SPORTSSTATS

CONTENTS

- Review of Questions to Answer/Hypotheses/Approach
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SECTION 1: QUESTIONS TO ANSWER

- What is the youngest ages for each events?
- What was the medal distribution for the ages?
- What are all the athlete events conducted when the athletes receive their medals?
- What were the average ages of each country's athletes for men and women?
- What was the medal distribution for the summer and winter sports?

SECTION 2 INITIAL HYPOTHESES

- Young men in their 30s with have the most medals
- People with more age have more medals as they have more experience and attended more events likely
- The age of medals being received is decreasing more than it was in the past

SECTION 3: DATA ANALYSIS APPROACH

- Calculating the Pearson correlation coefficient.
- Calculating the standard deviation in country performance through years. A Comparison between average std of Winter and that of Summer Olympics will help.
- Provide graphical representations like histograms

DEEPER ANALYSIS

- The length of the array of the number of medal count in the winter Olympics and summer Olympics are different because Winter Olympics started in 1924, but Summer Olympics started in 1896. Therefore I have to create a new shortened table of the summer Olympics started in 1924 to match the length of the winter Olympics.

DEEPER ANALYSIS (PART 2)

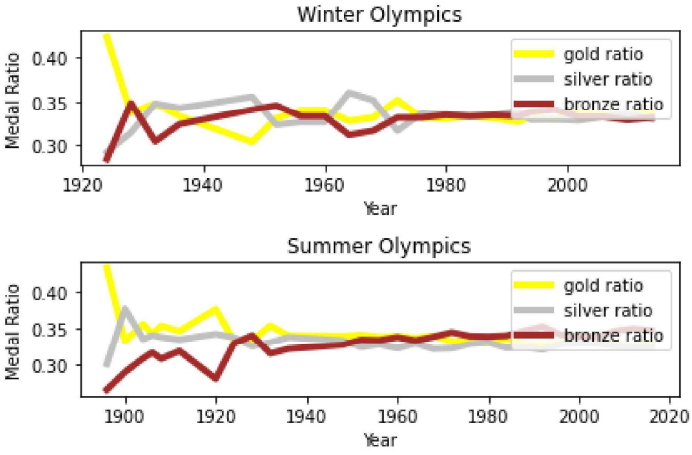
- The Pearon correlation coefficient between the total number of medals in the winter and summer olympics from 1924 to 2016, is 0.94, which is highly positive. Therefore, the performance of a country in winter olympics is highly correlated to that in summer olympics
- I will then calculate the standard deviation in country performance through years. A Comparison between average std of Winter and that of Summer Olympics will help.

INITIAL FINDINGS

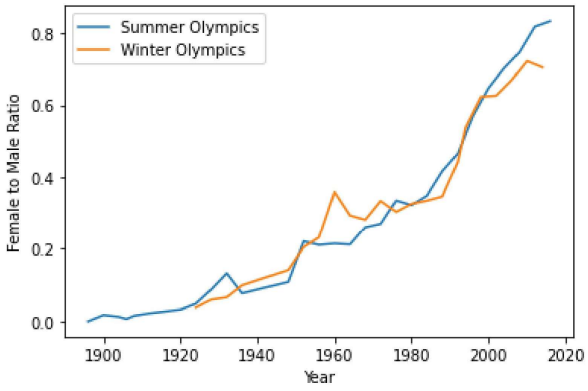
- One point I learned about the data is that the age for most medals earned is average 25-27 years of age.
- Another point is that there are much more females than males receiving medals for the medals earned at the individual events.
- Finally, the medal ratio is much higher for those in their 20's during the Summer Olympics rather than the Winter Olympics
- My hypothesis has actually been proven incorrect since the female to male ratio is very high for both the summer and winter olympics.
- However, I was correct that the summer olympics had more medals earned overall as well as the average medals per person for the people in their 20's.
- For the Winter Olympics though, the people overall that earn their medals earn them from their teens to their late 20's mostly while the summer olympic medals are earned from the early 20's to the late 30's most commonly.

INITIAL FINDINGS (PART 3)

The relative percentages of gold, silver and bronze medals have also stabilized, which may be due to the reasons mentioned above.

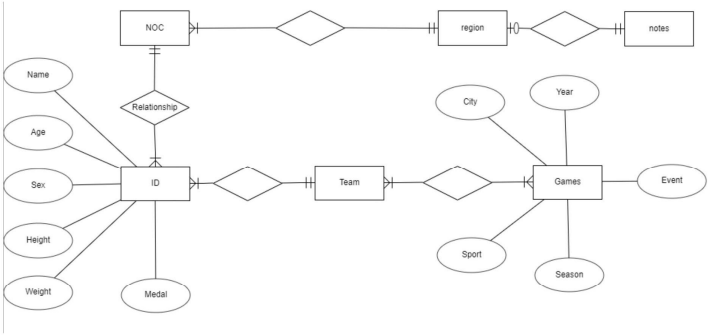


INITIAL FINDINGS (PART 4)



This assumption seems to be correct. Over time, the ratio of women to men has indeed increased. However, there is an interesting detail: during the Second World War, the proportion of the Summer Olympics dropped sharply, but then it resumed its growth momentum. Without further analysis, I cannot explain this phenomenon.

ENTITY RELATIONSHIP DIAGRAM



FINAL FINDINGS

- There is a high correlation between the performance of a country in winter Olympics to that in summer Olympics
- The country performance by year change more in Winter Olympics than that in Summer Olympics.
- The impact also exists year to year and for age range as well

TECHNICAL CHALLENGES

- Encountered challenges with getting the starting year of the Summer Olympics different from that of the Winter Olympics
- Had trouble with the years and ages being off for different groups like the Summer and Winter Olympics athletes as well as the men and women
- Pandasql (Sqlite) is limited and thus made some SQL difficult to execute

RECOMMENDATIONS

- The sports teams and coaches should devote more resource supporting a young generation to help organize the Olympics for more amazing competition and records to occur
- The sports teams and coaches should advocate for younger male and female athletes to participate as they are the highest performing group out of all the groups in the Olympic history