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Harpreet Singh
Assistant Coach, Athletics,
Academics, SAI, NSEC, Kolkata,
West Bengal, India

Correspondence
Harpreet Singh
Assistant Coach, Athletics,
Academics, SAI, NSEC, Kolkata,
West Bengal, India

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A comparative study of agility, strength and speed sprinter and long jumper athletes

Harpreet Singh

Abstract

The present study was conducted to find out the Comparison of Agility, Strength and Speed of Sprinter and Long Jumper Athletes. For this study fifteen Sprinter and fifteen Long Jumper male players were selected randomly from Come and Play and STC Scheme Kolkata. The average age of subjects was between 14 to 16 years. The test has been conducted on the groups to collect the data of selected variables, Agility, Strength and Speed of Sprinter of subjects were selected as variables of the study. Strength was measured by pull-ups test., Speed was measured by 50 meter dash and Agility was measured by Shuttle run. The collected data were analyzed by using Independent Sample 't' Test to compare the motor fitness components of Sprinter and Long Jumper Athletes. The data of the motor fitness components were analyzed and presented in graphical manner also. The statistical findings revealed that there were significant differences among Sprinter and Long Jumper Athletes in motor fitness components.

Keywords: Motor fitness, sprinter and long jumper etc.

Introduction

Sports play a major role in the lives of almost every individual player coaches, officials, and even spectators; Interest in sports is the results of several factors including more time for leisure because of fewer working hours per week and more vacation period. There is also increased emphasis on physical fitness awareness & health consciousness which demonstrated through greater participation in Long Jump, Sprinting events. Through sport participation children & adults; not only improve & maintain fitness but also develop overall functional capacity of organs, skill groups & personal satisfaction & enjoyment, Everyone must have full opportunity in accordance with his national tradition of sports for practicing physical education & sports.

Statement of the problem

“A Comparative study of Agility, Strength and Speed of Sprinter and Long Jumper Athletes”

Significance of the problem

- The study will also make addition to the already existing Knowledge of physical education and sports.
- The research will encourage the boy's population to practice Sprinting and Long Jumping to improve speed, strength and Agility.
- It may help the coaches and teachers to select the students and motivated them according to their fitness components towards specific game.

Hypothesis

- H₁: Long Jumpers may have better strength than Sprinters.
- H₂: Sprinters may have more speed than Long Jumpers.
- H₀: There may not be any difference in agility of Sprinter and Long Jumpers Athletes.

Objectives of the study

- To find out the strength of the Sprinters and Long Jumpers.

- To find out the speed of the Sprinters and Long Jumpers.
- To find out the agility of the Sprinters and Long Jumpers.
- To compare the between Sprinters and Long Jumpers.

Delimitation

- The study was delimited to Sprinters and Long Jumpers only.
- The study was delimited to SAI, Come and Play students only.
- The study was delimited to male Sprinters and Long Jumpers only.

Limitation

- The hereditary and potential of students were not under the control of researcher.
- Socio-economic status and political situations are not taken into consideration
- This study was limited to climate condition.
- This study was limited to Diet habit, health and style of day to day living of the subject.

Methodology

The researcher has to study the Comparison of Agility, Strength and Speed of sprinters and Long Jumpers. Methodology informs about the whole procedure of the study in detail as well as the tools used for the study, their reliability, validity, etc. The methodology adopted by the researcher for collecting the data required for the study includes the following.

Selection of subjects

For this study fifteen Sprinters and fifteen Long Jumpers male

players are selected randomly from Come and Play Scheme Kolkata. The average age of subjects is between 14 to16 years.

Selection of the variables

Selected variables for the study were as follows:
Agility, Strength, Speed

Administration of the test

The data was collected for each variable by administering their respective tests. The tests were administered in the institute’s track. Sufficient trails were given to each subject. The tests were explained to the subjects prior to their administration.

Statistical procedure

The collected data were analyzed by using Independent Sample T-Test to compare the Motor Fitness of Sprinters and Long Jumpers.

Analysis and interpretation of data

The data of the Motor Fitness Components were collected and were Analyzed in this chapter. In this chapter the data collected from the selected Sprinters and Long Jumpers and analyzed to find out any significance difference in mean of both group i.e. Sprinters and Long Jumpers Group has been presented in Table and Figures according to the different Selected variables of Motor Fitness. The table also includes the significance level.

Table 1: Comparison of result of selected motor fitness variables between the Sprinters and Long Jumpers group

Variables	Group Compared	Mean	Mean Difference	Standard Error Mean	‘t’ Value	Significance
Strength	Long Jumpers	10.13	1.74	.616	-1.854	.570
	Sprinters	11.87		.703	-1.854	
Agility	Long Jumpers	10.0193	0.2586	.13039	-1.657	.015
	Sprinters	9.7607		.08587	-1.657	
Speed	Long Jumpers	7.4567	0.3	.13093	-1.733	.459
	Sprinters	7.1560		.11383	-1.733	

Df=28

The comparison mean between pull-ups test of Long Jumpers and Sprinters group.

