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## A study on effect of altitude upon long jump performance of women in modern Olympic game

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### Abstract

The main purpose of the study was to know the relation between Altitude and performance of women long jumper in summer Olympic game though who was taking gold medal. Eighteen gold medalists selected as a sample from 1948 to 2016 summer Olympic. The criteria of measurement were used as Altitude and Record of long jump. The data were collected by using book and website. Scatterplot was used for now the relationship and which prepare by using Excel sheet. After that there is no relationship between altitude and performance of long jump as a result.

**Keywords:** Altitude, long jump, performance, modern Olympic

### Introduction

The long jump is a track and field event in which its combine speed, strength, and agility. This event has started from in the Ancient Olympic Games and has continued to modern Olympic game. The modern Olympic game has started since 1896 in Athens, Greece. That time long jump event has started for men but this event has started for women from 1948 in London Olympic. This study basically taken for knowing the effect of Altitude upon Long Jump Performance. That's why women gold medal winner in modern Olympic game has taken. The basic purpose of the historical study is that has any importance of altitude to get the best record.

Altitude implies height above the ground or above the ocean level. Normal uses incorporate aviation. In geometry it is also indicate as the height of the object itself. Generally, altitude is the distance one thing is above another thing. High altitude means the region of earth surface above from the sea level. Atmospheric pressure in high altitude is low.

### Methodology

This study covers the women gold medalist long jumpers in modern Olympic Games. All the data collected from secondary data source from books website and internet. The data selected only though who got the gold medal in summer Olympic game in women section long jump event.

### This historical study measures the following criteria

- Altitude
- Long jump record
- Weight

### For assortment of information following instruments and software are utilized.

- Books
- Computer
- Internet
- MS office
- Google Earth

### Technique are Used for Data Collection

The record generally Secondary sources were applied here. The information was gathered from various site and various books and web. The data selected only though who got the gold medal in summer Olympic game in women section long jump event. The altitude taken

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from every stadium where the event was happened. Personal information was taken from internet.

### Outcome and discussion

Performance and Individual information of women Olympic gold medalist in long jump

**Table 1:** Show the women gold medalist in long jump of modern Olympic game. The data taken from 1948 to 2016 summer Olympic.

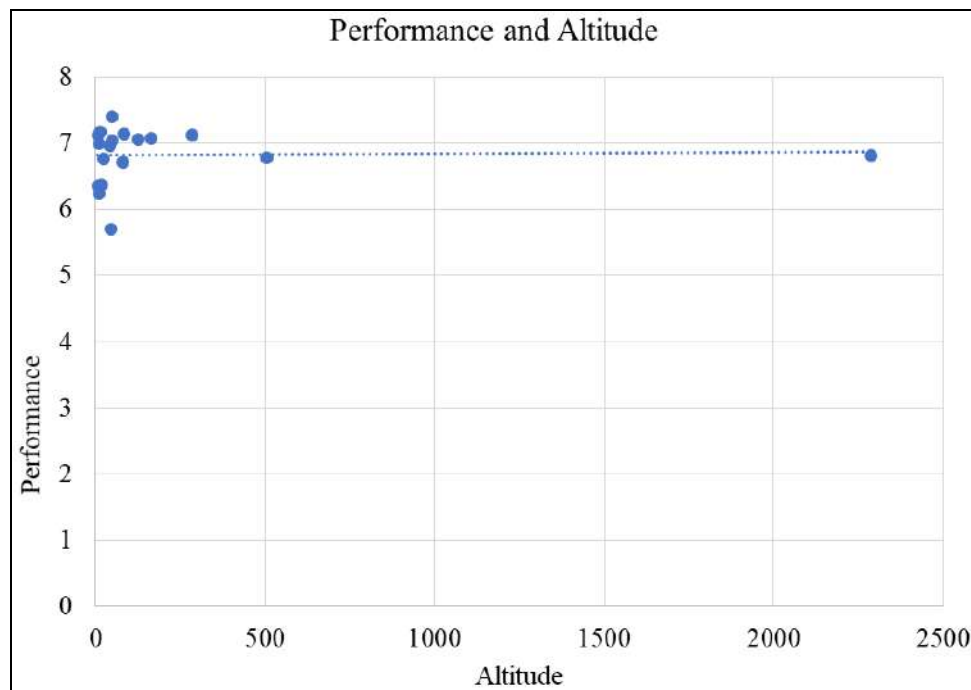
Year	Venue	Altitude (mt)	Athletics name	Record (mt)	Weight (kg)
1948	London	45	Olga gyarmati	5.695	57
1952	Helsinki	9	Yvette williams	6.24	63
1956	Melbourne	8	Elżbieta krzesińska	6.35	61
1960	Rome	15	Vera krepkina	6.37	58
1964	Tokyo	22	Mary rand	6.76	61
1968	Mexico-city	2289	Viorica viscopoleanu	6.82	55
1972	Murich	505	Heide rosendahl	6.78	69
1976	Montreal	81	Angela voigt	6.72	63
1980	Moscow	126	Tatyana kolpakova	7.06	64
1984	Los angeles	41	Anişoara cuşmir-stanciu	6.96	63
1988	Seoul	48	Jackie joyner-kersee	7.40	66
1992	Barcelona	84	Heike drechsler	7.14	68
1996	Atlanta	285	Chioma ajunwa	7.12	64
2000	Sydney	10	Heike drechsler	6.99	68
2004	Athens	162	Tatyana lebedeva	7.07	60
2008	Beijing	48	Maurren maggi	7.04	61
2012	London	6	Brittney reese	7.12	64
2016	Rio de janeiro	12	Tianna bartoletta	7.17	61

