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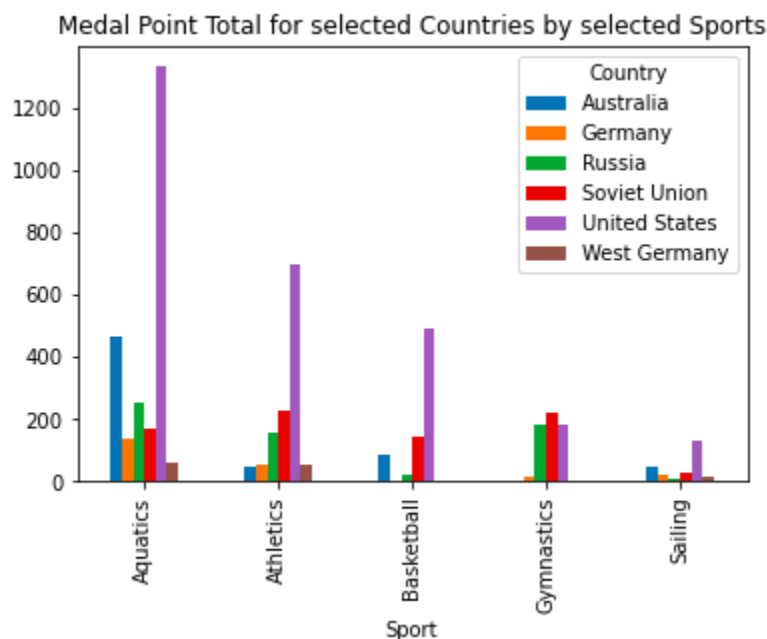
## Analyzing the Trends of Medal Winners from the Summer Olympics (1976 - 2008)

### Summary of Findings

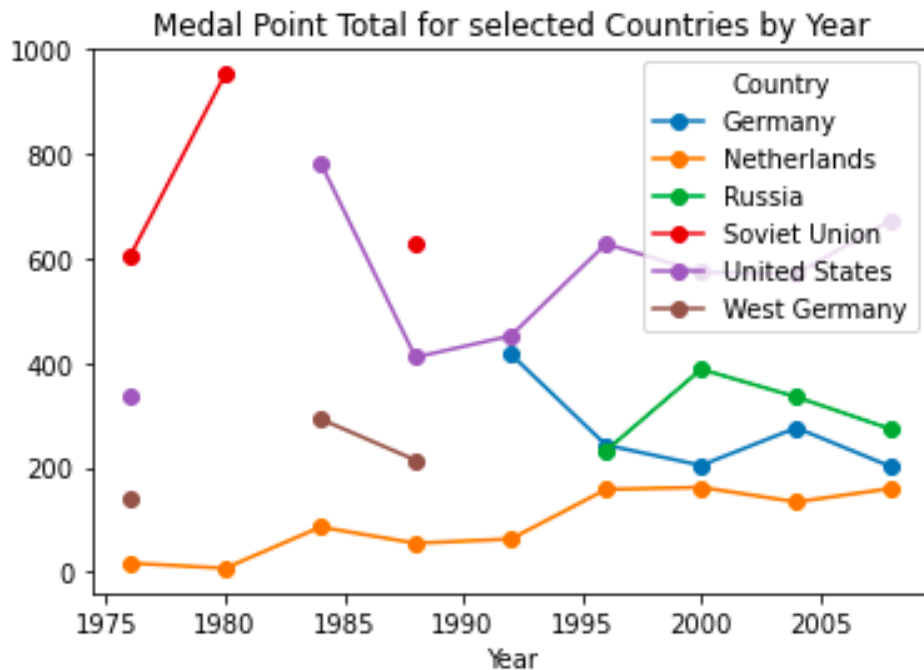
#### **1. Medal Point total by Country by Sport / Medal Point total by Country by Year**

When looking at the total points for medals based on the year and then the sport. With this data we wanted to find some points of interest for further investigations, as well as to see if our Countries of interest performed in main summer sport categories.

