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RELATIONSHIP BETWEEN PLAYING ABILITY AND ANTHROPOMETRIC VARIABLES AMONG BEGINNER BASKETBALL PLAYERS

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ABSTRACT:

The study contains the relationship between playing ability and anthropometric variables of beginner basketball players. By knowing the relationship between these two variables one can easily determine talent of playing basketball. The success rates of talent identification and development programme have rarely been assessed and the validity of the models applied remains highly debated. Talent is the adequate aptitude or ability in one direction, above the

normal average. Someone who has the talent is able to do something without trying hard. The objectives of the study were to characterize the anthropometric variables, and to find out the relationship between playing ability and anthropometric variables of beginner basketball players. To achieve this purpose 400 male beginner basketball players purposely selected from different schools of Uttarakhand in age group of 14-18 as subjects. Data was analyzed by using Pearson product moment correlation, multiple correlations and multiple regression equation was developed. High correlation was found between playing ability and anthropometric variables (except weight).

KEYWORDS: Anthropometric variables, beginner basketball players etc.

INTRODUCTION

Anthropometric Variables are essential for knowing the status of an individual and its relationship with other variables are also necessary to find out that if he/she has the ability to perform optimally in any game and sports. By knowing the extent of relationship one can easily judge whether one has the talent to play the related game or not. Talent identification and its development has become an important area of Research in

sports. In performance sports, due to rapidly increasing participation and performance density, only person who have talent have a chance of winning a medal in an international competition. Experience has also shown that talent alone is no guarantee for winning a medal. Talent has to be coupled with hard and rigorous training spread over several years. But it is talent which ultimately determines the maximum limit to which sports performance can be improved through training. I as a researcher want to know the relationship between playing ability and anthropometric variables among beginner

basketball players.

OBJECTIVES OF THE STUDY

- The first objective of the study was to characterize the anthropometric variables of beginner basketball players.
- The second objective of the study was to find out the relationship between playing ability and anthropometric variables of beginner basketball players.

MATERIAL AND METHODS

Subjects

The study was conducted on 400 male basketball players selected purposely from different schools

of Uttarakhand. The ages of the subjects were 14 to 18 years.

VARIABLES AND TESTS

Anthropometric variables were measured with the following tests:

Height - Stadiometer

Weight- Weighing Machine

Arm length – Measuring Tape

Leg length – Measuring Tape

PROCEDURE

The study contain anthropometric variables and playing ability in basketball. The anthropometric variables were measured with the above mentioned test and the playing ability. Playing ability was subjectively rated from the bigger players of Basketball by the three experts with ten points scale on the selected game of basketball. With the advice of Guide and discussion with basketball experts the researcher made a ten point scale through which the Basketball playing ability was measured. The average of the three experts rating was taken as a score. The experts were Mr. Ankush Rautela, Mr. Bhuwan Joshi and Mr. Chanky Pandey.

STATISTICAL ANALYSIS

The present study consists of anthropometric variables and playing ability. To determine the relationship between anthropometric variables and playing ability Pearson product moment correlation was used. The computation of multiple regressions was also used. In multiple regressions, a criterion variable was predicted from a set of predictors. Forward selection method of multiple regressions was used in this study to find out the predictor variable that has the highest correlation with the criterion variables and it is entered into the equation first. The rest variables are entered into the equation depending on the contribution of each predictor which is required to identify the talent in Basketball players. In all the cases 0.05 level of significance was fixed to test the hypothesis.

RESULTS, DISCUSSION AND CONCLUSIONS

Table - 1

DESCREPTIVE STATISTICS OF ANTHROPOMETRIC VARIABLES

S.NO.	ANTHROPOMETRIC VARIABLES	MEAN	STANDARD DEVIATION
1.	Height	163.31	6.32
2.	Weight	49.89	5.88
3.	Arm Length	46.24	4.76
4.	Leg Length	68.47	4.78

Above table depicts the descriptive analysis of selected anthropometric variables (independent Variables). Mean values of anthropometric variables Height, Weight, Arm Length, Leg Length are 163.31, 49.89, 46.24, 68.47 respectively. Standard deviation values of anthropometric variables Height, Weight, Arm Length, Leg Length were 6.32, 5.88, 4.76 and 4.78 respectively. The graphical representation of above table has been given below in the figure no. 1 and the relationship between the two variables were represent in table 2.

