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SOCIO-ECONOMIC STATUS AND SELECTED ANTHROPOMETRIC VARIABLES IN RELATION TO SPORTS PERFORMANCE ; AN INVESTIGATION

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ABSTRACT

Physical Education, in its scope and purpose, is not a subject far from general education. Physical Educationists, in general, agree that physical education is an integral and indispensable part of education. It uses the physical activities as instruments of education. It has been defined as part of education and aimed at improving physical, mental, emotional and social capabilities. It also involves mental as well as physical exercises to approach the target of general education. It contributes to the growth and development of the individual's potentialities to an optimum level. In its endeavour "large muscle activity" is utilized to derive desired circumstances. Physical education seeks to generate movement centered responses that enable the individual to cope with the environment around him.

KEYWORDS: *Physical Education , general education , large muscle activity.*

INTRODUCTION

Sports and games are parts of physical education and essential elements for the growth and development of physical, mental and psychological aspects of an individual. Kamlesh (1993) considers that education aims to improve and develop the total personality of individual. But the role of play, in this process, is not of less significance – "No other activity is wholesome as play. In the absence of play from the human life, living would be dull and drab, most uninteresting and uninspiring". Physical activities and movements in sports, games and competitive events increase the worth and charm of life, enlighten new vistas besides increasing development of human organs – development of tissues, nerves, muscles and bones etc.

Specific anthropometric characteristics are needed to be successful in certain sporting events. It is also important to note that there are some differences in body structure and composition of sports persons involved in individual and team sports. The tasks in some events, such as shot put or high jump, are quite specific and different from each other and so are the successful physiques. This process whereby the physical demands of a sport lead to selection of body types best suited to that sport is known as "morphological optimization" (Bloomfield et al., 1995).

The identification of physical characteristics in a sport modality contributes to its success and enables to spot differences among athletes of different modalities, which is of great interest for both sport coaches and scientists. Sports performance is based in a complex and intricate diversity of variables, which include physical (general and specific conditions), psychological (personality and motivation) and body (body

morphology, anthropometry and body composition) factors. The relationship between morphological variables and sports performance is the object of study of anthropometry and is an important element to be analyzed.

In sport, the characteristics of physical, physiological, psychological, sociological and anthropometrical are functionally associated with the performance of a player or an athlete. Considering the requirements of these characteristics in sport, each sport has its own entity since they differed from one another in nature. Meanwhile, though a particular sport has been defined in the requirements of these characteristics, within variance in spot may arise because of variations exist among the players of particular sport in terms of physical, sociological and anthropometric aspects.

Socio-economic status (SES) and Anthropometric measurements are important determinants of sports performance and various studies shown that lower SES and higher SES have significant effect on the sports performance in the background of socio-economic conditions of athletes and also body anthropometric measurements are the predictors of sports performance and various studies shown that players with same height and weight may not be similar in the efficiency of execution of movement and sustainable capacities since the segments of body part are varied in terms of its length, width, and circumference.

Keeping in view of above facts the present study is designed as an investigation on socio-economic status and selected anthropometric variables in relation to sports performance of inter-collegiate sportsmen.

PURPOSE OF THE STUDY:

The main purpose of the study is to compare the selected anthropometric measurements and socio-economic status of intercollegiate sports persons of Karnatak University Dharwad and Rani Channamma University, Belguam respectively. Further to find out the relationship of anthropometric measurements and socio-economic status in relation to their performance between Karnatak University Dharwad and Rani Channamma University, Belguam respectively.

OBJECTIVES OF THE STUDY:

- To compare the selected anthropometric measurements and socio-economic status of inter- collegiate sports persons of Karnatak University Dharwad and Rani Channamma University, Belguam respectively.
- To find out the anthropometric measurements relationship to their performance between Karnatak University Dharwad and Rani Channamma University, Belguam respectively.
- To find out the socio-economic status relationship to their performance between Karnatak University Dharwad and Rani Channamma University, Belguam respectively.