When analyzing the performance of countries of interest by selected Sports we can see that the US maintains a comparable dominance in Aquatics, Athletics, and Basketball. However, Gymnastics is the sport with the most competition. Unexpected finds: US maintains a similar points spread in sailing, despite the niche of the sport.



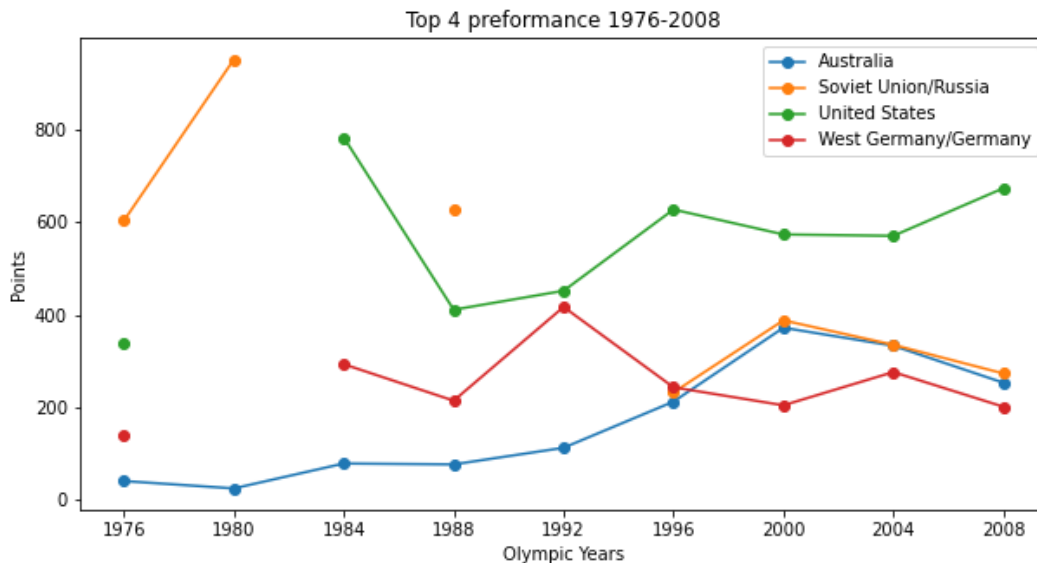
When analyzing the performance of countries of interest by year, the United States 1980, Soviet Union 1984 & 1992. We also realized here that changes in political landscape may have an effect on our analysis over time. Unexpected finds: Netherlands is most consistent in having a medalist in every Olympic games from



