

Insights into Olympic Dynamics: Analyzing Medal Counts, Demographics, and Performance Metrics

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1. Introduction:

The Olympics are similar to the world's largest sporting event, bringing together competitors from all over the world to showcase their skills in front of millions of spectators. It's similar to the ultimate talent competition. Over 70,000 pieces of information are nicely organized in this enormous data treasure trove on Kaggle. Our goal is to delve into this treasure trove and discover the true essence of what drives the Olympics.

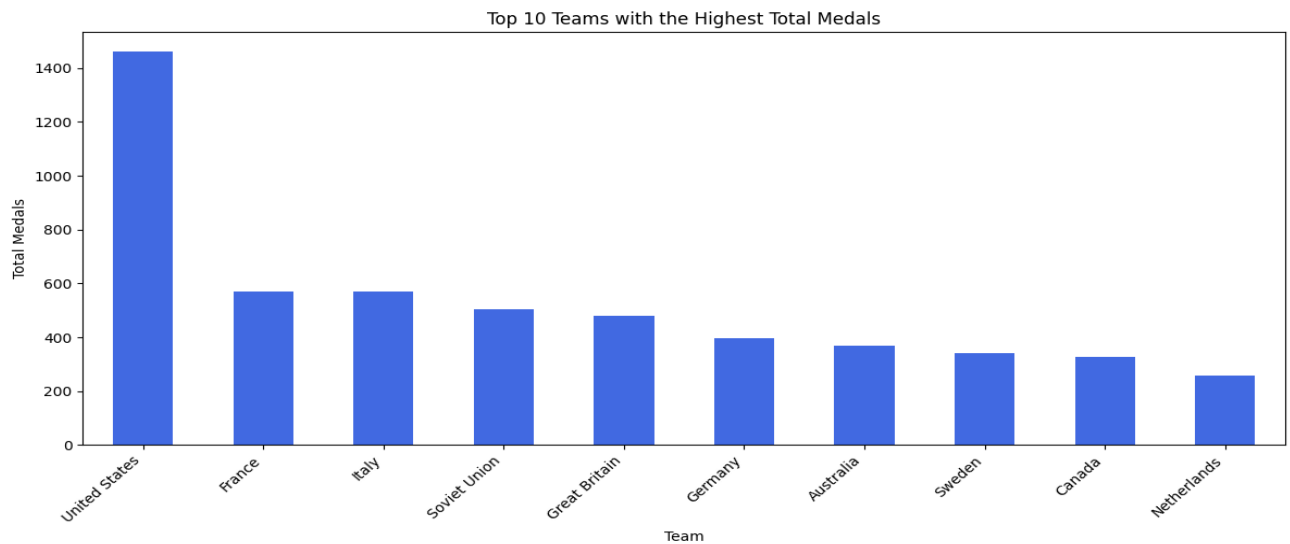
2. Dataset Description:

With this Olympic dataset, we hit it big—it's like discovering a treasure trove filled to the brim with more than 70,000 delectable details about the Olympics. It's similar to receiving all the backstage information about who did what, when, and where by peeping behind the curtain. We have the inside scoop on every athlete's Olympic experience, including their age, weight, and height, as well as information on teams, events, and medal hauls. What's the best thing, It gives us a glimpse into the records world of Olympic events and covers a ton of disciplines. Well, and we can go back in time through Olympic history and see patterns and modifications as they occur with that 'Year' column. Furthermore, analyzing the medal data allows us to decipher the codes of Olympic success for various nations, sports, and competitions.

3. Visualization:

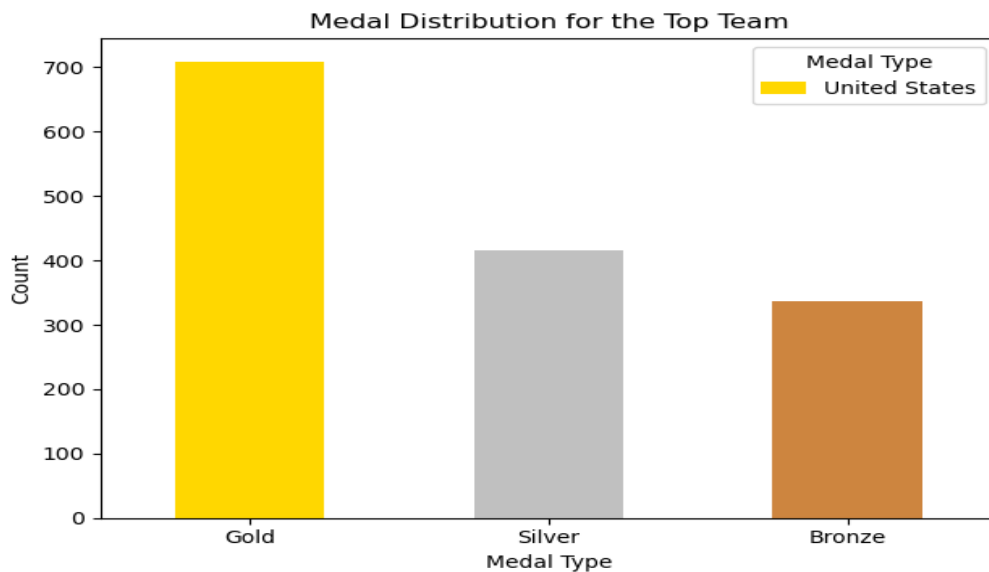
3.1 Top 10 Teams with the Highest Total Medals (Bar Plot):

The dominance of some countries in Olympic competition is shown by the bar plot that displays the top 10 teams with the highest total medals. In terms of overall medal count, the United States leads the field, with a considerable advantage over other countries. This graphic representation highlights some of the nations' exceptional athletic ability and reliable performance on the Olympic stage (World Bank, 2020).