MATERIALS AND METHODS:

To achieve the purpose of the study 120 inter-collegiate athletes in the age group 18 to 28 years studying in UG and P.G. Colleges affiliated to Karnatak University Dharwad and Rani Channamma University, Belguam respectively were selected as subjects by random sampling method.

The socio-economic status and selected anthropometric variables such as body arm length and leg length, calf and thigh circumferences of inter collegiate sportsman were measured. The performance of 100 mtrs Running event is taken in form of time.

RESULTS AND DISCUSSIONS:

1. The comparisons (paired t-test) on Calf Circumference among Karnatak University Dharwad and Rani Channamma University, Belguam athletes.

Table.No.1

The comparisons (paired t-test) on Calf Circumference between Karnatak University Dharwad and Rani Channamma University, Belguam athletes

Paired Samples Statistics (Calf Circumference)						
Pair	**Groups**	**Mean**	**N**	**Std. Deviation**	**t-value**	**Sig. (2-tailed)**
Pair 1	KUD	21.56	60	7.90	2.37*	.021
	RCUB	19.17	60	1.73		

*Significant at the 0.05 level.

It can be seen from the table.No.1 that the value t-statistics 2.37 of paired samples test between the Karnatak University Dharwad and Rani Channamma University, Belguam athletes respectively. The t-value is significant as the p-value (0.21) is less than 0.05. Thus, it can be concluded that the mean value of calf circumference between Karnatak University Dharwad and Rani Channamma University, Belguam athletes is not similar. In other words there is significant difference in calf circumference between above said university athletes.

2. The comparisons (paired t-test) on Thigh Circumference among Karnatak University Dharwad and Rani Channamma University, Belguam athletes.

Table.No.2

The comparisons (paired t-test) on Thigh Circumference between Karnatak University Dharwad and Rani Channamma University, Belguam athletes

Paired Samples Statistics (Thigh circumference)						
Pairs	**Groups**	**Mean**	**N**	**Std. Deviation**	**t-value**	**Sig. (2-tailed)**
Pair 2	KUD	42.86	60	2.18	4.22*	.000
	RCUB	38.38	60	1.77		

*Significant at the 0.05 level.

It can be seen from the table.No.1 that the value t-statistics (4.22) of paired samples test between the Karnatak University Dharwad and Rani Channamma University, Belguam athletes respectively. The t-value is significant as the p-value (.000) is less than 0.05. Thus, it can be concluded that the mean value of thigh circumference between Karnatak University Dharwad and Rani Channamma University, Belguam athletes is not similar. In other words there is significant difference in thigh circumference between above said university athletes.

3. The comparisons (paired t-test) on Arm length among Karnatak University Dharwad and Rani Channamma University, Belguam athletes.

Table.No.3

The comparisons (paired t-test) on Arm length between Karnatak University Dharwad and Rani Channamma University, Belguam athletes

Paired Samples Statistics (Arm length)						
Pairs	**Groups**	**Mean**	**N**	**Std. Deviation**	**t-value**	**Sig. (2-tailed)**
Pair 3	KUD	53.55	60	1.08	7.62*	.000
	RCUB	52.08	60	1.12		

*Significant at the 0.05 level.

It can be seen from the table.No.1 that the value t-statistics (7.62) of paired samples test between the Karnatak University Dharwad and Rani Channamma University, Belguam athletes respectively. The t-value is significant as the p-value (.000) is less than 0.05. Thus, it can be concluded that the mean value of thigh circumference between Karnatak University Dharwad and Rani Channamma University, Belguam

athletes is not similar. In other words there is significant difference in thigh circumference between above said university athletes.

4. The comparisons (paired t-test) on Leg length among Karnatak University Dharwad and Rani Channamma University, Belguam athletes.

