

Women Sports and Performance Inequality

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Abstract

Women participation in sports has a long history. The Modern Olympic gave a great exposure to upgrade women sports in all over the country. One of the most notable of these is 2012 Olympic, That was the first time that all national committees sent a female athlete to the game. The women sports are in progress but still they are facing some obstacles. Participation rates among women and girls are much lower than among men. The gender gap is caused by many barriers, in that the biological differences and socio cultural factors predominantly influence women sports participation. It is commonly believed that females are inherently less able than men. The reasons are formulated in terms of such aspects as differences between the sexes in center of gravity, muscular distribution, skeletal proportions, and physiological efficiency and so on. Olympic meet, National Athletics meet and inter-collegiate Athletics meet records shows that the absolute difference viewed in performance between males and females. The purpose of this note is to provide little evidence on these issues.

Keywords: Women Sports, biological differences, athletics performance, gender gap, sports barriers

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Introduction

Sport is a natural undertaking for all earthly beings. Organized sport is the preserve of all of human without exception. It belongs to all. Sports provide opportunities to learn moral characters. It builds teamwork and team spirit that is so important in life. It teaches discipline and organized life. Sport unites whole nations, providing unparalleled joy. Everyone follows the same rules. Therefore a tremendous medium of communication and emancipation that can help build girls' and women's physical and psychological wellbeing and awareness which gives them the confidence to play in an effective role in society.

In early Vedic and medieval times young women's sporting activities were confined mainly to Dies, chaturanga and folk dancing. At the time of Rajput period the princesses were adapt to in the use of sword and the spear. They were allowed enough opportunities to take part in games and sports both indoor and outdoor. After that, the Indian woman's got very little opportunity to take part in games and sports.

In world wise Women's sport history started back in the 19th century. By the end of the 19th century, horseback riding, archery, golf, tennis, skiing and skating were being enjoyed among women in the upper social class. The history of the Olympic movement shows a slow but steady increase in the involvement of women at all levels. The first time for female athletes to participate in the modern Olympic Games was the second Olympic Games in 1900. According to the IOC (International Olympic Committee), only 12 female athletes participated in the second Olympic Games out of the 1066 athletes from 19 countries. They competed in only two events which were golf and tennis. In the 3rd St. Louis Olympics, archery was the only women's event. In the 4th London Olympics, archery, figure skating, and tennis became women's events, and diving, swimming and tennis in the 5th Stockholm Olympics.

IOC has played an important role in establishing a positive trend to enhance women's participation in sport. In 2012 Olympics, very first time that all national committees sent a female athlete to the game. In Rio 2016, 44% of medals were awarded in women's events. Over the year the IOC has actively undertaken initiative to allow for broader participation of women in sports.

Performances by women in all track and field events, which can be directly compared to men, are significantly inferior. The reasons are formulated in terms of such aspects as differences between the sexes in center of gravity, muscular distribution, skeletal proportions, and physiological efficiency and so on. Here we compare the improvement of male and female All India Athletics Meet Records in order to measure evolution of gender gap. The purpose of the study is to provide little evident on this issues.

Methods

The purpose of the study was examined the rages of performance difference in selected track and field events. And analysis progressive rate of women performance. The data set included 5 track and field events from official booklet and websites of International Olympic Committee, Athletics Federation of India and Bharathiar University. The linear regression line model has predicted what discipline women are closer to the men and what discipline they are far.

Table 1: Percentage differences of male and female performance difference in Olympics

S.No.	Event	Men	Women	% Difference
1.	100mts	9.63	10.62	10.28%
2.	1500mts	3:32:07	3:53:96	6.32%
3.	10000mts	27:01:17	29:17:45	7.99%
4.	Long Jump	8.90	7.40	16.85%
5.	High Jump	2.39	2.06	13.80%

(Men >Women)

Table 2:Percentage differences of male and female performance difference in National Athletics championship

S.No.	Event	Men	Women	% Difference
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1.	100mts	10.26	11.29	10.04%
2.	1500mts	3:37:86	4:06:03	8.30%
3.	10000mts	28:02:89	31:50:47	12.41%
4.	Long Jump	8.20	6.83	16.70%
5.	High Jump	2.29	1.92	10.04%

Table 3:Percentage differences of male and female performance difference in Inter Collegiate Athletics Meet

S.No.	Event	Men	Women	% Difference
1.	100mts	10.50	12.38	17.90%
2.	1500mts	4:03:01	4:54:64	11.23%
3.	10000mts	31:34:06	37:29:07	17.77%
4.	Long Jump	7:34	5.62	23.43%
5.	High Jump	2.06	1.66	19.41%

(Men >Women)

Table 4: Percentage differences of male and female performance difference

S.No.	Event	Olympics	Nationals	Inter Collegiate	Mean Difference
1.	100mts	10.28%	10.04%	17.90%	12.74%
2.	1500mts	6.32%	8.30%	11.22%	8.61%
3.	10000mts	7.99%	12.41%	17.77%	12.72%
4.	Long Jump	16.85%	16.70%	23.43%	18.99%
5.	High Jump	13.80%	10.04%	19.41%	14.41%

(Men >Women)

Table 1, Table 2 and Table 3 shows the percentage of performance difference of female athlete in Olympics, National and inter collegiate levels. Table 1 and Table 2 to be an evident for there is a considerable difference shown in Track event and enormous in jumping events. Body structure, fat deposit and center of gravity are major effecting cause of women performance especially in jumping events.

