Analyzing the 2016 to 2019 Nashville Rock ‘N’ Roll Marathon

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Process

Step 1. Marathon Data

Step 2. Half-Marathon Data

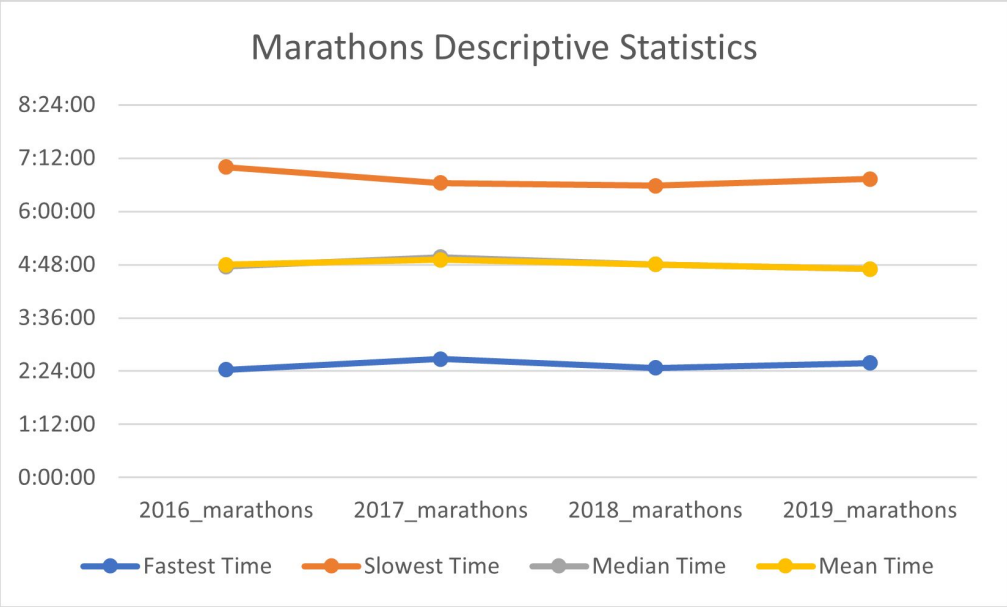
Step 3. Observations

Step 4. Additional Research

Step 5. Conclusions

Step 1. Marathon Data

- Started our process by pulling descriptive data for each year's times for each year of the marathon data we have access to.



