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Comparison of Various fitness Parameters for students of Different branches of Engineering

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ABSTRACT

Fitness is an important parameter for Engineering Students as their job profile may test their various fitness parameters. In this research the researcher was interested in investigating if the performance score in various fitness tests varies for students of various engineering branches. Sample was selected from various engineering branches of ITM Universe, Vadodara using non-probability convenience sampling. Performance score included scores of 5 fitness tests that included 50 mt. running, 600 mt. running, Standing Broad Jump, Bend knee sit ups, and push-ups medicine ball throw. Hypothesis was tested using Krushkal Wallis test also known as H test of one-way ANOVA on ranks - a rank-based nonparametric test as the data was found not to be normally distributed. We failed to reject the null hypothesis; it was found that there is no significant difference in the performance score of students from various branches that include Mechanical Engineering, Civil Engineering, Electrical Engineering and Computer Science Engineering.

1. Introduction

Meaning of physical fitness: Today, there is a growing emphasis on looking good, feeling good and living longer. Increasingly scientific evidence tells us that one of the keys to achieving these ideals is fitness and exercises. Getting moving is a challenge because today physical activity is less a part of our daily lives. There are fewer jobs that require physical exertion. We have become a mechanically mobile society, relying on machines rather than muscles to get around. In addition, we have become a nation of observers with more people (including children) spending their leisure time pursuing just that – Leisure. Consequently statistics show that obesity, the problem that comes with high blood pressure, diabetes, etc. are on the rise. Everyone must take the initiative to get active now.

"Physical fitness refers to the organic capacity of the individual to perform the normal task of daily living without undue tiredness or fatigue having reserves of strength and energy available to meet satisfactorily any emergency demands suddenly placed upon him."

General fitness is a part of overall health. It means having a healthy body weight as well as an ability to perform physical activities without tiring easily. Specific fitness is the opposite of this form of fitness. It refers to how well a person is able to master specific levels in a sport. Physical fitness is a basic state of wellness and well-being and, extra especially, the capacity to perform aspects of sports, occupations and day-to-day movements. Physical fitness is customarily completed by means of proper nutrition, average-vigorous physical recreation, physical awareness, and sufficient rest. It is examined that the improvement of common health by means of physical awareness to expand physically recreation and recreation adherence.

Awareness about Physical activity can also reduce the risk of injuries, as well as improve physical fitness, weight management, cognitive function, and quality of life. Despite having knowledge about physical health, Pakistani people still not meeting the recommended level of physical activity. Pakistani society has limited sources to promote physical activity like lack of exercise planning, training, instruments and cross-sectional analysis. Many people who move to ground are active enough to take part in vibration, but unconscious about the real motive behind physical activity. Unawareness leads them to the chronic disorder and imbalance. Miss perception of physical activity putting them at risk. We call them active by default not by their part in exercising. People with understanding of low level activity are healthier than unaware physical active masses. It is complex and multi-dimensional behavior which is not easy to access. Knowing your physique, problem, benefit and the atmosphere, etc., are prerequisites for specified sports. Awareness is the first step for advice.

2. Literature Review

Our major concern is to focus on the physical parameters useful in the comparison of physical tests on various branches of engineering at the university level. However the research from different groups have been reviewed in general and shown below:

1. Dharanendrappa. S.N. and C. Betsur, Ningamma (2002) studied "Significance of Emotional Intelligence and Mental Health in Learning Process" Secondary education plays a predominant role in shaping children for the future society. Children with high emotional intelligence and mental health could possess better understanding with their peers and adequate adjustment well in the society. Moreover it helps the individuals to maximize potentialities of individuals to the fullest extent. This article deals with the significance of emotional intelligence and mental health in learning process of secondary schools. The techniques are suggested to enhance the emotional intelligence and mental health which are essential for secondary school students for better adjustment and scholastic achievement.