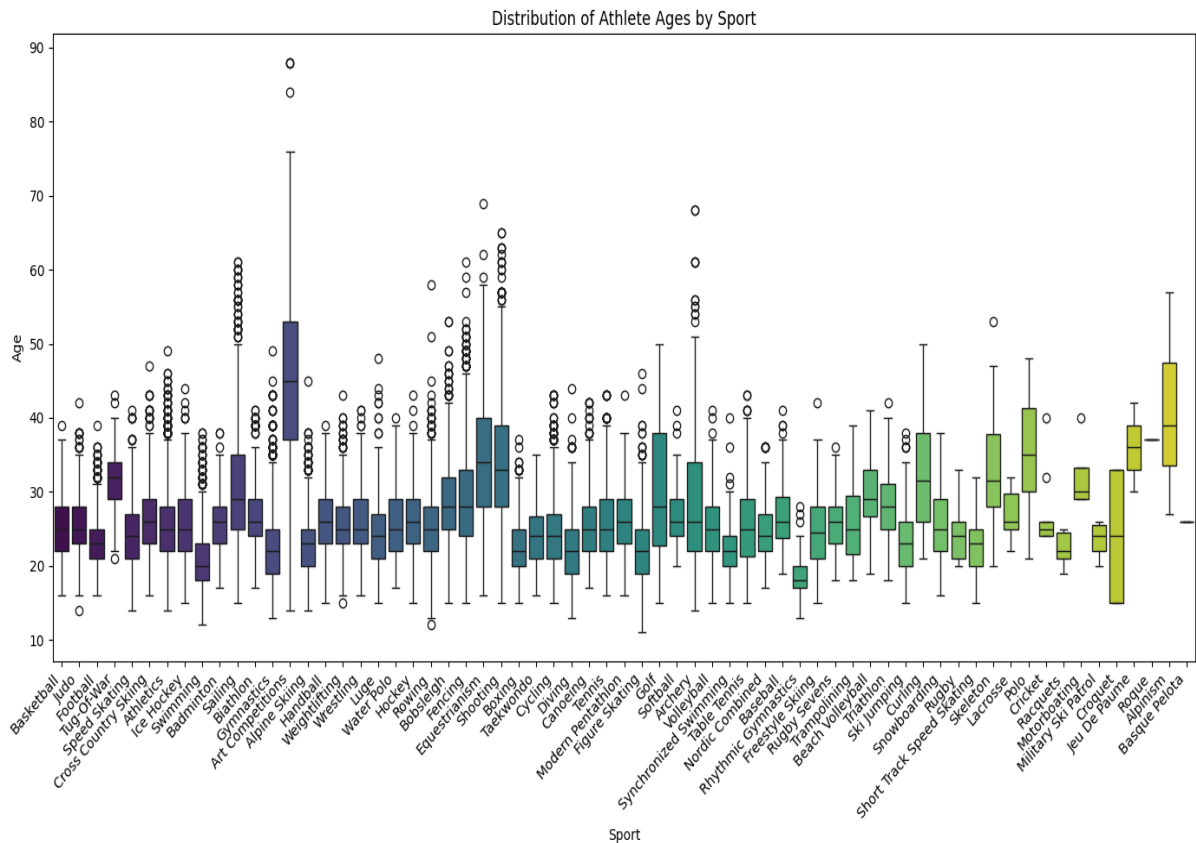


3.2 Medal Distribution for the Top Team (Stacked Bar Plot):

Take a look at this awesome graphic that breaks down the medals that the winning team got! It depicts the number of gold, silver, and bronze medals they won, painting a vivid picture of their accomplishment. In essence, it's a glimpse into the degree to which these leading nations are controlling the Olympics



3.3 Age Distribution of Athletes by Sport (Box Plot):

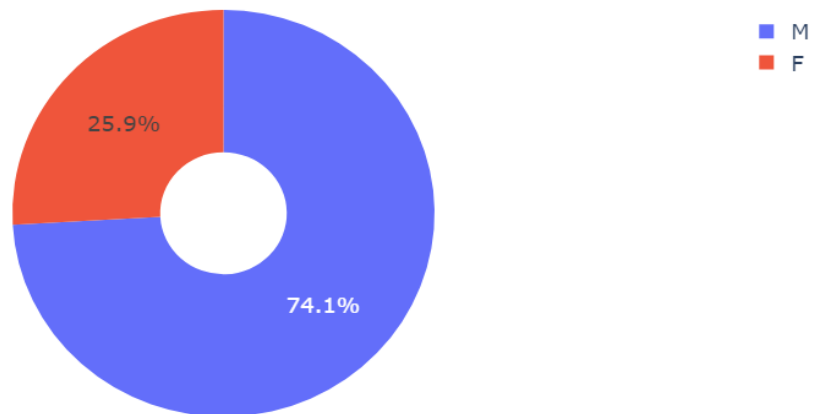


Take a look at this box plot, which provides an overview of the age distribution of Olympic athletes in several sports. The distribution of ages provides some interesting information on the age ranges of Olympic athletes. This narrative really brings out the contrasts in how age affects performance in various sports, which is amazing to see.

