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Correlation between Selected Anthropometric Variables with Playing Ability among College Level Male Basketball Players

G. Chidambaram[1] & Dr.A.Mahaboobjan[2]

[1]*Ph.D., Research Scholar, Department of Physical Education, Bharathidasan University, Tiruchirappalli, Tamilnadu, India.*
[2]*Professor, Department of Physical Education, Bharathidasan University, Tiruchirappalli, Tamilnadu, India.*

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Abstract

The purpose of the study was to correlate the playing ability in basketball from selected anthropometrical variables among college level male basketball players. To achieve the purpose two hundred and seventy nine Basketball players were randomly selected from various colleges in Tamilnadu state, India and their age ranged from 18 to 25 years. The subjects had past playing experience of at least three years in basketball and only those who represented their respective college teams were taken as subjects. As the performance is concerned, the anthropometrical variables play a vital role in overall performance. The researcher reviewed number of various journals, books, e-resources, unpublished theses, dissertations and coaching manuals in which they found that the standard skills of basketball may have relationship with selected anthropometrical, physical and physiological variables. Based on these observations, the investigator selected the following independent variables for this study. The Anthropometrical variables namely – Standing Height, Arm Length, Hand Length, Palm Length, Leg Length, Thigh Girth, Calf Girth, Arm Girth Relaxed Arm Girth Flexed. The playing ability is the dependant variable. It was taken as the performance factor, which was subjectively assessed by three qualified basketball coaches. The inter - relationship among the selected anthropometrical variables and basketball playing ability, were computed by using Pearson' product-moment correlation coefficients. The results revealed that an Inter – relationship exists significantly between the anthropometrical, physical and physiological variables among male inter - collegiate basketball players.

Keywords: Correlation, Anthropometrical, Basketball.

Introduction

Basketball which originated from America and has been most popular in that country has now become a game of international repute. The object of the game is to score baskets and prevent them being scored. Like any other game, basketball too involves various factors for the success and high level performance. But the physical, physiological and anthropometric variables have been realized as vital trios that constitute for the excellence of this sport. Various studies have been conducted on these aspects, which in turn have contributed at large to sports and games. The basketball is a ball game played by two teams of 5 players, plus 7 substitutes in each team. The players may pass, throw, roll bat or dribble the ball. The main aim of a basketball player is to obtain points by putting the ball into the basket of the opponent team's court. A goal is considered when the ball enters into the basket from above and passes through or remains in the net. In case score of both the teams are equal at the end, extra periods of 5 minutes each are provided to break the tie. Previous reports have shown that body structure and morphological characteristics are important determinants of performance in many sports and certain physical impressions such as body composition (body fat, body mass, muscle mass) and physique (somatotype) can significantly influence athletic performance.

Correspondence
G.Chidambaram
E-mail: chidamtwenty@gmail.com, Ph. +9197872 13234

Methodology

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Result

Table 1

Descriptive statistics of selected variables among college level basketball players

S.No	Variables	Range	Minimum	Maximum	Mean	SD (±)
1	Standing Height	0.24	1.63	1.87	1.76	0.05
2	Arm Length	18.50	70.00	88.50	79.01	5.49
3	Hand Length	3.80	17.10	20.90	18.91	1.10
4	Palm Length	2.10	10.00	12.10	11.03	0.61
5	Leg Length	28.9	89.10	118.00	104.60	7.04
6	Thigh Girth	37.40	40.20	77.60	57.72	11.00
7	Calf Girth	8.80	30.10	38.90	35.16	2.76
8	Arm Girth Relaxed	9.60	21.10	30.70	25.99	2.76
9	Arm Girth Flexed	10.70	24.00	34.70	29.90	3.26

Table 1 showed the descriptive statistics – Range, Minimum, Maximum, Mean and Standard deviation of anthropometrical variables and playing ability of inter collegiate basketball Players.

Table 2

Inter-correlation of selected variables with the playing ability of college level basketball players

S.No	C.R	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9
X_1	0.69**	1								
X_2	0.30**	0.10	1							
X_3	0.10	0.11	0.04	1						
X_4	0.04	0.23**	0.005	0.23**	1					
X_5	0.92**	0.59**	0.10	0.06	0.03	1				
X_6	0.02	0.01	0.16**	0.22**	0.01	0.07	1			
X_7	0.10	0.03	0.28**	0.08	0.17**	0.02	0.19**	1		
X_8	0.73**	0.46**	0.11	0.18*	0.03	0.73**	0.17**	0.17**	1	
X_9	0.13*	0.11	0.01	0.03	0.03	0.13*	0.05	0.05	0.01	1

It was evident from the Table 2 that there was significant relationship between Basketball playing ability (CR) and standing height (X_1), Arm Length (X_2), leg length (X_5), arm girth relaxed (X_8) and arm girth flexed (X_9) in each variables separately.

The result proved that the selected variables standing height (r = 0.69), arm length (r = 0.30), leg length (r = 0.92), arm girth relaxed (r = 0.73), arm girth flexed (r = 0.13) were significantly correlated with the basketball playing ability were greater than the required table 'r' value of 0.13 to be significant at 0.05 level. And there was no significant relationship between basketball playing ability and hand length (r = 0.10), palm length (r = 0.04), thigh girth (r = 0.02) and calf girth (r = 0.10).

Conclusion

1. The results revealed that an Inter – relationship exists significantly between the anthropometrical variables among male inter - collegiate basketball players.

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