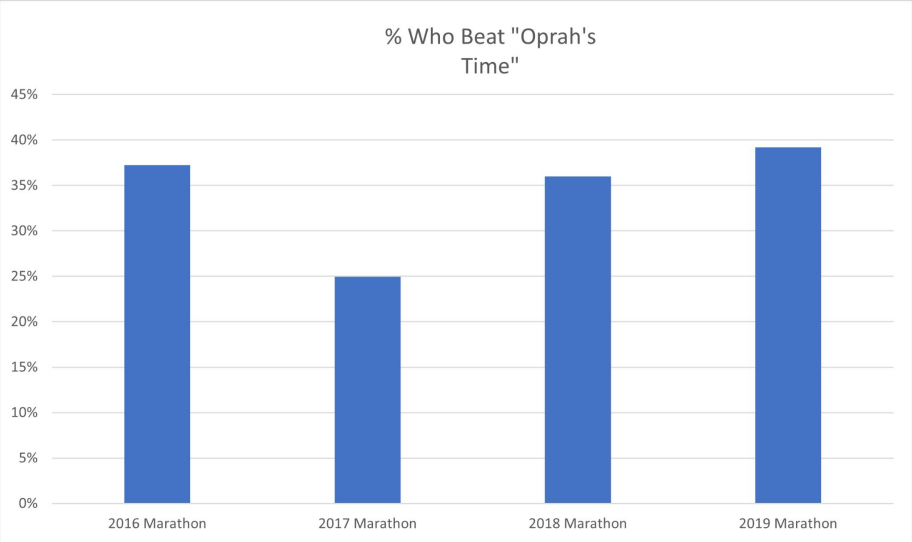
Scott Wietecha

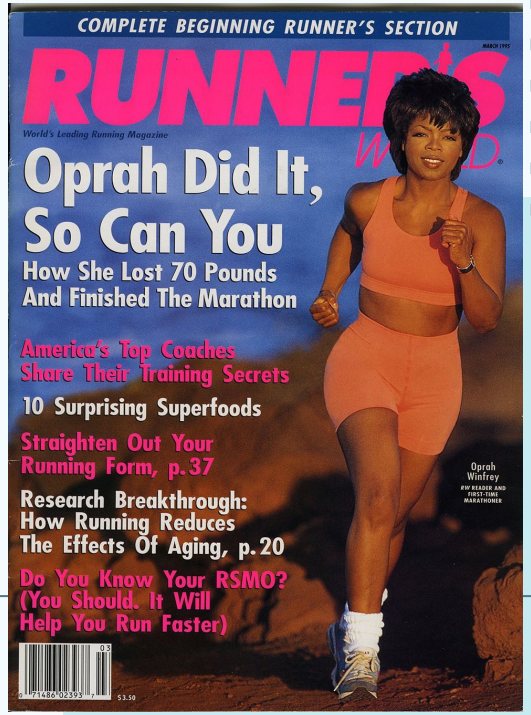
- When looking at the marathon data, we noticed Scott won the marathon every year we had data for.
- His times are below as well as his margin of victory every year.

SCOTT DATA	2016	2017	2018	2019
Time	2:25:42	2:40:25	2:28:16	2:34:59
Runner Up Time	2:34:43	2:56:28	2:29:52	2:35:24
Difference	0:09:01	0:16:03	0:01:36	0:00:25

“Oprah time”

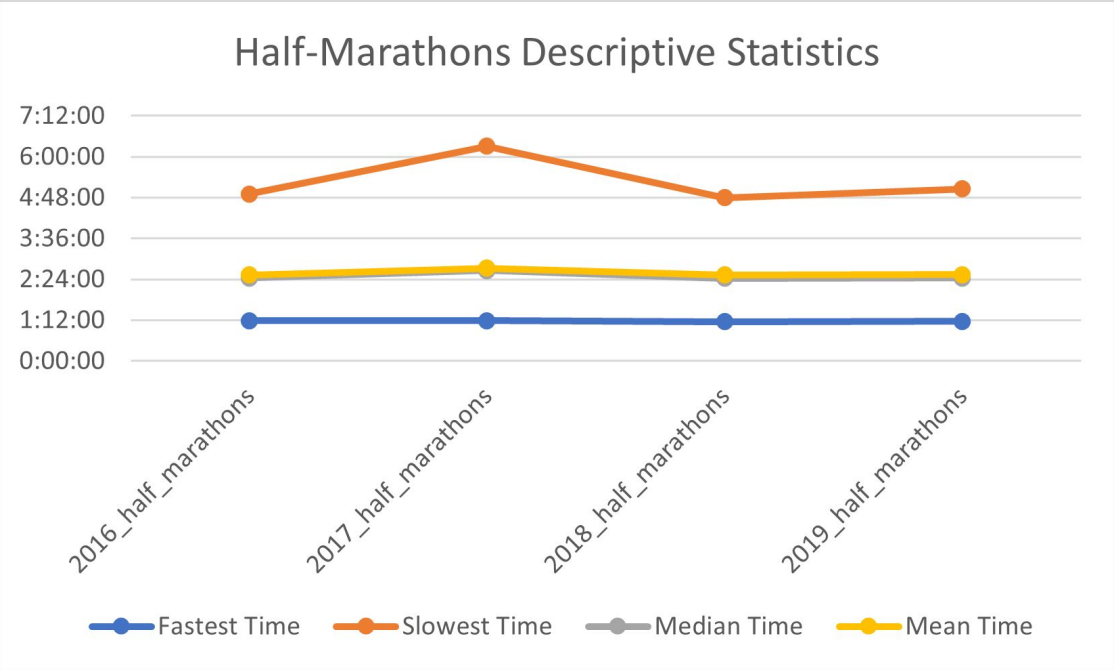
- As another point of reference, we pulled percentage of finishers who beat Oprah’s marathon time (4:29:20) each year in the Nashville marathon.