Table 3 implies there is much to pay attention of inter-collegiate female athlete and their performance. Here, a huge variation viewed compare to The Olympics and National level performance differences.

Table 4 shows the average performance differences in 100mts, 1500mts, 1000mts, Long jump, and High jump mean differences respectively 12.74%, 8.61%, 12.72%, 18.99%, and 14.41%. It occurs due to biological, physiological and behavioral influence on both men and women.

Biological Differences

The total of all sex difference is that men have XY chromosomes, women have XX. The chromosomal difference produces distinct hormonal variations. The male hormone, testosterone, is responsible for increased bone and muscle formation leading to bigger, stronger body. The female hormones, oestrogen, give smooth contours due to extra body fat, a smaller less well muscled frame.

The growth spurt in girls starts between 10 and 12 years and is complete by the 16th years. In males this spurt usually starts between 12 and 14 years and continues until 20. The first is that male growth develops a basically larger structure than female growth, also that it continues for a longer period of time.

Skeletal differences

The male skeleton is more rugged, denser and longer. If the male trunk is represented as a wedge with the base uppermost, i.e. narrow hips and pelvis, large and broad shoulders, the female trunk is reversed with a wider pelvis and narrower shoulders. In the female, legs, apart from being shorter, are located from hips sockets wider apart in the large female pelvis. This makes many women throw their heels outside wards when running. In the male, forearm growth is especially favored from a very early age. Also a differential bone growth occurs on the outside of the elbow. The overall greater length gives the male considerable biomechanical advantages especially in throwing as it is terminal velocity that gives increase speed to the projectile.

Centre of gravity

Shorter stature and body shape differences lead to lower of center of gravity. Center of gravity is 55% of standing height in women and 56-57% in men. Women have better balance and much suited in balance beam and floor exercises.

Body Composition

Morphologic difference between men and women particularly body size, fat free mass and body fat percentage play largest role in performance differences between genders. Females have higher % of body fat (23-28%) than males (12-18%). This is advantage in cold climates, during starvation, and may improve performance in long distance and swimming event. However, greater percentage of body fat is a major disadvantage in weight bearing sports involving running and jumping.

Flexibility

Women are more flexible due to the increased output of relaxing, it is a hormone concerned with softening and stretching of ligaments. It becomes disadvantage when decreased strength, to increase joint injuries much more rapidly.

Strength

Due to lesser muscle mass gain, women have less powerful upper and lower bodies than men, with upper body strength being 30-50% lower in women. The strength difference is not as pronounced in the lower body. The distribution of muscle fiber type is not very much between men and women but women have fewer and smaller muscle fibers.

Aerobic Capacity

In women the oxygen carrying capacity is reduced, both in hemoglobin level and the total number of red blood cells. The female cardiac output is also lower. These facts cause that the female heart beat more rapidly to deliver oxygen to the tissues. Up to the age of 12 there is no observable sex difference. The rate of O₂ uptake or oxygen consumption per unit (Vo₂) is a function of cardiac output and arterial-venous oxygen difference. The maximum oxygen consumption (VO₂ Max) value is used to determine the aerobic capacity of the cardiovascular and respiratory system. Maximum Vo₂ is lower in female athletes than male athletes, though difference may be less

notable when adjusting body composition. However, it is the oxygen carrying capacity and body fat content that women disadvantage in performance.

Heat Adaptation

As women have a higher percentage of body fat, mostly under the skin, they are better insulated than the male. Therefore the temperature gradient from body core to body cell is less. Further, her sweating threshold is 1°C higher than the male's. Female athletes are less capable of dealing with the demands of temperature control when working or exercising in hot environments.

Menstrual Cycle

Menstrual cycle irregularities can alter both resting hormone level and hormonal responses to exercise. Also hormonal responses to exercise may be different during different phases of menstrual cycle.

Sociological considerations

Social and cultural attitudes determine to vary high degree psychological attitudes, hence patterns of behavior. The cultural tradition of some ethnic groups that females are not allowed participating athletics activity. Also the poor economic family that female is restricted due to family duties; they are missing the opportunity to engaging in Sports.

Conclusion

On the basis of the comparison of men and women performance within the limitation of the current study the following decision can be drawn

Women are physically able to undertake exertion in condition no different from the male. In areas of power she lacks, when compared to males. Women may never catch up men; the variation of the gap is due to biological physiological influences.

The mental differences between female and male athletes are often overlooked. Male athletes show more signs of aggression than their female counterparts. Female are having much adaptability and emotional stability than men. There is no difference in competitiveness, goal orientation, self-confidence between them.

