



Comparative study of speed between long distance runners and football players and its' correlation with their exhale capacity

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Abstract

Running is the popular form of exercise and is also one of the ancient forms of sports. It is a great way to get exercise the whole body to maintain the fitness. The purpose of this investigation was to compare the Speed between Long Distance Runners and Football Players. The researcher was also aimed to find the Relationship of Exhale Capacity with the mentioned Physical Fitness Component of both groups. In the current study, forty male students were selected at random by purposive sampling technique; from long distance runners and football players of Sant Gadge Baba Amravati University Amravati. 20 male students were selected from long distance runners and another 20 male students were selected from football players. The age group was ranging from 18-25 years. The variables selected for the research work like that Speed and Exhale Capacity. The data of speed was collected by 100 meters sprint and exhale capacity was collected by peak flow meter. After that collected data was put into Microsoft Excel to develop Master Chart and then 't' test was used for the statistical treatment. To test the hypothesis the level of significance was set at 0.05 level of confidence, after the statistical analysis of data related to the speed between long distance runners and football players, it was found that there is no significant difference in speed between long distance runners and football players of Sant Gadge Baba Amravati University Amravati. Hence the researcher's hypothesis is rejected. Also it can be conclude that there is no significant relationship between speed and exhale capacity of long distance runners and football players. So the researcher's hypothesis is rejected.

Keywords: Speed, exhale capacity, long distance runners, football players, etc.

Introduction

Physical fitness

To the human body, physical fitness is like to fine-tuning an engine. It makes it possible for us to reach our full potential. Fitness is defined as a state that enables us to feel better about ourselves, look better, and perform at our highest level. The health of the heart, lungs, and body muscles are all part of physical fitness. The favorable condition of health that gives you the ability and stamina to engage in an active, full life of your choosing is known as physical fitness. The ability to generally respond favorably to physical exertion is known as physical fitness. When a person can safely and successfully handle both the typical and unexpected demands of everyday life without experiencing undue stress or tiredness, they are considered physically fit. One aspect of complete fitness is physical fitness, which can be used interchangeably with motor fitness. There are more stages to overall health, such as mental, emotional, and social fitness.

Physiological Fitness

Fitness pertaining to the physical components of the human body is known as physiological fitness. Physiological fitness evaluations include measuring a client's physical strength, flexibility, gait, and other aspects in addition to psychological and emotional health. Professional athletes frequently have physiological fitness tests conducted on a regular basis, as well as immediately before and after high-intensity athletic events. These evaluations are frequently utilized to identify the root cause of any obstacles that athlete may be having with their fitness and training regimen.

Speed

Muscular speed is the quickness with which muscles move or the rate at which bodily movement changes. In a short run, literal speed is calculated by dividing distance by time. Nevertheless, in athletics, the 60-yard dash time is used to gauge an athlete's speed; rather than being expressed in meters per second, it is expressed as seconds per 60 yards, per 30 meters, etc. Speed is the rate of motion, or more accurately, the rate at which a position changes. It is sometimes stated as the distance travelled in a given amount of time. Quickness is a subclass of speed that refers to the CNS's capacity to regulate muscular contraction, relaxation, and function without the need for an initial stretch.

Exhale Capacity

Exhale capacity, which is commonly employed as a gauge of the respiratory system's proficiency, is the entire volume of air that can be forced out following a full inhalation. Recent data suggests that while lung capacity is measured, this metric is not very useful in predicting an individual's ability to complete endurance exercises. Of course, other considerations matter more. Any restriction on the oxygen conveyance system to the cells, for instance, would lessen the efficacy of the delivery; also, vital capacity refers to the capability to breathe in more air per unit of time with deeper, rarer inspiration, which delays the beginning of respiratory muscle exhaustion.

Objectives

The main purpose of this study was to Compare the Speed between Long Distance Runners and Football Players and Its' Correlation with their Exhale Capacity.

Hypothesis

On the basis of literature searched and the researcher's own perception it was hypothesized that there would be significant difference in speed between long distance runners and football players. Also, there would be a significant relationship between speed and Exhale Capacity of long distance runners and football players.

Methodology

Source of Data

In the present study subjects were selected from long distance runners and football players of Sant Gadge Baba Amravati University, Amravati.

Selection of Subjects

Forty male subjects (20) from Long Distance Runners and (20) from Football players were selected for the collection of data. The age group was ranging from 18-25 years.

Sampling Method

The subjects were being selected by using simple random sampling method.

Criterion measures

Following are the criterion measures which were responsible for collection of data, to testing the hypothesis.

Table 1

S. No	Variable	Test
01	Speed	100 Meters Sprint
02	Exhale Capacity	Peak Flow Meter

Collection of Data

For the collection of data, the subjects were given full administration of the tests. The data of Speed was collected by 100 meters sprint and the data of Exhale Capacity was collected by using peak flow meter. After that collected data was put into Microsoft Excel to develop Master Chart and then 't' test and Pearson Correlation Matrix was used for the statistical treatment.

Level of Significance

To test the hypothesis, the level of significance was set at 0.05 level, which was considered adequate and reliable for the purpose of this study.