## 2. Was there any noticeable change in performance among the top 4 countries?

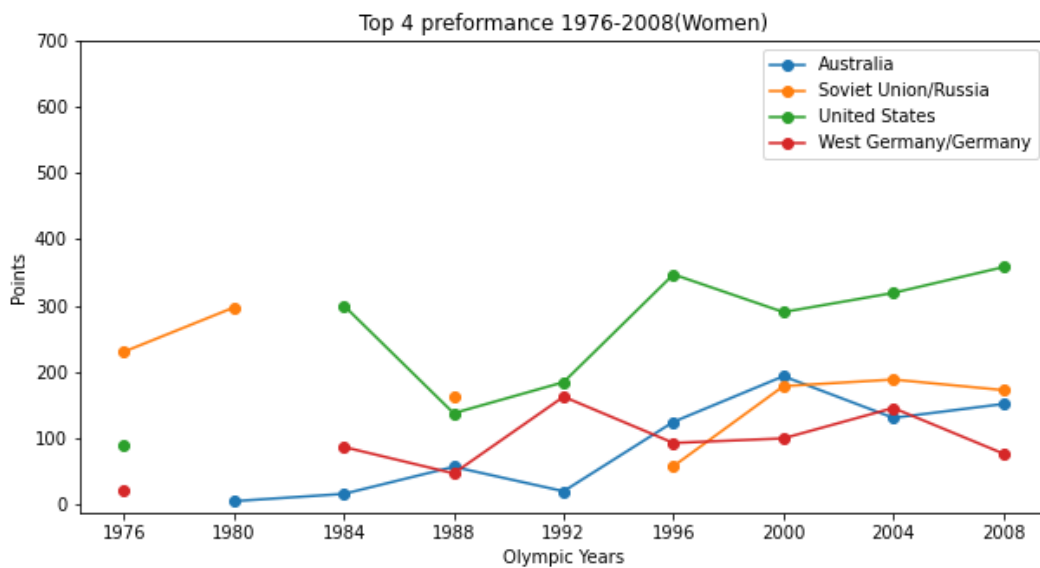
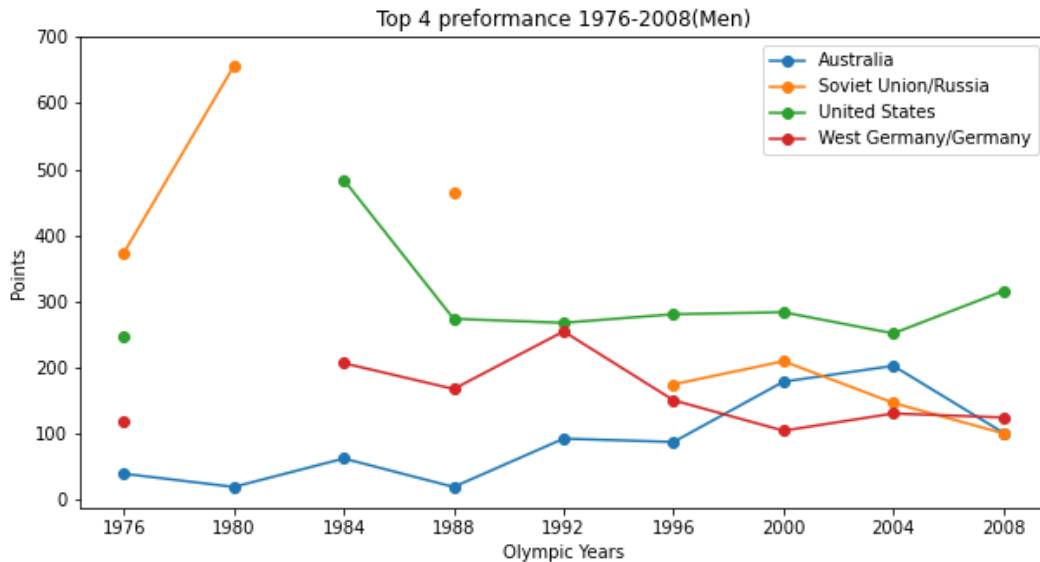
From the Top 4 Performance 1976-2008 we can see that there were a number of notable changes. The largest increase from one olympic year to the next was the Soviet Union from 1976 to 1980 with a 349 point improvement. The largest decrease from one Olympic year to the next was the United States from 1984 to 1988 with a 373 point decrease. The largest increase over the entire period was the United States seeing a 337 point increase. The largest decrease

over the entire period was the Soviet Union/Russia with a 331 pint decrease.



### 3. How did the top 4 countries perform when split between Men and Women events?

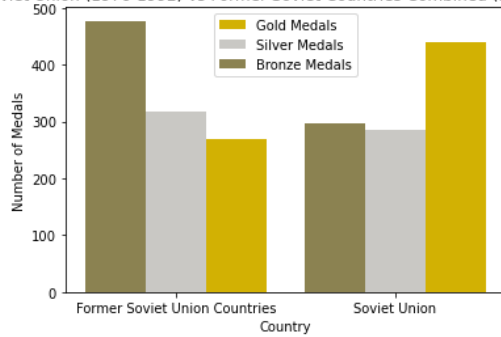
When splitting the performances between men's and women's events we see a few interesting outcomes. After 1988 the United States performances in men's events leveled out and remained consistent to 2008. While the Soviet Union/Russia saw a drop over all in performance the drop in men's events was much more drastic than the women's. In men's they saw a 273 point decrease while in womens they only saw a 58 point decrease. When looking at West Germany/Germany we see that the performance in men's and women's events go through similar changes throughout the period. By the end of the period men's events came closer to a state of parody with Russia, Germany, and Australia all coming within 25 points of each other while in women's the difference was 96 points.



