



E-ISSN: 2707-7020  
P-ISSN: 2707-7012  
JSSN 2021; 2(2): 37-39  
Received: 08-05-2021  
Accepted: 19-06-2021

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## A comparative study on athletic performance of Pre-university level athlete

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### Abstract

The purpose of the study was to find out the athletic performance of Pre-university level athlete. The study was confined to the age group of 16-18 years, 72 boys and 72 girls from the district of Meerut, Uttar Pradesh were selected for the purpose. The study was to compare the performance among the men athletes and among the women athletes of three consecutive years (2017, 2018 and 2019) and also the trend of performance. The criterion measure adopted in this study were speed (time taken to cover contain distance), strength of muscles (distance covered in jumping and throwing), explosive leg strength (height attained in high jumps). Mean and standard deviation were used as descriptive statistics in the present study. To obtain the mean difference between the variables of three years 't' ratio was employed. For statistical calculation Excel Spread Sheet of Windows Version-7 was used. The result of the study indicated that there is no significant difference of performance of boys and girls in three years in relation to running events and jumping events but in case of throwing events, the performance of girls were found better than the boys. One more noteworthy points is that it was observed that the level of ability of the athletes were not same. Thus, the quality of movement, level of co-ordination, speed of skill learning and stabilization of technique became different. Those factors have a direct effect on the performance.

**Keywords:** Athlete, pre-university, running, jumping and throwing

### Introduction

Participation in physical activities develops physical strength, speed of movement, endurance, flexibility and learning of proper movements and its repetition improves co-ordination of movements of the body parts by improving the quality of movements. Every day, somewhere, someone is practicing track and field events. This does not mean that it is the most popular sports in the world; with the greatest number of participants; this honour probably belongs to the majority of nations in the world. Track and field athletics is considered as number one of all the sports disciplines and it is being carried on all over the world. The revival of the Olympic game was not automatic and Baron Pierre De Coubertin suffered many disappointments during the campaign to re-establish the games.

### Methodology

For the present study the performances of 72 boys and 72 girls were recorded. Data were collected from the record book of District Athletics Association, Meerut, Uttar Pradesh. In this study the running events considered were 100 mts., 200 mts., 800 mts & 1500 mts. Run, the throwing events included were Shot Put & Javelin and the Jumping events considered were Long Jump & High Jump. The performance timing, distance and height of the first three places as recorded in the competition of the year 2017, 2018 and 2019 were gathered for the present study.

### Statistical Procedure

In running event distance covered per second was considered as raw data. All the scores were converted in the standard score (event wise) whose means was 50 and S.D was 10. To find out the mean difference between the variables of three years the statistics of 't' ratio was employed.

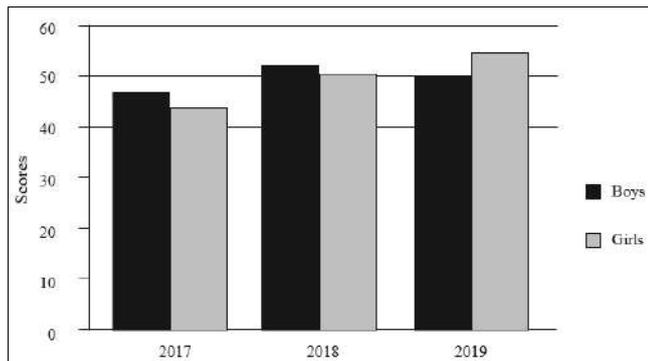
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**Results**

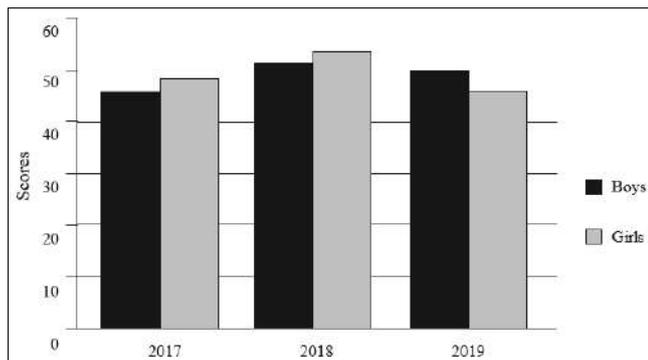
**Table 1:** The mean and s.d. of the variables of boys and girls were presented in this table

Items		Mean	S.D.	Mean	S.D.	Mean	S.D.
Running	Boys	46.83	11.00	53.50	7.70	50.25	9.67
Events	Girls	45.22	8.94	50.67	7.02	55.44	10.64
Throwing	Boys	45.67	5.72	53.33	5.35	51.17	15.19
Events	Girls	47.33	7.58	57.00	5.89	46.11	11.41
Jumping	Boys	49.83	10.46	50.67	7.20	49.17	12.51
Events	Girls	46.17	12.45	51.33	9.29	51.83	8.33

