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Research Note
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Analysis of selected physical fitness variable speed on BMI classification of women students

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■ **ABSTRACT**

The purpose of the study was to critically analysis the selected physical fitness variable speed on BMI classification of women students. To achieve the purpose sixty women students were selected as subjects on the basis of body mass index from Pondicherry University. The subjects were divided into four groups namely underweight, normal weight, over weight and obesity consisting of fifteen students in each group. The subject's age ranged between 18 to 25 years. Data were collected on the selected variable namely Speed. One way analysis of variance (ANOVA) was used for statistical analysis. The result of the study showed that there was significant difference on speed among BMI classification of women students.

■ **KEY WORDS :** BMI, Speed, Women students, Physical fitness

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Physical fitness means the ability to function efficiently and effectively, to enjoy leisure, to be healthy, to resist disease, and to cope with emergency situations. Health-related components of physical fitness include body-composition, cardiovascular fitness, flexibility muscular endurance, and strength. Skill-related components include agility balance co-ordination, power, reaction time, and speed. The relative importance of each of the components varies for each sport. Physical fitness is not only sport specific, it may also be position specific. BMI stands for "Body Mass Index." It is a tool that is used to determine how much you need to weigh in relation to your height. It is a better way to determine where you stand on the obesity scale than just weight alone.

Body Mass Index (BMI) is a way to estimate the amount of body fat in a person's body. There are differences in how the results are read, depending upon age, height, and gender. There are many BMI calculators online that can convert weight and height to the required measurements and complete the math, rendering a person with instant results.

The purpose of this study was to make an analysis of selected physical fitness variable on BMI classification of women students. In order to achieve the purpose of these study sixty women students were selected randomly from the Pondicherry University. The subjects were more or less of the same age and their age group is between 18 to 25 years. The variable selected for the study was Speed. One way analysis of variance (ANOVA) was used for statistical analysis. The result of the study showed that there was significant difference

on speed among BMI classification of women students.

In order to find out the significant difference ANOVAs test was employed. The level of significance was fixed at 0.05 level of Confidence. To find out the paired means significant differences, the scheff's post hoc test was used.

The mean values for the speed among BMI groups are 9.2980, 9.3653, 12.4947, and 14.0933, respectively. The calculated value 'F' ratio 70.904 is higher than the table value of 2.76 at 0.05 level and hence it is significant. There for, the hypothesis has been accepted at 0.05 level of significance.

Since F ratio was significant, scheffe's post hoc test has been applied to see the significant mean difference between any two groups.

The mean difference between underweight and overweight, under weight and obesity, normal weight and overweight and also normal weight and obesity students are significant at 0.05 level. But the mean difference between underweight and normal weight, overweight and obesity students are not significant at 0.05 level. The mean value of speed among BMI groups are graphically represented in Fig.1.

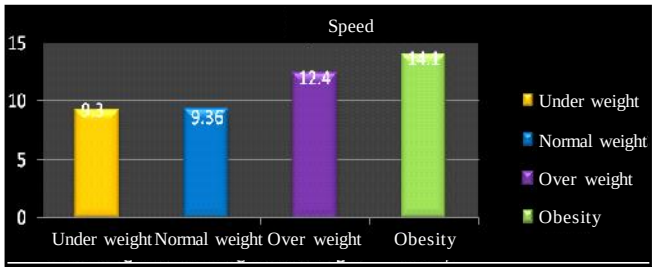

Fig. 1 : Bar diagram showing the mean difference of speed on BMI classification of women students

Conclusion :

Within the limitations of the study, the following conclusions were drawn.

- The level of speed among the underweight, normal weight students are greater than the overweight and obesity students.
- It was concluded that there is a significant difference existing in speed among the four groups namely under weight, normal weight, over weight and obesity students.

Table 1 : One way analysis of variance (anova) on speed among BMI classification of women students

Source of variance	Sum of squares	df	Mean square	'F' ratio
Between	254.703	3	84.901	70.904*
Within	67.055	56	1.197	
Total	321.758	59		

Mean value			
Underweight	Normal weight	Overweight	Obesity
9.290	9.3653		
9.290		12.4947	
9.290			14.0933
	9.3653	12.4947	
	9.3653		14.0933
		12.4947	14.0933

*Significant at 0.05 level for 3&56, d f =2.76

Table 2 : Scheffer's test: test of significance of the difference between all pairs of means (Speed)

Mean value				Mean difference	LS
Under weight	Normal weight	Over weight	Obesity		
9.290	9.3653			0.0673	NS
9.290		12.4947		3.1967*	0.05
9.290			14.093	4.7953*	0.05
	9.3653	12.4947		3.1294*	0.05
	9.3653		14.093	4.728*	0.05
		12.4947	14.093	1.5986	NS

Scheffe's confidence interval at 0.05 for 3&56, d f =2.76 NS=Non-significant

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