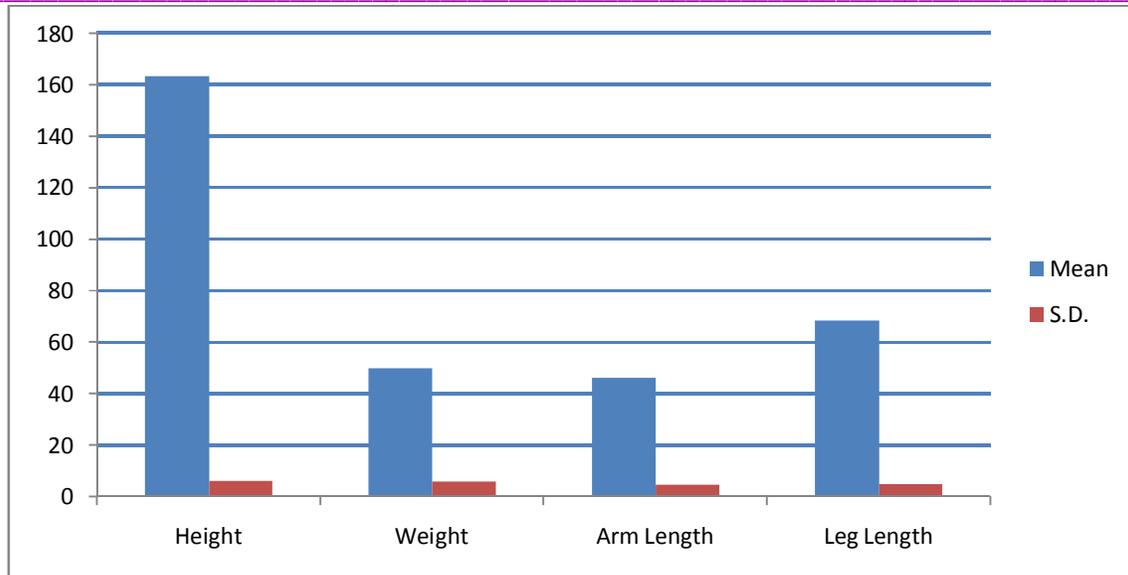


Figure 1 : Mean and Standard Deviation values of Anthropometric variables of male Basketball Players

**Table - 2
Relationship of Anthropometric Variables with Playing Ability (Basketball)**

S.No.	Anthropometric Variable	Coefficient of Correlation
1.	Height	0.75*
2.	Weight	0.05
3.	Arm Length	0.80*
4.	Leg Length	0.92*

***Significant at 0.05 Level**
 $R_{0.05} (400) = .09$

Table no 2 shows the relationship between anthropometric variables and playing ability. Significant relationship was found between Height(0.75), Arm length (0.80) and Leg length (0.92) with basketball playing ability and insignificant relationship was found in weight (0.05) with playing ability at 0.05 level of significance. Multiple correlation was presented in table 3 and the regression equation was also developed.

**TABLE-3
Multiple Correlation of Anthropometric Variables of Male Basketball Players with Significant Variables**

S.No.	Anthropometric Variables	Multiple Correlation (R)
1.	Height	$R_{c 134} = 0.94^*$
3.	Arm Length	
4.	Leg Length	

***Significant at 0.05 level**
 $R = 0.43$

Above table shows multiple correlations among selected anthropometric variables (Height, Weight, Arm Length, Leg Length) with Basketball playing ability i.e. 0.94 at 0.05 level of significance.

Multiple Regression equation in order to predict the anthropometric ability in basketball playing ability is.

$$Y = (0.156 \times \text{Leg Length}) + (0.058 \times \text{Arm Length}) + (0.023 \times \text{Height}) - 9.638$$

Where Y = Basket Ball Playing Ability

DISCUSSION

On the perusal of the above mentioned study it was concluded that anthropometric variables was significantly correlated with playing ability and may be the chief factor for identification of talent in basketball. The similar study was conducted by **Sushil Kumar, et. al. (2017)** and concluded that arm length and leg length has got insignificant relationship with the basketball playing ability, while knee length and foot length got the significant relationship with playing ability. Basketball is the game of ball collecting, throwing, running and jumping events and one can be more successful if one has the longer limbs and length of the different body parts like arm length, leg length longer. The present study was contrary with the study conducted by **Sushil Kumar, et. al. (2017)**.

CONCLUSION

The findings of the study show that the significant relationship was found between playing ability and anthropometric variables (except weight).

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