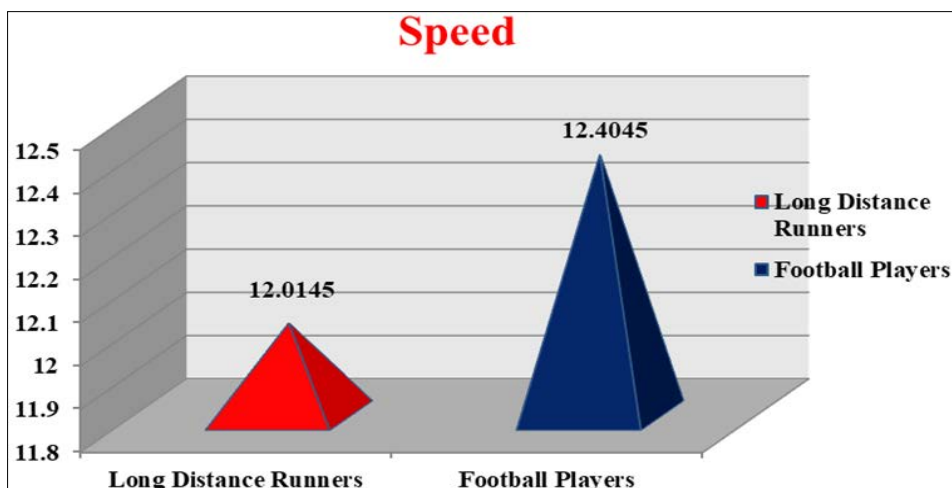
Analysis of the Data

After the collection of data from Long Distance Runners and Football Players of Sant Gadge Baba Amravati University, Amravati, the raw data were converted into standard one by using a statistical technique 't' test and Pearson Correlation Matrix for testing of hypothesis.

Table 2: Comparison of Speed between Long Distance Runners and Football Players

Subject	Mean	S.D.	Mean Difference	Degree of freedom	O. T	Tabulated 't'
Long Distance Runners	12.014	0.945	0.39	38	1.241	2.024
Football Players	12.404	1.041				

Table 2: indicates that the mean of long distance runners is 12.014 which is less than the mean of football players which is 12.404. So this mean difference is found as 0.39. The calculated value of 't' is found as 1.241 which is less than tabulated 't' which is 2.024 at 0.05 level of significance. So there is no significant difference in speed between long distance runners and football players. Hence the hypothesis which was given by the researcher is rejected.



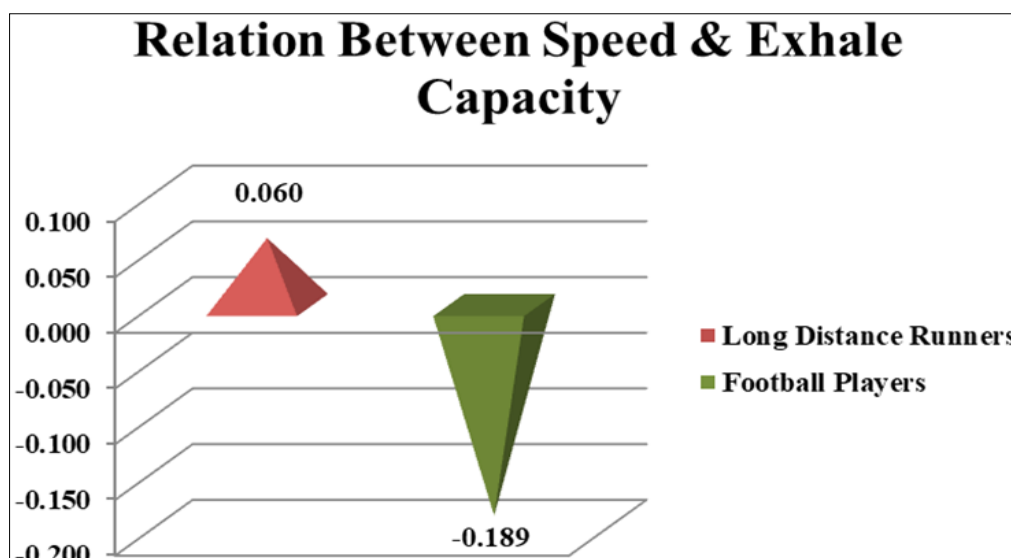
Graph 1: Graphical Representation of Mean difference of Speed between Long Distance Runners and Football Players

Table 3: Relationship between Aggression and Emotional Intelligence of academic and Professional Course Students

Relationship	Mean of Speed	Mean of Exhale Capacity	Obtained 'r'	Tabulated 'r' (df =38)
Speed and exhale capacity of long distance runners	12.014	529	0.060	0.314
Speed and exhale capacity of football players	12.404	571	-0.189	

According to Table 3, correlation between speed and exhale capacity of long distance runners, inter correlation matrix was calculated. The calculated 'r' was found (0.060), which is less than tabulated 'r' (0.314) at 0.05 level of significance. This indicates or shows that there is no significant relationship between speed and exhale capacity of long distance runners. So, the researcher's hypothesis is rejected.

Also, in Table 2, correlation between speed and exhale capacity of football players, inter correlation matrix was calculated. The calculated 'r' was found (-0.189), which is less than tabulated 'r' (0.314) at 0.05 level of significance. This indicates or shows that there is no significant relationship between speed and exhale capacity of football players. So, the researcher's hypothesis is rejected.



Graph 2: Showing Relationship between Aggression and Emotional Intelligence of academic and professional course students

Conclusion

In the beginning of this study it was hypothesized by the researcher that there would be a significant difference in speed between long distance runners and football players. Also, there would be a significant relationship between speed and exhale capacity of long distance runners and football players. On the basis of results it can be concluded that there is no significant difference in speed between long distance runners and football players, so the researcher's hypothesis is rejected. Also, it can be concluded that there is no significant relationship between speed and exhale capacity of long distance runners and football players. So the researcher's hypothesis is rejected.

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