2. Ojiha (2002) conducted a study on "Social anxiety and mental health of normal and physically challenged adolescents." The purpose of the study was to compare social anxiety and mental health of normal and physically challenged adolescents. The sample constituted of 60 subjects (15 orthopedically challenged female and matched control group of normal adolescents) randomly selected from different located in Varanasi. Mental health inventory Jagadish and Srivastava, (1983) was administered to measured mental health. With regard to mental health normal group and orthopedically challenged group showed no significant difference.

3. Research Objectives

1. To investigate whether there is difference in the fitness test performance score of ITM Universe students of different branches of Engineering.
2. Create significant impact of the Physical Parameters in the day to day life of various engineering branch students.
3. Application of various tests useful in the physical parameters checking with different age groups wise.
4. Usefulness of Krushkal Wallis test also known as H test which is rank based.

4. Research Methodology

In the methodology, the Research Design is considered as Descriptive Research of the various tests for the physical fitness.

We have considered Sampling Method which can be further understood as Non-Probability Convenience Sampling. ITM Universe students from different branches of Engineering were selected for this tests.

Here, the total number of students adopted which can be considered as Sample Size. i.e.320.Total 320 students were taken for the test purpose and various tests have been applied on them. The variables are as below:

Variables: Branches of Engineering (Groups), Dependent Variable: Performance Scores (Total Score of 5 Fitness Tests were considered. The fitness tests included 50 mt running, 600 mt. running, Standing Broad Jump, Bendkneesitups, push/ups medicine ball throw)

After getting the data, as a Statistical answer, The tool obtained was: Krushkal Wallis Test (As data is not normally distributed).

5. Hypothesis

H0 There is no significant difference in the performance scores of engineering students from different branches of ITM Universe

H1 There is a significant difference in the performance scores of engineering students from different branches of ITM Universe

6. Data Analysis

Krushkal Wallis test was applied to check the mean difference in the performance score of ITM Universe students of various branches of engineering. At 95% confidence level and a alpha value of .05, the p-value was .170 which was higher than the alpha value of .05 hence we failed to reject the null hypothesis and concluded that there is no significant difference in the performance scores of engineering students from different branches of ITM Universe.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of What is your Performance Score? is the same across categories of What is your Department?.	Independent-Samples Kruskal-Wallis Test	.170	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

Table 1: statistics of the different branch wise students data

What is your Department?

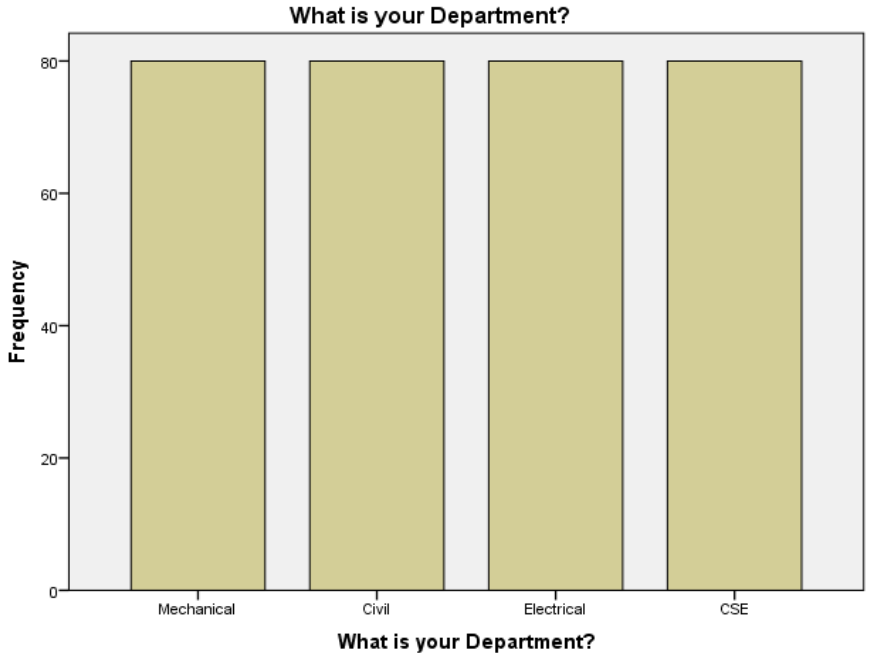
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mechanical	80	25.0	25.0	25.0
	Civil	80	25.0	25.0	50.0
	Electrical	80	25.0	25.0	75.0
	CSE	80	25.0	25.0	100.0
	Total	320	100.0	100.0	

