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## Comparative study on selected anthropometrical variables among inter collegiate athletes

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### Abstract

The purpose of the study was to make compare the selected anthropometrical variables among inter collegiate Athletes. To facilitate the study (N=15) short distance runners, (N=15) middle distance runners and (N=15) long distance runners were randomly selected from affiliated colleges and university department of Tamil Nadu Physical Education and Sports University. The selected for this study and their ages ranges from 18 to 25 years. The subjects were representing their college level at inter collegiate athletics meet. They were randomly selected short distance runners, middle distance runners and long distance runners. The researcher had gone through the available literature and had discussions with various experts and with his guide before selecting variables. The availability of the technique for the purpose of analysis, feasibility, reliability of the procedure and the outcome were extensively taken care of before finalizing the variables. After analyzing the various factors associated with the presented study. Anthropometrical variables weight was measured weighing machine. Chest girth was measured anthropometry flexible measuring tape (non extendable). The collected data were analysed statistically by analysis of variance (ANOVA) and Scheffe's post-hoc test was used to test the paired mean difference between groups in the selected anthropometric variables.

**Keywords:** Comparative, study, anthropometrical, variables, collegiate, athletes

### Introduction

The term "Athletics" is derived from the Greek word "Athlos means contest. Although which were initially associated with all sports, now specifically refers to "Track and field". A combination of many sporting events like running, jumping, relay races, hurdles and throwing of javelin, discus, shot-put and hammer (Ghoush 2008) <sup>[1]</sup>. To go at top speed usually for a relatively short distance. A relatively short race or a part of a race in which the emphasis is usually on all-out speed rather than on pace and tactical maneuvering: A race of upto 400 meters. The action or an instance of sprinting. (Uppal Vivekananda dey A.P., 2006) <sup>[4]</sup>. Any race usually form 800 meters or a half mile to a mile in length sometimes a races as a short as 400 meters may be considered a middle distance race. (Uppal Vivekananda dey A.P., 2006) <sup>[4]</sup>. Covering a long distance specifically competing in or being a running race over a distance of 5000 meters or more. (Uppal Vivekananda dey A.P., 2006) <sup>[4]</sup>. The measurement of the size and proportions of the human body and its parts (Srivastava, 2006) <sup>[3]</sup>.

### Statement of the problem

The purpose of the study was to comparative study on selected anthropometrical variables among intercollegiate athletes.

### Hypothesis

It was hypothesized that there would be a significant difference on weight and chest girth and measurement among short, middle distance and long-distance runners.

### Methodology

To achieve the purpose of the study (N=15) short distance runners, (N=15) middle distance runners, (N=15) long distance athletes from affiliated colleges and university departments of Tamil Nadu physical Education and Sports University Chennai.

The age ranges from 18 to 25 years. The following anthropometrical variables on namely weight, chest girth. They were tested with weighing machine and anthropometry flexible measuring tape (non extendable). The (ANOVA) and

Scheffe’s post-hoc test was used to analyze the collected data.

**Results and Discussion**

**Table 1:** Oneway Anova for Weight and Chest Girth among Short, Middle Distance and Long Distance Runners

Variables	Intercollegiate Athletes Mean			Sources of Variance	Sum of Squares	Df	Mean Squares	F
	Short	Middle	Long					
Weight	62.67	62.17	57.23	Between	270.54	2	135.27	3.30*
				Within	1722.60	42	41.01	
Chest girth	88.30	89.00	84.46	Between	178.67	2	89.39	5.32*
				Within	704.63	42	16.77	

Table F – ratio at 0.05 level of confidence for 2 and 42 (df) = 3.22. \* Significant at 0.05 level.

From the analysis of data it was proved that there was significant difference among short, middle and long distance runners of intercollegiate Athletes in weight and chest girth as the calculated ‘F’ value 3.30 and 5.32 respectively were greater than the required ‘F’ value of 3.22.

Since there was significant differences among the athletes Weight and Chest girth Scheffe’s post hoc analysis was made and which is presented in table 2.

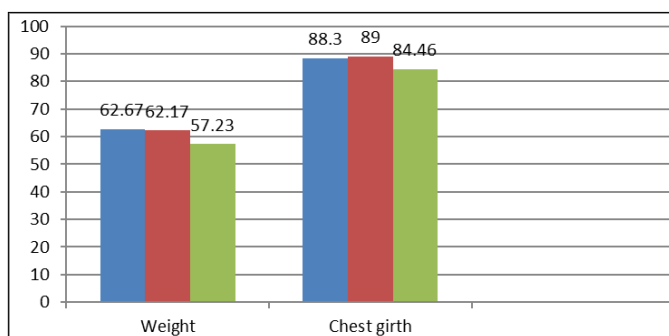
**Table 2:** Scheffe’s post hoc test for difference between means on weight and chest girth among short, middle distance and long-distance runners

Variables	Inter Collegiate Athletes			Mean Difference	P Value
	Short	Middle	Long		
Weight	62.67	62.17		0.50	0.97**
	62.67		57.23	5.43	0.07**
		62.17	57.23	4.93	0.12**
Chest girth	88.30	89.00		0.70	0.89**
	88.30		84.46	3.83	0.04*
		89.00	84.46	4.53	0.01*

\* Significant as P> 0.05 \*\*Not Significant as P> 0.05

The table VI reveals that there was no significant difference in weight between short and middle distance, short and long distance runners, middle distance and long distance runners as the obtained probability value (P) was greater than the 0.05.

The table II reveals that there was no significant difference in chest girth between short and middle distance, short and long distance runners, middle distance and long distance runners as the obtained probability value (P) was greater than the 0.05. But there was significance difference between short and long distance and middle and long distance as the obtained probability value (p) was lesser than the 0.05.



**Fig 1:** Means of weight and chest girth for short, middle distance and long-distance runners

**Conclusion**

1. It was concluded that there was no significant differences in Weight among short, middle distance and long distance runners.

2. It was concluded that there was significant differences in Chest Girth between short and long distance runners, middle distance and long distance runners. That there was no significant difference between short and middle distance.  
 3. The Chest Girth of the middle distance better than were long distance runners and short distance runners.

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