



Comparative Analysis of Strength Speed Agility Among the Marine Engineering and Non - Marine Engineering Students

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ABSTRACT

The Purpose of the study is to comparative analysis of strength speed agility among the marine engineering and non-marine engineering students. The study administered on 15 Marine engineering and 15 non-marine engineering in the age group 18-25 years of AMET University and University College of Engineering Villupuram, Anna University. The data was analyzed and compared with the help of statistical procedures in which arithmetic mean, standard deviation (S.D.) t-test were worked. Marine Engineering students were found to be higher in strength, speed and agility. The level of significance was chosen as 0.05 levels. Result of this study reveal that there was significant difference exit between the strength(3.126) and no significant difference exit between speed (1.512), agility (1.474) of marine engineering and non-marine engineering students as the tabulated 't' (2.021).

KEYWORDS : Marine engineering and Non-Marine engineering students

INTRODUCTION

Physical performance can be defined as human body competence in strength, speed, endurance, agility and flexibility in playing sport. The performance is related not only with anatomical and physiological characteristics, but also with training level and nutritional condition. Physical performance is a basis of mastering and the improving sports skills and achievements (Ye, 1995). Health and fitness go hand in hand and of late, physical fitness is something that has become one of the prerequisites for a peaceful and disease-free living. It takes quite an effort to carry out the health and fitness exercises either manually or with the help of fitness equipment and Exercise Balls that supports you at workout. Supplementary nutrients such as protein shakes, nutrient bars, crunchy healthy eatables, and lots of fruits and vegetables taken in right interval of time accompanied with regular workouts can help one uphold fitness and healthy living. Strength refers to the physical ability of muscle system in overcoming resistance. Muscle strength is the power source for a variety of actions. There are many factors may influence the strength, such as anthropometric characteristics and heredity (the size of muscle and the proportion of fast and slow muscle fibers), neural control and motor skills (Zhang, 2006). Speed is the body competence in fast movements. According to different contexts, it can be divided into reacting speed, acting speed and moving speed, which are all influenced by the process of nerve excitability, muscle flexibility, muscle relaxation and biochemical factors (Tian, 2006). Agility may be defined as the Physical ability which enables an individual to rapidly change body position and direction in the precise manner. (Buchner, 1968) Agility is the ability to change direction of the body and its parts rapidly. Agility is a combination of several athletic trails, including strength, reaction time, speed of movement, power and co-ordination.

METHODOLOGY

Subject

The present study was conducted on thirty students of engineering college Chennai .The subjects selected were fifteen marine engineering from AMET University, Chennai and fifteen non marine students from University College of Engineering Villupuram, Anna University. The subjects were in the age group of eighteen to twenty years. All the subjects were healthy and residents in the hostel of the colleges. Before the commencement of tests, the subjects were oriented about the purpose of the study and their cooperation was sought. The subjects participated throughout the testing period and cooperated for the success of collection of necessary data.

STATISTICAL PROCEDURE

The data analyzed with the help of statistical procedure in which arithmetic mean, standard deviation and t-test used to compare the data.

TEST ADMINISTRATIONS

TABLE 1

S. NO	VARIABLES	METHODS	EQUIPMENT / TEST ITEMS	UNITS / MEASURES
1	Explosive Strength	Standing Broad Jump	Measuring Tape and Marking Powder	Centimeter
2	Speed	30 Meter Dash	Electronic Stopwatch, Starting Clapper	Seconds
3	Agility	Shuttle run - Illinois agility test	Playfield Area, Measuring Tape, Stopwatch, Whistle and cones	Seconds

RESULTS

Mean and standard deviation of the selected dimensions of marine engineering students and non-marine engineering students were computed. Its results have been depicted in table 2.

TABLE 2

Mean and Standard Deviation for Marine Engineering Students and Non Marine Engineering Students

S.NO	VARIABLES	Mean and S.D for Marine Engineering Students	Mean and S.D for Non-Marine Engineering Students
1	Explosive Strength	1.11±0.24	0.90± 0.11
2	Speed	3.98±0.37	4.19±0.40
3	Agility	16.23± 0.77	16.63± 0.73

Table 2 depicts that the mean and standard deviation values of physical fitness of marine engineering students and non-marine students. These values were recorded as variable wise, Strength 1.11±0.24 and 0.90± 0.11, Speed 3.98 ± 0.37 and 4.19 ± 0.40, Agility 16.23 ± 0.77 and 16.63 ± 0.73.

