has been found that football players have considerably average than hockey male players in height, weight, speed and agility.

4. Conclusion

It is concluded from the result that no significant difference was observed between football and hockey male players. The following Recommendations are made on the basis of the results from the study which may be useful for the future research work. The study may be repeated to other physiological and Physical fitness variables on the same subjects. The same study may be repeated on the other class of the society for different age groups of subjects.

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