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A Comparative Study on Anthropometric Measurements between Volleyball and Basketball Players of Yadgir District

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Abstract

Anthropometric Measurement, A science concerned with comparative measurements of the human body, its parts, and its proportions and composition. An anthropometric measurement is defined as dimension of the structure of the human body taken at specific sites to give measures of length, girth and width and subcutaneous fatty tissue. This was comparing the anthropometric variables between volleyball and basketball players.

Keywords

Anthropometric Measurement, Arm Length, Forearm Girth, Calf Girth, Thigh Girth ect.

Introduction

The game of volleyball and basketball is a fast moving game and most popular in the world and volley ball and basket ball played by both men and women of all ages students for the purpose of fitness ect.

Sports now days become extremely competitive, previous records are being broken whenever there is competition.

Limitations of the Study

Non availability of sophisticated instruments for measuring anthropometric measurements and 16 Personality factors were considered as one of the limitation for the study. No special motivational techniques were used while conducting the tests was considered as limitation. Factors such as socio-economic status, dietary habits, geographical variations, daily routine work, training, diet might have influenced the results which were not taken into consideration, which will be considered as another limitation.

Delimitations

The study was delimited to a total of 100 players from Netball and Volleyball games that have to be represented at university level. The age of the subjects chosen was 20 to 25 years.

3. The following physical fitness, anthropometric measurements and psychological
Anthropometric Measurements 1. Arm Length 2. Forearm Girth 3. Clf Girth 4. Thigh Girth

Hypotheses

The following study It was hypothesized that:

1. There would not be any significant difference in selected anthropometric measurements between Volleyball and basketball players.

Methodology

The purpose of the present study is to compare the selected, anthropometric measurements between volleyball and basketball players of yadgiri district. to achieve the purpose of the study, 100 male players were selected at random from each category of Volleyball and basket ball players.

Tools

The following variables were selected for this study:

Anthropometric Measurements

1. Arm Length 2. Forearm Girth 3. Calf Girth 4. Thigh Girth

Selection of Tests

The present study was undertaken primarily to compare the selected physical fitness, anthropometric measurements among selected U.G level Volleyball and basket ball players of yadgiri district. As per the available literatures, the following standardized tests were used to collect relevant data on the selected dependent variables and they were presented in the Table-1

Sl. No.	Criterion Variables	Test Items	Unit of Measurement
Anthropometric Measurements			
1.	Am Length		In Cms.
2.	Forearm Girth		In Cms.
3.	Calf Girth		In Cms.
4.	Thigh Girth		In Cms.

Research Design and Statistical Analysis

A two-sample t-test can only be used to assess the significance of the difference between the mean values of two independent groups. To compare differences in the mean values of three or more independent groups, Analysis of Variance (ANOVA) is used. Thus, ANOVA is suitable when the outcome measurement is a criterion variable and when the explanatory variable is categorical with three or more groups. A One-way ANOVA is used when the effect of only one categorical (outcome) is explored. The concept of ANOVA can be thought of as an extension of a two-sample t-test.

Analysis and Interpretation of the Data

The purpose of the present study was to compare the selected anthropometric measurements variables between Volleyball and basket ball players of yadgiri district. To achieve this, 100 male players were selected randomly from each category. a total of 100 players in yadgiri district. The probability level below which we reject the hypotheses is termed as level of significance. The 't' value obtained by 't' Test Analysis was compared at 0.05 and 0.01 levels of significance.

Distribution of sample based on the above mentioned demographic characteristics is given in the following tables

Table 1: Distribution of sample over type of sports players

Players	Frequency	Percentage
Volley ball	50	52.00
Basket ball	50	52.00
Total	100	104.00

Table shows that 50(52.00%) of the subjects are the volley ball players and 50 (52.00%) of the subjects are the basket ball players.'t' Test The analysis was carried out through various statistical techniques such as the descriptive and 't' test analysis. The data were compiled and analyzed using the Statistical Package for the Social Science (SPSS Version 16.5) for Windows XP Software. Hypotheses regarding compare the Basketball and Volleyball university players' physical fitness, anthropometrical and 16 personality factors were tested and the findings of testing these hypotheses were presented.

Each hypothesis tested is followed by a summary of testing that hypothesis was also presented. Finally, the summary of findings to research questions was presented. Testing of Hypotheses There was no significant difference between Basketball and Volleyball Players on selected Anthropometric

Table 1: Table showing the Mean scores, Standard Deviation and 't' value of the Forearm Girth of Volleyball players and basket ball players.

Forearm Girth (In Cms.)	volley ball	basket ball
Mean	24.753	25.326
Standard Deviation	1.686	1.584
't' value	1.65NS	

NS Not Significant

The calculated mean scores, standard deviation of volleyball players are 24.753 and 1.686 respectively and mean scores and standard deviation of basket ball are 25.327 and 1.584 respectively. The calculated 't' value 1.65 is less than the table value 1.98 at 0.05 level.

Table 2: Table showing the Mean scores, Standard Deviation, and 't' value of the Arm Length of volley ball and basket ball players.

Arm Length (In Cms.)	volley ball	basket ball Players
Mean	80.753	81.982
Standard Deviation	2.812	2.354
't' value	2.45*	

*Significant at 0.05 level

The calculated mean scores and standard deviation of volleyball players are 80.753 and 2.812 respectively and mean scores and standard deviation of basketball players are 81.982 and 2.354 respectively.

The calculated 't' value 2.45 is greater than the table value 1.98 at 0.05 level.

Table 3: Table showing the Mean scores, Standard Deviation and 't' value of the Calf Girth of the university volley ball and basket ball players.

Calf Girth (In Cms.)	volleyball	basket ball
Mean	34.180	33.833
Standard Deviation	2.423	2.375
't' value	0.90	

The calculated mean scores and standard deviation of volleyball players are 34.180 and 2.423 respectively and mean scores and standard deviation of basketball players are 34.833 and 2.375 respectively. The calculated 't' value 0.90 is less than the table value 1.98 at 0.05 level.

Hence the stated hypothesis for said criterion variable is accepted that "there is no significant difference in the Calf Girth." The both players had similar calf girth.

Table 4: Table showing the Mean scores, Standard Deviation and 't' value of the Thigh Girth of the university volleyball and basketball players.

Thigh Girth (In Cms.)	volleyball Players	basketball Players
Mean	51.525	50.326
Standard Deviation	3.308	3.714
't' value	1.40	

The calculated mean scores and standard deviation of volleyball players are 51.525 and 3.308 respectively and mean scores and standard deviation of basketball players are 50.326 and 3.714 respectively. The calculated 't' value 1.40 is less than the table value 1.98 at 0.05 level.

Discussion and conclusion

The Volleyball players showed markedly greater standing height, forearm length and arm length than basketball players. In volleyball, teams compete by manipulating skills of spiking and blocking high above the head. In basketball, players try to carry the ball by dribbling and passing among a group of teammates and opponents and, height is considered to be the most important physical attribute. Suggested the height as an important condition of sports talent in such events that require height and the presence of tall players is an indispensable element in success as a team. Some authors opined the height as an important condition of sports talents in such events that require it, and the presence of tall players was an indispensable element in success as a team. Even though no significant difference was observed in the values of body weight, leg length and forearm, calf and thigh girths between the two groups. The possible reason could be explained in terms of nature and skills of the game.

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