TABLE 3

Comparative analysis of Strength between marine engineering and non-marine engineering students

Group	N	Mean	S.D.	't'
Marine Engineering students	15	1.11	0.24	3.126
Non-Marine Engineering students	15	0.90	0.11	

Significant at 0.05 level, tabulated 't' (2.021)

Table 3 indicates that the mean and standard deviation values of strength variable for Marine Engineering and Non-Marine Engineering

ing students were recorded as 1.11, 0.24 and 0.90, 0.11, respectively. It shows that Marine Engineering students have performed significantly better than their Non-Marine Engineering students.

TABLE 4
Comparative analysis of Speed between marine engineering and non-marine engineering students

Group	N	Mean	S.D.	't'
Marine Engineering students	15	3.98	0.37	1.512
Non-Marine Engineering students	15	4.19	0.40	

*Significant at 0.05 level, tabulated 't' (2.021)

Table 4 indicates that the mean and standard deviation values of speed variable for Marine Engineering and Non-Marine Engineering students were recorded as 3.98, 4.19 and 4.19, 0.40, respectively. It shows that Marine Engineering students have performed better than their Non-Marine Engineering students. There is No significant difference between Marine Engineering and Non-Marine Engineering students on Speed.

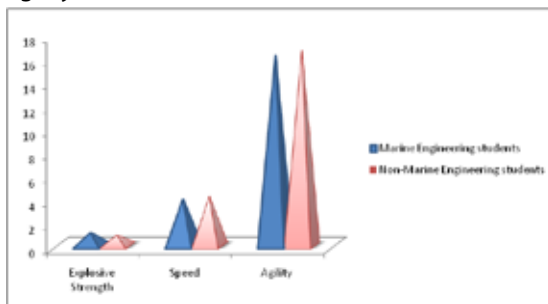
TABLE 5
Comparative analysis of Agility between marine engineering and non-marine engineering students

Group	N	Mean	S.D.	't'
Marine Engineering students	15	16.23	0.77	1.474
Non-Marine Engineering students	15	16.63	0.73	

Significant at 0.05 level, tabulated 't' (2.021)

Table 5 shows that the mean and standard deviation values on the agility variable for Marine Engineering and Non-Marine Engineering students were recorded as 16.23, 0.77 and 16.63, 0.73, respectively. It shows that Marine Engineering students have performed better than their Non-Marine Engineering students. There is No significant difference between Marine Engineering and Non-Marine Engineering students on Agility.

FIGURE - I
Mean values of Marine Engineering and Non-Marine Engineering students on Explosive Strength, Speed and Agility



DISCUSSION

The results of the 't' value showed significant differences in Explosive Strength and No significant difference between Speed and Agility components on marine engineering and non-marine engineering students, where marine engineering students were found superior than their non-marine engineering students. The study of Singh (2007) also support the result of study he concluded in his study that players of Middle group (Inter-university) were found significantly better on all physical fitness variables i.e. strength, speed, power, flexibility, agility and endurance. He further revealed that players of higher group (National Participation) and Inter university position holders) were found significantly better on all physical fitness components as compared to low group players. Thus, competitive experience, sports environment status of an individual may be the reason for these differences such as type of training, age, daily routine, life style and socio-economic status. The possession of higher degree of physical fitness components of marine engineering students performing at high level of participation as compared to the non-marine engineering students at medium level of performance and performer can be supported by the training program, requirement of general level of physical fitness and requirement of specific physical level at championship level in any game. The general physical fitness can be achieved through regular exercise or participation in games/sports. If talk about specific physical fitness then one have to more technical and have to develop all motor abilities as per requirement of competition.

CONCLUSION:

On basis of performance of finding significant difference were found in strength and no significant difference between speed, agility among the marine engineering and non-marine engineering students. It was also concluded Marine engineering students were found to be higher in strength, speed and agility then the Non- Marine engineering students.

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