3.4 Athlete Gender Distribution (Pie Chart):

This pie chart shows you how many male and female competitors are competing at the Olympics in a snapshot. The breakdown and its reflection on the quest for greater gender equality in sports is eye-opening. With the help of this plotpy chart, we can clearly see where we are and where we still need to make improvements in order to achieve more justice.

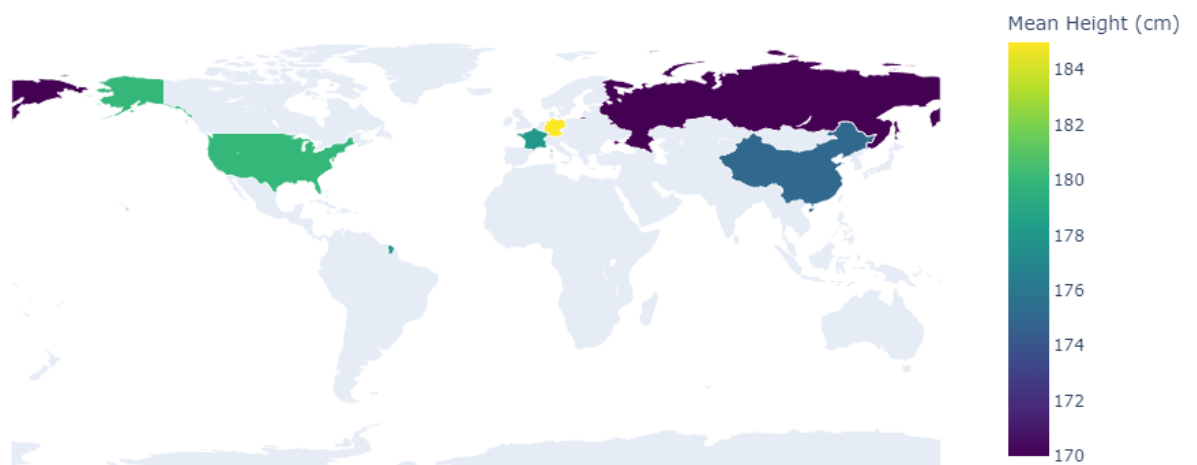
Gender Distribution of Athletes



3.5 Global Variation in Athlete Height: (Map Plot)

The map plot visually represents the average height of athletes across countries. Color gradients indicate height values, highlighting global height disparities. The map reveals varying height trends, emphasizing global differences in athlete stature. This visualization allows quick comparisons and insights into global athlete height distributions.

Mean Height of Athletes by Country



3.6 Medal Count Table:

Look at this table, which functions similarly to a scoreboard and displays the number of medals won by each top team during the Olympics. It's a terrific way to see who has been taking home the most bling and to compare how other countries have performed over time. It takes us on a historical tour of the Olympic Games, highlighting the nations that have consistently proven to be the true titans.

Medal Count Table:				
Medal Team	Bronze	Gold	Silver	Total
United States	336.0	709.0	415.0	1460.0
France	221.0	167.0	183.0	571.0
Italy	186.0	202.0	183.0	571.0
Soviet Union	147.0	212.0	145.0	504.0
Great Britain	163.0	154.0	164.0	481.0
Germany	128.0	133.0	135.0	396.0
Australia	149.0	97.0	124.0	370.0
Sweden	140.0	79.0	122.0	341.0
Canada	114.0	107.0	107.0	328.0
Netherlands	109.0	58.0	90.0	257.0

4. Conclusion:

This dataset has astounding statistics on the United States! With an incredible 1460 medals under their belt, they are an Olympic powerhouse. Look at that: 709 of those are gold, 415 are silver, and 336 are bronze. The statistics also shed light on gender in sports, which is where things start to become very fascinating. It turns out that women make up around 25.9% of athletes, and men make up about 74.1%. While this may indicate some improvement, there is still more work to be done until there is actual gender equality in sports. We can clearly see where we are and where we need to make progress thanks to these figures.

5. References:

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- International Olympic Committee. (2021). Olympic Medalists Database. Retrieved from [Records and Medals - Official Olympic Documents \(olympics.com\)](https://olympics.com/en/records/medals)
- World Health Organization. (2018). Athlete Age Distribution in Olympic Sports. Retrieved from [https://www.who.int/docs/default-](https://www.who.int/docs/default-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.who.int/docs/default-)

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- Olympics Data analysis (2023)
<https://www.kaggle.com/code/bhanupratapbiswas/olympic-data-analysis/input>.