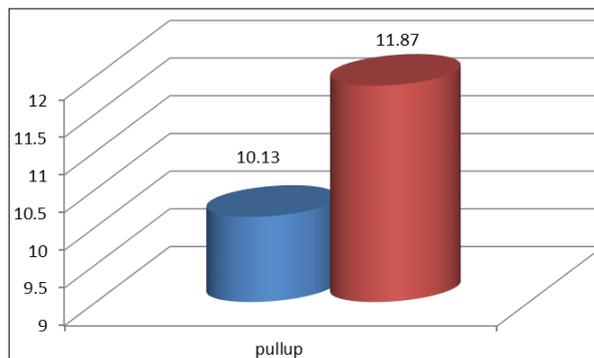


Fig 1: Mean of strength of Sprinters and Long Jumpers

From the Table 1 that, in case of pull-ups, the mean of the Sprinters Group and Long Jumpers Group is 11.87 and 10.13 respectively, whereas the difference in the mean of both group

is 1.74 which is in favor of Sprinters group where as the ‘t’ value of the same is -1.854 which is significant at .570 level. The results have also been represented graphically in the Fig.1

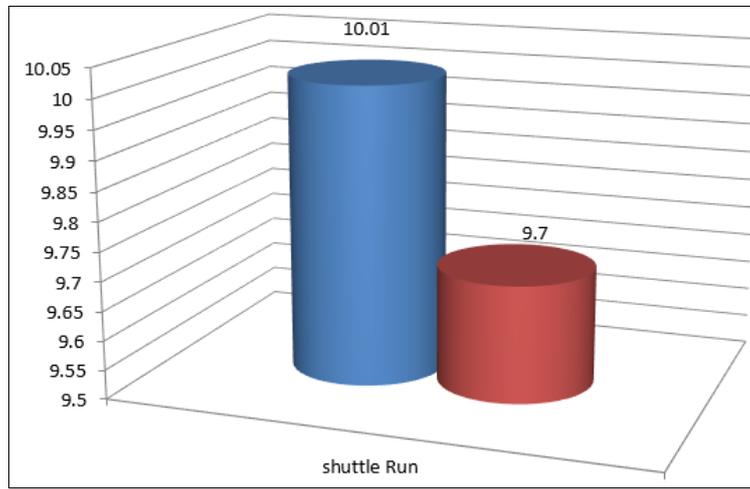


Fig 2: The mean of the Long Jumpers Group and Sprinters Group

The comparison mean between shuttle run test of Long Jumpers and Sprinters group.

From the Table 1 that, in case of Shuttle Run Test, the mean of the Long Jumpers Group and Sprinters Group is 10.0193 and 9.7607 respectively, whereas the Difference in the mean

of both group is 0.2586 which is in favor of Long Jumpers group where as the 't' value of the same is -1.657 Which is significant at .015 levels. The results have also been represented graphically in the Fig 2

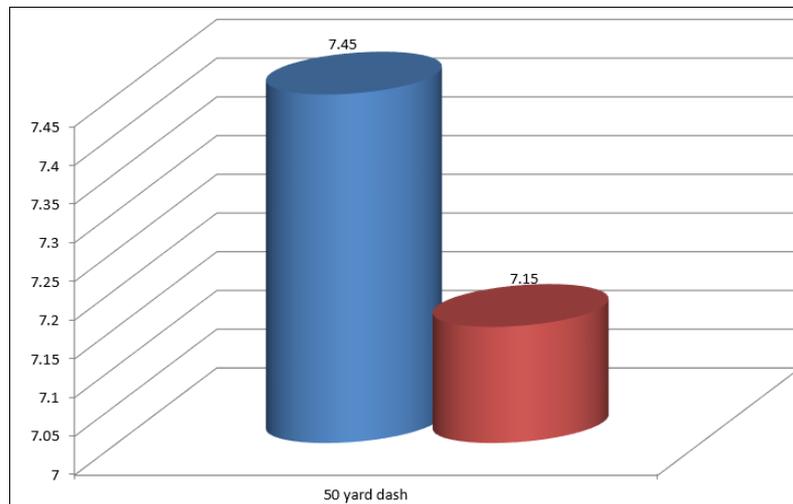


Fig 3: The comparison mean between 50 meter dash of Long Jumpers and Sprinters group

From the Table 1 that, in case of 50 yard dash, the mean of the Long Jumpers Group and Sprinters Group is 7.4567 and 7.1560 respectively, whereas the difference in the mean of both group is 0.3 which is in favor of Sprinters group where as the 't' value of the same is -1.733 Which is significant at .459 levels the results have also been represented graphically in the Fig 3.

Findings

The present study reveals the following conclusions:

- On the basis of the findings the speed status of Sprinters is superior to Long Jumpers.
- On the basis of the findings the Agility status of the Long Jumpers is superior to Sprinters.
- On the basis of the findings the strength Ability status of the Long Jumpers is superior to Sprinters.

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