## Individual Project

Problem Statement

What does the literature tell you about the topic?

Even for people do not pay much attention about America’s gun violence problem, yet we all are unconsciously influenced by the press, social media and living environment of how server the problem is. After reading the article “*America’s unique gun violence problem, explained in 17 maps and charts*”, I gained more understanding of the scale of the problem.

Except some not surprised conclusions like “Americans own large amount of guns, more guns might lead to more deaths by gun”, the article also states some astounding facts:

* When people think of gun violence, they might think of large-scale mass shootings, but mass shootings, homicides or terrorism are just a small part of America’s gun-violence problem, actually, most gun deaths are suicides.
* Although the number of firearm homicides ranking the highest, the average violent crime rate of the US is below average among 15 countries.

Where and why is the data product (in)effective?

The data product showing many **effective** angles:

* Contained rich information and quoted from many different data sources, leaving a persuasive impression;
* Clearly clung to its points of how server the problem is and how it uniquely happened in the US;
* Compared with the developed countries, and not only by value but by percentage;
* Some of the graphs are direct and easy to draw attention, so do the video.

But also has some **ineffective** parts:

* Some data sources seem out-of-date and may no longer be correct. For example, most of the data generated between 2000-2012, for point 12 “Guns allow people to kill themselves much more easily”, the data came from 1990-1997, it is might be no longer considered useful or effective;
* Some opinions in the article may be assertive to draw such conclusion, for example:
  + Point no.5 -- "States with more guns have more gun deaths", it ignored state like Hawaii and Mass. both are “high ownership, low gun death”, and “high gun death, low ownership” like Del.;
  + Point no.11 -- "Reported suicides between 2001 and 2005 in states with the highest and lowest rates of gun ownership", the data cannot prove the causality of “More guns, more suicides”;
* Some opinions embodied an apparent paradox like point no.3 -- "There have been more than 1,600 mass shootings since Sandy Hook" seems contradicted with point no.8 -- “States with tighter gun control laws have fewer gun-related deaths”, which graph no.3 shows CA, FL, NC, VA, IL had highest number of mass shooting, but graph no.8 shows these states had fewer gun-related deaths because of control laws. Also, point no.16 -- "High-profile shootings don’t appear to lead to more support for gun control in the long term" seems opposite to point no.17 -- “Specific gun control policies are fairly popular”.
* Some graphs have very low quality and unclear notation, like point no.17.

What is your proposal to redesign the data product?

The objective of redesigning data product will focus on analysis the relationships of different features, try to find some patterns of gun death/injury happened in the US.

I would like to add following information:

* People who are injured by guns each year, not only focus on lethal events but also the massive casualties.
* How many children being hurt/killed by gun? What’s the proportion of male and female, old and young…?
* The money and political resources spend on Gun rights VS Gun control. It might extra some underneath reasons of why it’s so hard to just tighten government regulation. (source: <https://www.opensecrets.org/news/issues/guns)>
* Analysis the ratio of homicides, mass shooting, terrorism and suicides with time change, it shows some information in the video, but not in the article. Same idea of the changes of public opinions. It’s possible some features will show trend or variances with time.

Also, I would like to:

* Use most up to date data I can find;
* Create high quality graph with clear notation.

This proposal will keep updating with more knowledge and inspirations we are about to learn in the class meetings.

What are potential starting points for a deceptive version and why are they deceptive?

Gun rights VS Gun control has been a long time controversial society issue in the US. (source: <https://www.opensecrets.org/news/issues/guns)> The article “*America’s unique gun violence problem, explained in 17 maps and charts*” clearly support to enforce the gun control, but if seen from another angle, it might be a potential starting points for a deceptive version of distorting the data and graph in the opposite way to prove there’s no inevitable relevance between death and gun ownership.

There are some ways to conduct Deceptive Visualizations, as of mentioned in the *article “Study Asks, How Deceptive are Deceptive Visualizations?”* (Source: <https://medium.com/@Infogram/study-asks-how-deceptive-are-deceptive-visualizations-8ff52fd81239>)

For example, point no.5 -- “States with more guns have more gun deaths” might can achieve different visual impact by **invert axis** or using exact value / value with different measurement ways of gun ownerships and deaths happen in each state.

point no.14 – “In states with more guns, more police officers are also killed on duty”, by **aspect ratio** will make the differences really small.

Have you obtained access to the mentioned data sources or identified replacements/potentially important additions?

***data sources from the article:***

1&2. World firearms murders and ownership: <https://docs.google.com/spreadsheets/d/1chqUZHuY6cXYrRYkuE0uwXisGaYvr7durZHJhpLGycs/edit#gid=0>

3. Gun Violence Archive – Mass Shooting Lists:

<http://www.shootingtracker.com/Main_Page>

<http://www.gunviolencearchive.org/reports/mass-shooting>

5. Study in Injury Prevention: <http://injuryprevention.bmj.com/content/22/3/216>

Centers for Disease Control and Prevention, Mother Jones: <https://www.cdc.gov/nchs/pressroom/sosmap/firearm.htm>

7. International Crime Victims Survey (ICVS) by Jeffrey Swanson

<http://www.unicri.it/services/library_documentation/publications/icvs/data/>

8.Number of Deaths Due to Injury by Firearms per 100,000 Population

<https://www.kff.org/other/state-indicator/firearms-death-rate-per-100000/>

9. Harvard Injury Control Research Center Firearms Research - Homicide

<https://www.hsph.harvard.edu/hicrc/firearms-research/guns-and-death/>

10. Centers for Disease Control and Prevention <https://webappa.cdc.gov/sasweb/ncipc/mortrate10_us.html>

“Most gun deaths are suicides, not homicides. That's a strong case for gun control.”:<https://www.vox.com/2015/6/3/8721267/gun-suicide-gun-control>

11. “Guns and Suicide in the United States”: <http://www.nejm.org/doi/full/10.1056/NEJMp0805923>

12. Journal of Epidemiology and Community Health: <http://journals.bmj.com/>

13. Do Gun Buybacks Save Lives? Evidence from Panel Data: <http://ftp.iza.org/dp4995.pdf>

14. "Firearm Prevalence and Homicides of Law Enforcement Officers in the United States": <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2015.302749>

15. Pew Research Center surveys “Views on gun policy”: <http://www.pewsocialtrends.org/2017/06/22/views-on-gun-policy/>

16. Pew Research Center surveys “Views on Gun Laws Unchanged After Aurora Shooting”: <http://www.people-press.org/2012/07/30/views-on-gun-laws-unchanged-after-aurora-shooting/>

17. Pew Research Center surveys “Bipartisan support for some gun proposals, stark partisan divisions on many others”: <http://www.pewresearch.org/fact-tank/2017/06/23/bipartisan-support-for-some-gun-proposals-stark-partisan-divisions-on-many-others/>

***potentially important additions:***

1. Centers for Disease Control and Prevention: https://wisqars-viz.cdc.gov/
2. Gun Violence by the Numbers: <https://everytownresearch.org/gun-violence-by-the-numbers/>
3. FiveThirtyEight's [Gun Deaths in America](http://fivethirtyeight.com/gun-deaths/) project: https://github.com/fivethirtyeight/guns-data