

RELATIONSHIP OF SELECTED AN ANTHROPOMETRIC VARIABLES TO SKILL PERFORMANCE OF VTU MALE BADMINTON PLAYERS

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ABSTRACT

The purpose of this study was to evaluate the relationship between anthropometric variables and skill performance of badminton players for which 85 males Inter-collegiate of VTU in Karnataka state were selected as subjects for the study having age ranged from 18 to 25 years. The following anthropometric measurements height, weight, arm length, leg length, arm span. Results: relationship between anthropometric variables and skill variables was analyzed using Pearson's product moment correlations, following results were observed. Most of the correlation coefficients observed between anthropometric and skill performance variables were found to be non-significant. Arm span was found to significantly and positively relate to all the skill performance variables.

Key words: Anthropometric, VTU, Badminton, Skill Performance etc.

INTRODUCTION

In games and sports different factors play a significant role in determining the performance level. However, great importance is assigned to biomechanical, psychological, physiological parameters in competitive sports. The study of human physical measurement is dealt with another science which is called Anthropometry.

Current interest in anthropometric measurements focused on three areas such as growth, measurement of body and body composition. The uses of such abilities measure include classification, prediction of growth patterns and prediction of success in motor abilities as well as assessment of obesity. The measurement of the structure and proportions of the body is called 'Anthropometry' (D. Allan Philip et al., 1979). Measurement of body parts and sizes such descriptive information as height, weight and surface area, while measurement of body proportion describes the relationship between height and weight and among length, width and circumference of various body segments. It has been found that top athletes in some sports tend to have those proportions that bio-mechanically aid the particular performance required (Earle F. Zeigler, 1982).

Debnath and Bawa (1990) write that sports performances in various games and sports are influenced by many factors such as physical, physiological, technical abilities, physique, body size, body composition etc. Physique and body composition are the basic performance determining factors and play an important role in obtaining best performance. Similar findings have been obtained when junior elite and sub-elite Rugby League players were compared for height and mass (Gabbett, 2005).

Although there were studies that investigated anthropometric profiles of badminton players. Anthropometric profiles of elite athletes provide insight into the requirements for competing at top level in particular sports. 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 (Carter 1984). The findings from these studies suggested a generally higher sports profile across a range of measures including anthropometric

characteristics. Different kinds of physique, body size and body composition are suitable for different sports disciplines.

Objective of the study

To assess the Relationship between Anthropometric Variables to skill performance of VTU Male Badminton Players.

Hypothesis

There is no significant relationship between Anthropometric variables and skill performance of VTU Male Badminton Players.

Methodology

The present research was taken the male subjects for the study. The sources of data would be made from those were participated in inter-zone Badminton players of VTU in Karnataka state.

Selection of Variable for the Study

The table below shows the Selected Anthropometric variables, tests and Criterion Measures

Table I: Anthropometric variables

Sl.	Anthropometr	Tests	Criterion Measures
1	Height	Stadiometer	centimeter
2	Weight	Weighing machine	Kilograms
3	Arm Length	Steel tape	centimeter
4	Leg Length	Steel tape	centimeter
5	Arm span	Steel tape	centimeter

The table below shows the Selected Badminton skills, tests and Criterion Measures

Table II: Badminton Skills

Sl. No.	Badminton Skill	Tests	Criterion Measures
1	Service	French Short Service Test	Scores
		Poole Long Serve Test	Scores
2	Clear Shots	Poole Backhand Clear Test	Scores
		Poole Forehand Clear Test	Scores
3	Volley	Lockhart-McPherson Badminton Test	Scores in particular time
4	Smash	Hicks Smash Test	Scores
5	Footwork	Hicks Footwork Test	Scores in particular time

Statistical Analysis

After obtaining the data the below mentioned statistical technique Descriptive statistics, Pearson’s product moment coefficient correlation and regression were used to analyze and to interpret the data.

Table III

Relationship between Anthropometric variables and skill performance

Anthropomet ric variables	Skill performance variables								
	Short service	Long	Fore hand	Back hand	Smash	Volley	Foot	Skill total	

			service	clear	clear		test	work	
Height	r	.005	-.032	-.065	.018	.222	-.022	-.063	.037
	p	.967	.773	.556	.872	.041	.841	.567	.738
Weight	r	.205	.109	.139	.068	.175	.243	.069	.206
	p	.060	.321	.204	.539	.109	.025	.531	.058
Arm Length	r	.084	.024	-.060	.027	.309	.033	-.056	.102
	p	.442	.827	.587	.804	.004	.764	.610	.351
Leg Length	r	.074	.057	-.032	.015	.241	.013	.040	.099
	p	.500	.602	.774	.891	.026	.903	.716	.365
Arm span	r	.339	.321	.238	.286	.246	.447	.398	.431
	p	.001	.003	.029	.008	.023	.001	.001	.001

Note: r=Correlation coefficient; P=significance; df=83

Pearson's product moment correlations between motor anthropometric variable and skill performance variables revealed the following results.

When relationship between anthropometric variables and skill variables was analyzed using Pearson's product moment correlations, following results were observed. Most of the correlation coefficients observed between anthropometric and skill performance variables were found to be non-significant.

From the table it is clear that Height as an anthropometric variable correlated significantly and positively with smash ($r=.222$; $p=.041$), more was the height more was the smash skill, and vice versa. However, rest of the skill performance variables did not correlate with height. In the case of weight, we find a positive relationship between weight and volley test scores ($r=.243$; $p=.025$). Arm length was found to be significantly and positively correlated with smash scores ($r=.309$; $p=.004$), higher the arm length more was the smash scores. In the case of leg length also, we find a significant and positive relationship with smash scores ($r=.241$; $p=.026$).

However, Arm span was found to significantly and positively relate to all the skill performance variables. The obtained correlations between arm span and short service ($r=.339$; $p=.001$), long service ($r=.321$; $p=.003$), fore hand clear ($r=.238$; $p=.029$), back hand clear ($r=.286$; $p=.008$), smash ($r=.246$; $p=.023$), volley test ($r=.447$; $p=.001$), foot work ($r=.398$; $p=.001$) and total skill performance scores ($r=.431$; $p=.001$) were all found to significant and positive. More the arm length, more was the individual skills and total skills.

Rest of the correlation coefficients obtained between anthropometric variables and skill performance variables were found to be non-significant.

CONCLUSION

The researcher concludes on the basis of above result that Anthropometric variables are integral part of all sports. Badminton players demand more fitness especially in elite competitions. The present study reveals the same as Anthropometric variables have strong relationship with various skills performance of Badminton players and skills play a major role in Badminton.

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