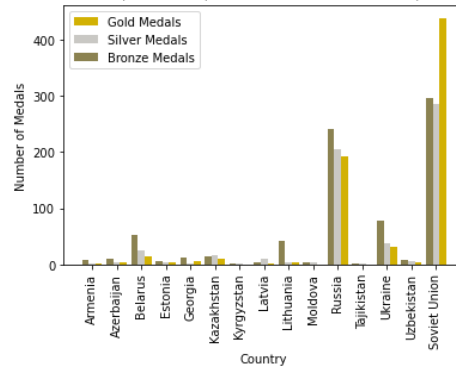
#### 4. Comparing the Results of Countries Pre- and Post- Extreme Regime Changes.

From the combined data plots, we see that in total, all of the countries from the former Soviet Union have collectively won about the same number of medals as the Soviet Union on its own, though the individual countries won more bronze medals and the Soviet Union won more gold medals. Individually, Russia's performance is the closest to the Soviet Union's, but it still falls short of the Soviet Union's performance. Turkmenistan has not even won a single medal on its own.

Soviet Union (1976-1992) vs Former Soviet Countries Combined (1996-2008)

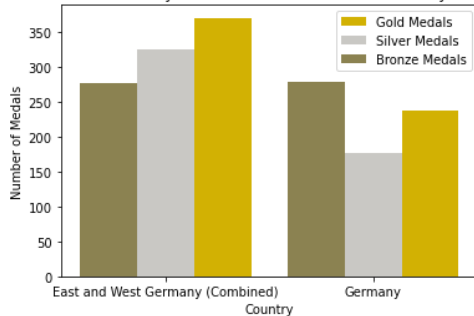


Soviet Union (1976-1992) vs Former Soviet Countries (1996-2008)

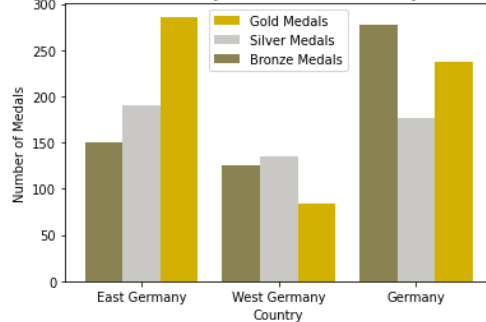


For Germany, East and West Germany's combined performance was better than Germany on its own, but individually only East Germany's performance was comparable to Germany's, despite West Germany being larger than East Germany.

East and West Germany Combined (1976-1988) vs Germany (1992-2008)