Table-1 Show the women gold medalist in long jump of modern Olympic game. The data taken from 1948 to 2016 summer Olympic. In 1948 summer Olympic which happened in London and the altitude is 45mt and also record was 5.695mt. and weight of the long jumper was 57kg. In 1952 summer Olympic which happened in Helsinki and the altitude is 9mt and also record was 6.24mt. and weight of the long jumper was 63kg. In 1956 summer Olympic which happened in Melbourne and the altitude is 8mt and also record was 6.35mt. and weight of the long jumper was 61kg. In 1960 summer Olympic which happened in Rome and the altitude is 15mt and also record was 6.37mt. and weight of the long jumper was 58kg. In 1964 summer Olympic which happened in Tokyo and the altitude is 22 mt and also record was 6.76mt. and weight of the long jumper was 61kg. In 1968 summer Olympic which happened in Mexico-city and the altitude is 2289 mt and also record was 6.82mt. and weight of the long jumper was 55kg. In 1972 summer Olympic which happened in Murich and the altitude is 505 mt and also record was 6.78mt. and weight of the long jumper was 69 kg. In 1976 summer Olympic which happened in Montreal and the altitude is 81 mt and also record was 6.72mt. and weight of the long jumper was 63 kg. In 1980 summer Olympic which happened in Moscow and the altitude is 126 mt and also record was 7.06mt. and weight of the long jumper was 64kg. In 1984 summer Olympic which happened in Los Angeles and the altitude is 41 mt and also record was 6.96mt. and weight of the long jumper was 63 kg. In 1988 summer Olympic which happened in Seoul and the altitude is 48 mt and also record was 7.40mt. and weight of the long jumper was 66 kg. In 1992 summer Olympic which happened in Barcelona and the altitude is 84 mt and also record was 7.14mt. and weight of the long jumper was 68kg. In 1996 summer Olympic which happened in Atkaba and the altitude is 285 mt and

also record was 7.12mt. and weight of the long jumper was 64 kg. In 2000 summer Olympic which happened in Sydney and the altitude is 10 mt and also record was 6.99mt. and weight of the long jumper was 68 kg. In 2004 summer Olympic which happened in Athens and the altitude is 162 mt and also record was 7.07mt. and weight of the long jumper was 60 kg. In 2008 summer Olympic which happened in Beijing and the altitude is 48 mt and also record was 7.04mt. and weight of the long jumper was 61 kg. In 2012 summer Olympic which happened in London and the altitude is 6 mt and also record was 7.12mt. and weight of the long jumper was 64 kg. In 2016 summer Olympic which happened in Rio de Janeiro and the altitude is 12 mt and also record was 7.17mt. and weight of the long jumper was 61kg.

**Table 2:** Performance and Altitude

Year	Altitude (mt)	Record (mt)
1948	45	5.695
1952	9	6.24
1956	8	6.35
1960	15	6.37
1964	22	6.76
1968	2289	6.82
1972	505	6.78
1976	81	6.72
1980	126	7.06
1984	41	6.96
1988	48	7.40
1992	84	7.14
1996	285	7.12
2000	10	6.99
2004	162	7.07
2008	48	7.04
2012	6	7.12
2016	12	7.17



**Fig 1:** Graphical representation

The scatter plot is used to know the relation between performance and altitude. The above scatter plot shows that the data is neither a positive relation nor a negative relation that means there is no relation between performance and altitude.

### Conclusion

It is concluded by this research study that there is no relationship between Altitude and performance of long jump. We generally knew that where the gravity was low, the ability to jump may be much higher but our prediction is totally wrong by doing this study, so we need to do deeper research about the study.

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