CSCE 320 HW5

Calling Bullshit

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Case study: Musicians and mortality

**Implications of the claim:** The original claim is that being a musician in older musical genres (blues, jazz, country, etc.) is safer than being a musician in the newer musical genres (punk, metal, rap and hip-hop. This claim is made through the use of a categorical line graph that plot genres versus average age at death for both male and female musicians. The graph was used in an article and was trending on social media. It was also referenced in a Washington post article discussing the same topic. The graph indicates that a musician employed in hip hop has approximately half the lifespan of a country musician. If the claim was true, people would most likely refrain from working in the ‘dangerous’ genres despite their passions and talent, assuming they wish to not die at a young age.

The article also shows data on the causes of death for each genre. This data plays into certain stereotypes of the musicians belonging to these genres; hip-hop artists tend to engage in gun violence, punk and metal artists are more likely to partake in drugs or commit suicide. If this data and study were to be believed, then there is a direct causal relationship between choice of musical genre and age of death. The Washington Post article referencing the study says that going into rap or hip hop or punk is more dangerous than going into war. This is a clear indication of how people would think if they believe the study’s conclusions.

**Why the claim is bullshit:** The study misdirects the reader in multiple ways. The table that displays the causes of death by genre has the potential to mislead the reader. It actually shows the probability of each cause of death conditional on death having already occurred at the time of the study. However, the causal reader could misinterpret the table to be showing the lifetime probability of each cause of death.

The main issue with the study is that the data has been right censored. Rap and hip-hop artists supposedly die at around 30 years of age. Most rap and hip-hop artists are still alive. However, the study is misleading mainly because rap and hip hop are not yet 40 years old, and most rappers begin their careers in their twenties, not forties. This means that the only rap and hip-hop artists that have died so far are those who have died young. Some of the older genres have been around for at least a century, and we have plenty of musicians in those genres that have lived a full life. This means that rap artists will not die young. It just means that rap artists who have died have died young because rap hasn’t been around long enough for it to be otherwise. We can see from the line graphs that study is misleading since the average age of death declines as the age of the musical genre declines. The data is clearly insufficient to make the claim.

**Conclusion:** The study measures a correlation between musical genre and age of death, but the claims presented in the study are based off of a causal relationship. While the claim that the author makes is bullshit, there exist correlations in the study that is actually true but not observed and described. There is a strong correlation between the age of a genre and the age of the performers, and a strong correlation between the age of the performers and the ages at death of those already dead. Together, these correlations create a correlative link between genre and age of death which is misinterpreted by most readers as a causal link.

A proper study on the topic of genre vs age of death would have to find a solution for the right censoring issue. Finding the causes of death of musicians belonging to genres of the same age would be a legitimate study. Similarly, studying the causes of death of musicians of different genres under the age of 30 would also be valid.

**Bonus: Google flu trends**The google flu trends was created in 2008 by researchers from Google to predict the flu based on people’s searches. The idea was that when people were sick with the flu, they would use Google to search for flu-related information providing signals of flu in the area or demographic. Tuning these results to the flu tracking information provided by the CDC could potentially save lives. It worked well in the beginning but it failed during the peak of the 2013 flu season. Its predictions missed by 140 percent. The reason was Google was vulnerable to overfitting to seasonal terms unrelated to the flu like high school basketball season. Millions of search terms were being fit into the CDC’s data purely because of coincidence. GFT should have taken into account changes in search behavior over time.