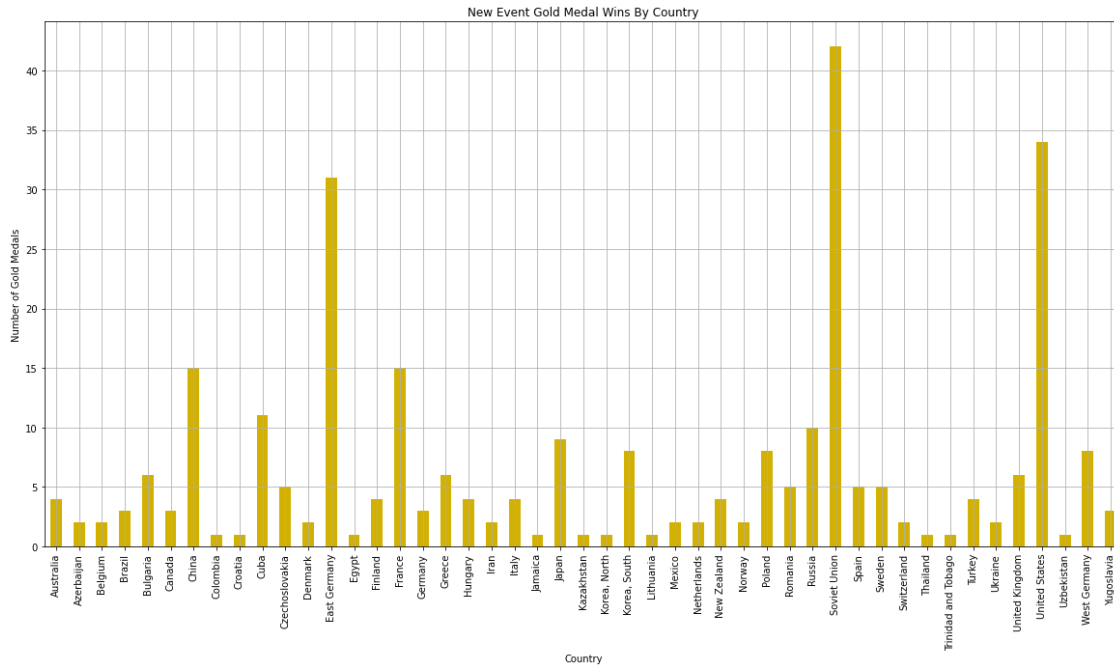
East and West Germany (1976-1988) vs Germany (1992-2008)



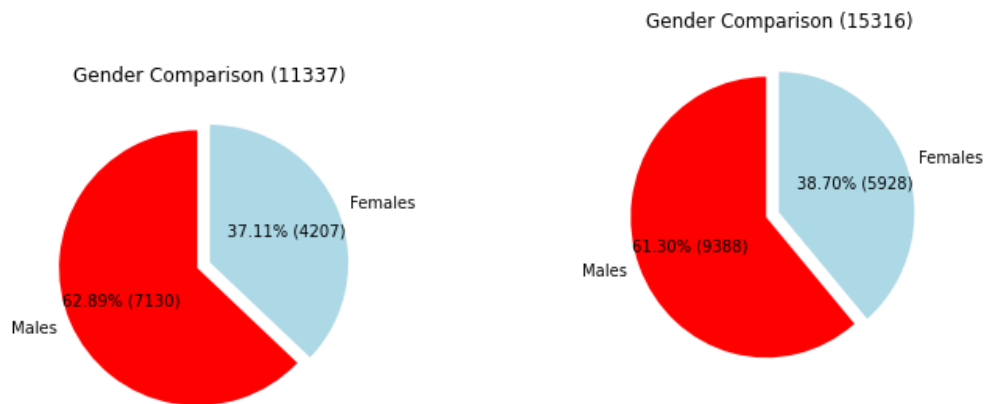
## 5. Top Performers the Year a New Event is Introduced.

When looking at the data, we took 1976 events as the first time the event showed up since that's where our data started, despite 1976 not necessarily being the first year the event appeared.

The Soviet Union won the most golds in "new" events (42), followed by the United States (34) and East Germany (31). Other than this, there appears to be no correlation to countries winning the new events.

