STAR Research Journal

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PHYSICAL EDUCATION

COMPARATIVE ANALYSIS OF PHYSICAL AND ANTHROPOMETRICAL VARIABLES BETWEEN BASKETBALL AND VOLLEYBALL PLAYERS

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Abstract

The purpose of the study was found out the comparative analysis of physical and anthropometrical variables between college men Basketball and Volleyball players. To achieve the purpose of the study 12 college men Basketball and 12 Volleyball players from Department of Physical Education, Bharathiar University, Coimbatore were randomly selected as subjects. The age of the subjects ranges from 18-25 years. The anthropometric variables namely height, arm length, leg length and physical fitness variables were selected namely explosive power, agility and speed between college men Basketball and Volleyball players. The selected subjects had already participated in the college Basketball and Volleyball team in their respective games. The data was collected by testing their height, arm length, leg length, speed and agility test by using the standardized test. The collected data were analyzed by using independent't' test. In all the cases to test the significance 0.05 level of confidence was used. It was found that the basketball players are having more height, arm length, leg length, and speed than the volleyball players. Volleyball players are having more explosive power than the Basketball player but the agility are equal for both players.

Keywords: Physical, Anthropometrical, Volleyball.

INTRODUCTION

Physical education today faces the unique opportunity of potentially contributing to the quality of life. No other field enjoys such a dynamic future. In other words it faces today so many unique tasks, because the competition is very intense. (Vyas Dersharma and Granth Singh, 1993). "The body is the temple of soul, and to reach harmony of body, mind and spirit, the body must be physically fit. Hence where there is a sound body there we can ensure a sound mind" (John Walsh, 1968). Physical Education is not only concerned with the physical outcomes that accrue from participation in activities but also the development of knowledge and attitudes conducive to lifelong learning and life span participation for the benefits of physical education activities judiciously. So that participants may attain the maximum benefits from participation. Sound physical education programs can be conducted in school as well as in non school settings such as corporate fitness centers and community agencies. A Physical education program under qualified leadership enriches participants lives. (West and Bucher, 1992)

Anthropometry, measurements of body structure, is the oldest type of body measurement known and dated back to the beginning of recorded history. Silpi sastri investigated the outline of the body by dividing it into 480 parts. Anthropometric measurement was the first type of testing used in physical education in the world. Fifty separate measurements were recommended by the American Association for the advancement of physical Education. Anthropometric measurements have been a part of physical education since its inception in this country. The earliest research was in the area of anthropometry with the emphasis on changes in muscle size brought about through exercise. The modern physical educator is often assigned the task of measuring height and weight of students. Height, weight and certain anthropometric measures used in conjunction with other pertinent data and do represent a potentially valuable information. (N.Parameswararam, 1984)

Anthropometric variables and body composition are very important factors for achieving the high level of performance in standard competition. Body size characteristics may become important in determining success in many sports. Height is an advantage in sports such as volleyball and basket ball and reach is an asset to the boxer, body mass is a factor influencing performance in throwing event. (T.Reilly etal, 1990)

METHODOLOGY

The purpose of the study was comparing the selected physical and anthropometrical variables between college men Volleyball and Basketball players. To achieve the purpose of the study 12 college men Basketball and 12 Volleyball players from Department of Physical Education, Bharathiar University, Coimbatore were randomly selected as subjects. The age of the subjects ranges from 18-25 years. The anthropometric variables

namely height, arm length, leg length and physical fitness variables were selected namely Explosive power, agility and speed between college men Basketball and Volleyball players. The selected subjects had already participated in the college Basketball and Volleyball team in their respective games. The data was collected by testing their height, arm length, leg length, speed and agility test by using the standardized test. The collected data were analyzed by using independent‘t’ test. In all the cases to test the significance 0.05 level of confidence was used. The investigator reviewed the available scientific literature from books, Journals, periodicals, research, papers and magazines and also taking into consideration the feasibility criteria of availability of instrument, the following variable is relevant to the present study.

SELECTION OF VARIABLES AND TEST ITEMS

In the present study, college men basketball and volleyball players are selected as categorical variables, Physical and Anthropometrical variables are selected as dependent variables. The following variables and test items were selected for this study and presented in table I.

TABLE I
SELECTION OF VARIABLES AND TEST ITEMS

S.No	VARIABLES	TEST NAME	UNIT OF MEASUREMENT
ANTHROPOMETRICAL VARIABLES			
1	**Height**	**Stadiometer**	**In Centimeters**
2	**Arm Length**	**Measuring tape**	**In Centimeters**
3	**Leg Length**	**Measuring tape**	**In Centimeters**
PHYSICAL VARIABLES			
4	**Explosive Power**	**Sargeant Vertical Jump**	**In Centimeters**
5	**Speed**	**50 yard Dash**	**In Seconds**
6	**Agility**	**Shuttle Run**	**In Seconds**

RESULTS AND DISCUSSIONS

The data were collected as per the procedure described in the methodology, and analysed statistically to find out‘t’ ratio for the significance difference between the groups. The level of significance 0.05 levels was used.

TABLE II
COMPUTATION OF ‘t’ RATIO FOR ANTHROPOMETRIC AND PHYSICAL VARIABLES OF BASKETBALL AND VOLLEYBALL PLAYERS

Variable	Game	Mean	SD	MD	t’ Ratio
Height	Basketball	164.75	3.81	7.833	5.086*
	Volleyball	156.91	3.72		
Arm length	Basketball	76.833	3.83	5	3.15*
	Volleyball	71.833	3.92		
Leg length	Basketball	89.83	3.68	3.58	2.18*
	Volleyball	86.25	4.3303		
Speed	Basketball	7.2808	.7552	.59	2.39*
	Volleyball	6.688	.4075		

Agility	Basketball	11.5058	.7280	.27	1.14
	Volleyball	11.2308	.3959		
Explosive Power	Basketball	26.1667	7.068	7.3	2.65*
	Volleyball	35.5000	6.431		

*Significance at 0.05 levels, df= N-2; 24-2=22 is 2.074.

From table II, it is seen that the college Basketball players were having more height, arm length, leg length, and speed than college Volleyball players and college Volleyball players are having explosive power than college Basketball players. There was no significant difference shown in agility between the Basketball players and Volleyball players.

CONCLUSIONS

From the statistical analysis of the data with the limitations imposed by the experimental conditions the following conclusions were drawn. The following conclusions were drawn based on the study. The Basketball players are having more height, arm length, leg length, and speed than the Volleyball players. Volleyball players are having more explosive power than the Basketball player but the agility are equal for both players.

REFERENCES

1. Carl E. Nillgoose.,(1961) "*Evaluation in Health Education in Physical Education*" New York:McGraw Hill Book, Co.
2. Charles A.Bucher and A.Debarach wiest (1987) "*Foundation of Physical Education and sport*" saint Louis:Times Mirror / Mosby college Publishing, P-9
3. Clarke, H. Harrison(1971) "*Physical Fitness Research Digest*", Washington: Presidents concil on Physical Fitness and Sports P-1
4. Donald K.mathews.(1973) "*Measurement of Physical Education*", Philadelphia W.B sander Co.
5. Frank W.Bick (1980) "*Sports Training Principles*", Published by Axc, Black Co.,
6. Getchell,bwd (1976) "*Physical Fitness:Away Life New York*",John willy Sons P-7.