Step 2. Half Marathon Data

- We also had access to data for the half marathon every year as supporting data.



Quartiles of Half Marathon Data

To better understand times across the board each year for half marathon runners, we pulled the different quartiles of times.

	2016	2017	2018	2019
First Quartile	2:08:18	2:18:17	2:07:21	2:07:04
Second Quartile	2:26:18	2:39:34	2:25:32	2:26:07
Third Quartile	2:50:11	3:05:10	2:51:16	2:51:30

Step 3. Observations

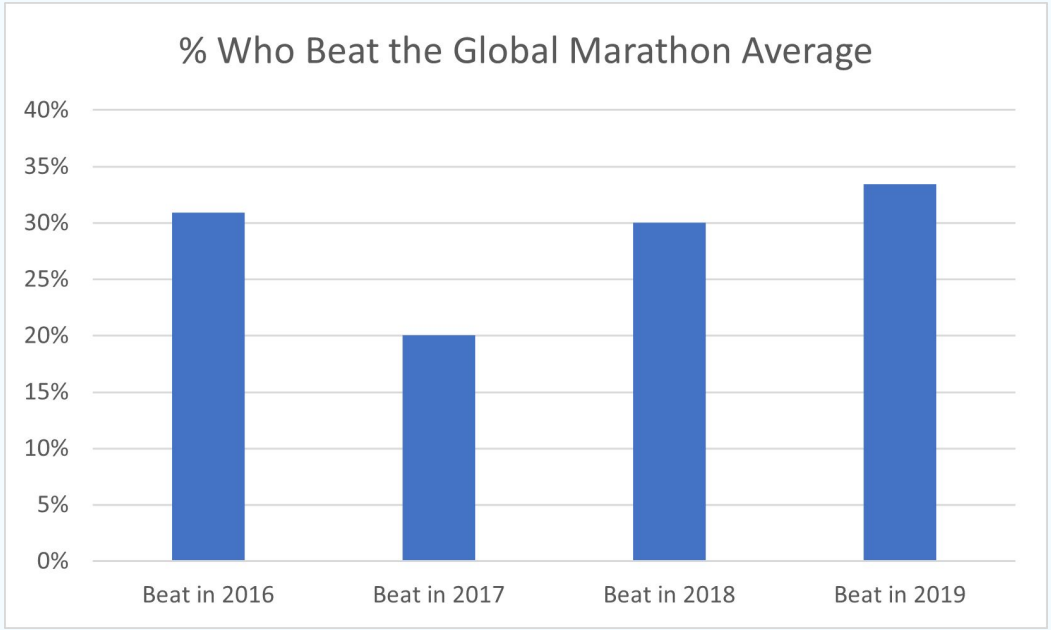
- The thing that stood out the most to us was across the board, we say a strong deviation in the data for the year for 2017 with both the half and full marathons.
    - The slower runners seemed to be affected much more in 2017 than any other group of times.
    - Also, we noticed the large drop off of runners who beat “Oprah’s Time” that year as well.
- Of the top finishers every year, Scott Wietecha was the only one to run more than once and won every year.

Step 4. Additional Research

- We had to figure out why there was a massive deviation in times for both of the 2017 races.
  - The first thing that came to mind was weather
  - We found that the high temp for race day in 2017 was 91 ° compared to in the 70s for the other three years
  - According to studies cited by Outside Online, the ideal running temperature is between 44 and 59℉; for every degree above or below, runners tend to get slower, by an average of 4 seconds per mile, per degree.
  - In this case, the 2017 temperature was a full 32 degrees above optimal, which meant, on average, that runners were slower by roughly 2 minutes slower per mile ... and in many cases, much slower.

Step 4. Additional Research

- We were also curious to see how Rock'N'Roll Marathon runners compared to marathon runners across the world.
- To give a general idea, we analyzed the number of runners who beat the Global Average Marathon Time of 4:21:00.



Step 5. Conclusions

- Based on all of our research, it is safe to reason that the marathon times in 2017 were strongly affected by the unseasonably warm temperatures on the the day of the race.
- We believe the slower runners were affected more because of the likelihood that they are less experienced runners that could not handle the weather as well as some of the higher level runners.

Thanks!