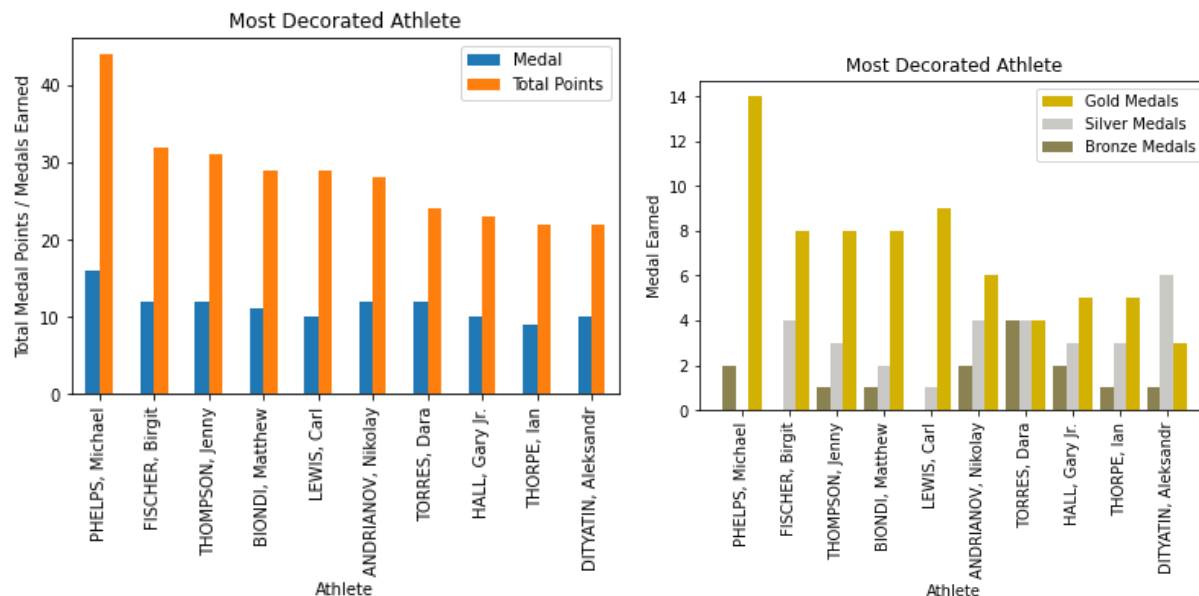


## 6. Gender Distribution participation / (% of countries medals) by country (top 4 countries)



When looking at these pie charts, it shows the gender distribution for all participants. Males make up around 60% of all the contenders and females make up the rest of the 40%. The second chart shows the first time participant for both genders, and 30% of the females participated only once and 25% of the males participated once.

## 7. Most Decorated Athlete (By Gender)



This bar graph shows the total points and number earned by each of the most decorated athletes, and the one that outperforms the most by far is Micheal Phelps at 16 medals(14 gold, 2 bronze) at a 27% increase than the second person. When looking at the graph it also shows that earning more medals doesn't always equate to more points, and gold medals are worth 3 times as much as bronze medals.

## 8. Host Country Performance / Compared with other years

With the exception of Canada (Montreal - 1976), every host country had their highest medal point total the year/s they hosted. This confirmed an initial belief that the proximity to home, the benefit of decreased travel, and overall national spirit could have an influence on a country's performance, or another hosting benefit.

	Canada	Soviet Union/Russia	United States	Korea, South	Spain	Australia	Greece	China
1976.0	28.0	604.0	337.0	20.0	12.0	40.0	NaN	NaN
1980.0	NaN	953.0	NaN	NaN	47.0	24.0	7.0	NaN
1984.0	159.0	NaN	784.0	83.0	37.0	78.0	3.0	141.0
1988.0	34.0	627.0	411.0	170.0	9.0	76.0	1.0	81.0
1992.0	103.0	472.0	452.0	110.0	174.0	112.0	6.0	165.0
1996.0	98.0	232.0	628.0	135.0	136.0	212.0	20.0	222.0
2000.0	43.0	388.0	574.0	123.0	69.0	372.0	32.0	180.0
2004.0	33.0	335.0	571.0	108.0	50.0	333.0	65.0	225.0
2008.0	69.0	273.0	674.0	171.0	133.0	253.0	10.0	385.0

When comparing each country's average point performance with their performance in the year that they were the Olympic host, The three countries with the lowest change in performance while hosting were (Canada: -60%, United States (1996): +13%, United States (1984): +42%). The three countries with the greatest change in performance while hosting were (Greece: +261%, Spain: +135%, Australia: +123%).