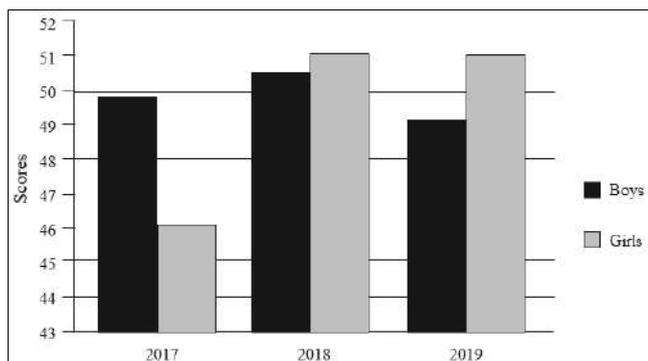
Table 1 indicates that boy’s performers of 2018 were found superior to other years in running, jumping and throwing. In case of girls performers of 2019 were found superior to other years in running and jumping, whereas in case of throwing performance of 2018 was found superior to others.



**Fig 1:** Running performance of boys and girls during the years 2017, 2018 and 2019



**Fig 2:** Throwing performance of boys and girls during the years 2017, 2018 and 2019



**Fig 3:** Jumping performance of boys and girls during the years 2017, 2018 and 2019

**Table 2:** Mean difference of variables between the performance of boys and girls in the years of 2017 and 2018

Events		2017	2018		
		Mean	Mean	S.E.	‘t’ Ratio
Running	Boys	46.83	53.50	3.88	1.72
	Girls	45.22	50.67	3.79	1.44
Throwing	Boys	45.67	53.33	2.71	2.83*
	Girls	47.33	57.00	3.20	3.02*
Jumping	Boys	49.83	50.67	5.18	0.16
	Girls	46.17	51.33	6.34	0.81

\*Significant at 0.05 level of confidence  
 $t_{0.05}^{22} = 2.07$  (Running)  $t_{0.05}^{10} = 2.23$  (Throwing and Jumping)

From Table 2 it was found that in relation to throwing events the performance between 2017 and 2018 were significantly different in case of both boys and girls. In relation to running events and jumping events there was no significant difference.

**Table 3:** Mean difference of variables between the performance of boys and girls in the years of 2017 and 2019

Events		2017	2019		
		Mean	Mean	S.E.	‘t’ Ratio
Running	Boys	46.83	50.25	4.23	0.81
	Girls	45.22	55.44	4.63	2.21*
Throwing	Boys	45.67	51.17	6.63	0.83
	Girls	47.33	46.11	4.57	0.27
Jumping	Boys	49.83	49.17	6.66	0.1
	Girls	46.17	51.83	6.11	0.93

\*Significant at 0.05 level of confidence  
 $t_{0.05}^{22} = 2.07$  (Running)  $t_{0.05}^{10} = 2.23$  (Throwing and Jumping)

From Table 3 it was observed that in relation to running events the performance of the girl athletes of 2017 and 2019 were significantly different and others event like throwing and jumping there were no significant difference of both boys and girls performance.

**Table 4:** Mean difference of variables between the performance of boys and girls in the years of 2018 and 2019

Events		2018	2019		
		Mean	Mean	S.E.	‘t’ Ratio
Running	Boys	53.50	50.25	3.57	0.78
	Girls	50.67	55.44	4.25	1.12
Throwing	Boys	53.33	51.17	6.35	0.34
	Girls	57.00	46.11	4.28	2.54*
Jumping	Boys	50.67	49.17	5.89	0.25
	Girls	51.33	51.83	5.09	0.1

\*Significant at 0.05 level of confidence  $t_{0.05}^{22} = 2.07$  (Running)  
 $t_{0.05}^{10} = 2.23$  (Throwing and Jumping)

From Table 4 it was found that the performances of the girl athletes of the year 2018 and 2019 were significantly different in throwing events. In case of running and jumping events there was no significant difference of both boys and girls in performance.

**Discussion**

The results of the study indicated that there was no significant difference of performance of boys and girls in three years in relation to running events and jumping events but in case of throwing events, the performance of girls were found better than the boys. One worthy points is that it

was observed that the level of ability of the students of schools were not the same. Thus the quality of movement, level of coordination, speed of skill learning and stabilization of technique became different. Those factors have a direct effect on the performance.

### Conclusions

From the obtained results it is concluded that:

1. Boys athletes produced no significant difference in running events in three years.
2. Girls athletes produced in running events consistent upward trend is observed in three years.
3. Performance of throwing events, it is found that boys and girls athletes of 2018 are significantly superior to the other years.
4. In jumping events, boys and girls athletes are not significant.

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