Table.No.4
The comparisons (paired t-test) on Leg length between Karnatak University Dharwad and Rani Channamma University, Belguam athletes

Paired Samples Statistics (Leg length)						
Pairs	**Groups**	**Mean**	**N**	**Std. Deviation**	**t-value**	**Sig. (2-tailed)**
Pair 4	KUD	84.68	60	3.28	4.29*	.000
	RCUB	87.50	60	3.91		

*Significant at the 0.05 level.

It can be seen from the table.No.1 that the value t-statistics (4.29) of paired samples test between the Karnatak University Dharwad and Rani Channamma University, Belguam athletes respectively. The t-value is significant as the p-value (.000) is less than 0.05. Thus, it can be concluded that the mean value of thigh circumference between Karnatak University Dharwad and Rani Channamma University, Belguam athletes is not similar. In other words there is significant difference in thigh circumference between above said university athletes.

5. Influence of Socio Economic Status on the performance of Karnatak University Dharwad and Rani Channamma University, Belguam athletes.

To find out the influence of socio economic status on the performance of Karnatak University Dharwad and Rani Channamma University, Belguam athletes the researcher used the descriptive statistical method like paired t-test with the help of socio economic status scores and performance scores of athletes and presented in the following ways,

Table.No.5
Mean, Std. Deviation and t-values between 100 mtrs performance scores of Karnatak University Dharwad and Rani Channamma University, Belguam athletes

Level of Factor	Groups	N	Mean in secs	Std. Deviation	t-value
High SES	KUD	60	13.12	0.84	1.32
Low SES	RCUB	60	13.63	0.79	

Table.No.5 presents the paired samples Mean, Std. Deviation and t-values between 100 mtrs performance scores of Karnatak University Dharwad and Rani Channamma University, Belguam athletes. The mean score of KUD athletes in 100 meters event (13.12) is lower than the mean score of RCUB athletes (13.63) and t-values (1.32) is not significant at 0.01 level. In other words it is interpreted that the Karnatak University Dharwad and Rani Channamma University, Belguam athletes performance in 100 meters event is almost similar.

6. Relationship between Socio Economic Status, Anthropometric Variables and 100 Mtrs Performance of Karnatak University Dharwad and Rani Channamma University, Belguam athletes.

To find out the relationship between Socio Economic Status, Anthropometric variables and 100 mtrs performance of Karnatak University Dharwad and Rani Channamma University, Belguam athletes the researcher used the Pearson correlation co-efficient (r-values) statistical method with the help of Antropometric variables scores and 100 mtrs performance scores presented in the table 1 following ways,

Table.No.6
Correlation co-efficient (r-values) of variables

S.N	Variable and Performance	r-values
	Anthropometric variables & 100 meters scores	0.78**
	Socio Economic Status & 100 meters scores	0.71**

**Significance at 0.01 level

Table.No.6 presents r-values between the Socio Economic Status, Anthropometric variables and 100 mtrs performance of Karnatak University Dharwad and Rani Channamma University, Belguam athletes. It can be observed that the correlation co-efficient (r-values) between Socio Economic Status 100 mtrs performance scores, Anthropometric variables and 100 mtrs performance scores of athletes are significant at 0.01 level.

Thus the significant r-values clearly indicates that the significant relationship between these independent variable and dependent variables. It means that the Socio Economic Status and Anthropometric variables have positive significant influence on the performance of Karnatak University Dharwad and Rani Channamma University, Belguam athletes.

CONCLUSIONS:

- There is a significant difference between in Calf and Thigh circumference, Arm length and Leg length among Karnatak University Dharwad and Rani Channamma University, Belguam athletes.
- There is no influence of Socio economic status on the performance in the 100 mtrs event of Karnatak University Dharwad and Rani Channamma University, Belguam athletes.
- There is a significant relationship between Socio economic status, Anthropometric variables and performance of Karnatak University Dharwad and Rani Channamma University, Belguam athletes.

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