

Tyler Young  
First Version Deceptive

## Documentation

The primary purpose of this documentation is to describe, in the hope making reproducible, the work that was done through Tableau. Additionally, there are links to the data files and jupyter notebook file that can be followed to easily recreate the steps taken in the data wrangling process.

To start, below are the links to the sources of the data used in this first deceptive version.

Journal of Epidemiology and Community Health:

Lethality of firearms relative to other suicide methods: a population-based study

<http://jech.bmj.com/content/57/2/120>

Bureau of Alcohol, Tobacco, Firearms and Explosives:

<https://www.atf.gov/resource-center/docs/undefined/firearms-commerce-united-states-annual-statistical-update-2017/download>

CDC Injury Prevention and Control Report:

<https://www.cdc.gov/injury/wisqars/fatal.html>

World Firearm Data:

<https://www.theguardian.com/news/datablog/2012/jul/22/gun-homicides-ownership-world-list#data>

Data clean up, calculations, and merging for this portion of the project were all done using Python in a jupyter notebook to allow for proper documentation and recreation of the results. For the file please refer to:

[https://github.com/tylerhyoung/Data\\_Viz\\_Individual\\_Project/blob/master/First\\_Version\\_Deceptive/Data\\_Merge\\_for\\_Deceptive\\_Viz.ipynb](https://github.com/tylerhyoung/Data_Viz_Individual_Project/blob/master/First_Version_Deceptive/Data_Merge_for_Deceptive_Viz.ipynb)

### TABLEAU Documentation:

For use in Tableau, I output several files from python. If you'd like to skip running the python code on the input files, you can download the output files directly from:

[https://github.com/tylerhyoung/Data\\_Viz\\_Individual\\_Project/tree/master/First\\_Version\\_Deceptive/OutputFiles](https://github.com/tylerhyoung/Data_Viz_Individual_Project/tree/master/First_Version_Deceptive/OutputFiles)

Data Product 1: Load the "homicide\_rate\_vs\_firearms\_manufactured.csv" file that was created from the data wrangling and merging done in the previously mentioned jupyter notebook.

- Drag 'Years' to columns and 'Death Rate Per 100k', 'Firearm Manufacturing Rate Per 1k' to the rows.
- Use line graph and change colors of each line

- Rename 'Death Rate Per 100k' to 'Firearm Homicide Rate Per 100k', give the graph a title name
- Add the sheet to a dashboard and make a caption using a text box, then export.

This graph is deceptive because the line for firearms manufactured in the US increases dramatically since about 2000 while firearm homicide rate remains about the same during that same time. However this is not representative of the civilian firearms, it doesn't show how many of these guns are exported to other countries or used for the military.

Data Product 2: Load "2007\_world\_guns.csv" into Tableau.

- Drag 'Firearms per 100' to columns and 'Homicides per 100' to rows.
- Rename y-axis 'Homicides per 100' to 'Firearm Homicides per 100,000 Population'
- Filter out null values
- Drag country to label
- Drag 'HDI rank' to filters and set filter from 1-100.1 to capture the top 100 countries based on their 2007 HDI rank.
- Show trend line
- Create dashboard with this sheet, add title, caption using text box, and export.

The reason this graph is deceptive is, while the trend line shows there may even be a negative correlation with firearms owned and firearm homicide rate, the outliers skew the graph. There are a handful of countries that have extremely high firearm homicide rates relative to the majority, so it would appear that the United States is relatively low on the y-axis while saying the U.S. is high in gun ownership. So it would appear to make the claim that even though the U.S. has a lot of guns, relative to the rest of the world, the U.S. has a similar firearm homicide rate.

Data Product 3: Load "Illinois Suicide Distribution 90-97.csv" into Tableau.

- Rename 'Pct Fatal' column to 'Fatal'
- Create calculated field called 'Not Fatal' as  $100 - [\text{Fatal}]$
- In sheet, select 'Pie' from Marks drop down field
- Drag Suicide Method to Columns
- Drag 'Measure Values' to Angle and remove all measure values except 'Fatal' and 'Not Fatal'
- Drag 'Measure Values' to Color and set to 'Custom Diverging' with 2 steps. Set colors to green and red
- Drag 'Suicide Method' to Filters and select only 'Firearms', 'Crash/jump', and 'Suffocation'
- Drag 'Measure Names' and 'Measure Values' to Label
- Change title, create dashboard, add caption using text box, and export.

The primary reason this visualization is deceptive is because it only uses fatality percentage to claim that the alternative methods to firearms also have a high fatality rate and are easily

accessible, even if gun control increases. What it doesn't show is that firearms by far account for the most fatal suicide attempts, almost as many as all other methods combined.