

# Development of Speed for 12-14 Years Boys

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**Abstract**— Speed is an important motor fitness component and it increases from childhood in the process of growth and development. But increase in locomotion speed with respect to age is not uniform. According to Cratty (1967) both boys and girls improve speed with age about 1ft/s per year from 06 to 11 years. Fisher (2005) reported that men increased in all aspects of speed up to 21 years, whereas women reached maximum speed at about 18 years of age. Gallahue (1982) reported that boys and girls were similar in running speed at ages 6-7 years, but from 8-12 years girls were found to be superior. Purpose of the present study was to analyze the nature of development of speed for 12 to 14 years boys. A total of 60 boys equally distributed in three age groups – 12 years, 13 years and 14 years were randomly selected as subjects for this study. Locomotion speed was the criterion measure and it was tested by 50m dash test. Inter group variation in speed was analyzed using t-test. Results indicated that locomotion speed increased with age from 12 to 14 years, but the increase was not statistically significant.

**Index Terms**— Development of speed, Speed

## 1 INTRODUCTION

**S**PEED is understood in general term as fastness of doing some activity. As a component of motor fitness it is considered as the ability to move with respect to time. Basically, it is a concept of mechanics and is defined as the distance covered per unit time. Speed ability of an individual is basically determined by genetic quality. It depends on nature of muscle fiber, nerve sensitivity and other such factor. But speed ability can be fully realized through training. At a particular point of time speed ability of a person depends on age, sex, nutrition etc.

Age and gender specific variation in speed ability have been confirmed in many scientific studies. Cratty (1967) concluded that both girls and girls improved speed with age about one foot per second per year from ages 6 to 11 years. Fisher, Reilly and others (2005) reported that men increased in all aspects of speed until about the age of 21 years whereas women reach maximum speed at a younger age than men, about 18 years. They also reported that women had about 85% as much as speed as men in the event whereas speed was involved. Gallahue (1982) reported in his book from a study conducted by Keogh (1965) regarding running speed of elementary school children that girls and girls were similar in running speed at ages 6 and 7 years but girls were superior from age 8 to 12 years. He also reported that girls having a slight edge in speed of about half a second from age 5 to 13 years.

Present study was also a similar attempt with the purpose of analyzing the nature of development of speed for adolescent boys from 12 to 14 years.

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## PURPOSE OF THE STUDY

- To measure the speed of the boys of 12 to 14 years.
- To measure the development of speed of 12 to 14 years boys and
- To observe the relationship between speed and development of speed of 12 to 14 years boys.

## 2 METHODOLOGY

### 2.1 The Subject

A total of 60 school boys were selected as subjects for the present study; taking 20 from each of three age groups of 12, 13 and 14 years.

### 2.2 Criterion Measure

Acceleration Speed and sprinting speed were the measuring criteria for the study. Acceleration speed was measured from the time taken to cover first 10m distance from start. Sprinting speed was measured from the time taken to complete by 50Y with maximum effort.

### 2.3 Tools Used

- Measuring Tape;
- Stop Watch;
- 50 yards Ground etc

## 3 ANALYSIS OF DATA

The mean time taken to cover first 10Y distance from start and the total distance of 50 Y by different groups of subjects have been presented in Table -1

**Table-1**

**Mean and SD of running time of the subjects for 10Y and 50Y**

Group(s)	Mean time (s) for 10Y	Mean time (s) for 50 Y
12 years	2.30± 0.14	9.02±0.63
13 years	2.26± 0.17	8.89± 0.88
14 years	2.18± 0.13	8.5± 0.69

It is seen from the table values that the time taken for 12-year-old boys was 2.30 s for 10-yard distance. This value was decreased to 2.26s for 13-year-old boys, and it was farther decreased to 2.18s for 14-year-old boys. It is also seen that, mean values of time taken 50 yard was 9.02s for 12-year-old boys. The values were 8.89s for 13-year-old boys and 8.5s for 14-year-old boys.

As it is seen from the table values that the time taken was decreasing, it was clear that the acceleration speed was increasing with increasing of age. So, it was essential to test the statistical significance of the difference between mean values of time taken for 12 yrs to 13 yrs. And 13yrs to 14 yrs of age. This was done by t-test. The results have been shown in Table- 2.

**Table-2**

**Testing significant of different between mean time for 10-yard run for different group of subjects**

Mean value(s) of the group			Mean difference	't' value	Remarks
12 years	13 years	14 years			
2.30	2.26		0.04	0.89	Not significant
	2.26	2.18	0.04	1.56	Not significant

At 0.05 level the degree of freedom (df) 38= 1.67

The results of t-test as indicated above confirm that the decrease of time (increase of speed) for 10Y runs for 12 to 13 years and 13 to 14 years were not statistically significant. The calculated t value was lower than the required table value of 1.67.

At the second stage the difference between mean values in time taken for 50Y run by different groups of subjects was tested for statistical significance in the similar way. Table -3 shows the results of t-test for different groups of subjects for the time of 50-yard run.

Table-3

**Testing significant of different between mean time for 50-Y run for different group of subjects**

Mean value(s) of the group			Mean difference	't' value	Remarks
12 years	13 years	14 years			
9.02	8.89		0.14	0.57	Not significant
	8.89	8.50	0.37	1.55	Not significant

At 0.05 level the degree of freedom (df) 38= 1.67

It is seen that the decrease of time (increase of speed) for 50-yard run from 12 to 13 years and 13 to 14 years was not statistically significant. The calculated t value was lower than the required table value of 1.67.

## 2 RESULT AND DISCUSSION

Statistical analysis of data revealed that there was a gradual decrease in mean time both for 10Y run (indicating increase in acceleration speed) and 50Y run (indicating increase in sprinting speed) for 12 to 13 years and 13 to 14 years boys. But, increase in speed in two successive years was not statistically significant for both the cases. The result of this study has been supported by Georgios, Mlxailidis, Dimitrios, Eleni, (2009). On the basis of results, they reported that the age difference greater than two years had significant difference in sprinting speed. So, increase in speed ability between successive years during developmental period was not significant.

## 3 CONCLUSION

Speed increases with respect to age, but the increase in speed does not become significant for successive years during adolescent years.

## References

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