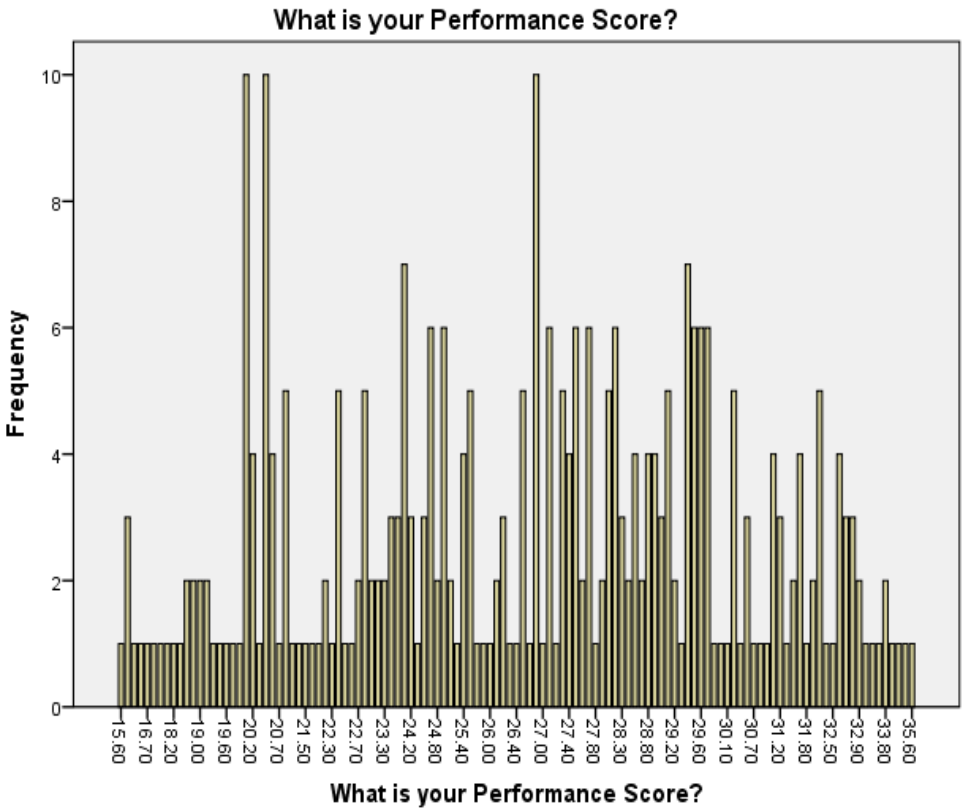
Table : 2 Performance score based on different modes available

Statistics

		What is your Performance Score?
N	Valid	320
	Missing	0
Mean		26.1766
Median		26.9500
Mode		20.00a
Std. Deviation		4.36719
Variance		19.072

a. Multiple modes exist. The smallest value is shown





7. Conclusion

It was found that the fitness performance score of students of different branches of Engineering did not show any significant difference. Hence the conclusion was made that performance in fitness tests are independent of branches.

8. Discussion

It is clearly shown that the performance of students of different engineering branches of ITM Universe, Vadodara is not varying and almost same in all terms of mean, median, mode and standard deviation. Further it can be observed that by using different branches of medical, commerce or arts the same tests and physical parameters can be checked and it can also be related with the other institute wise for understanding the significance of the data.

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