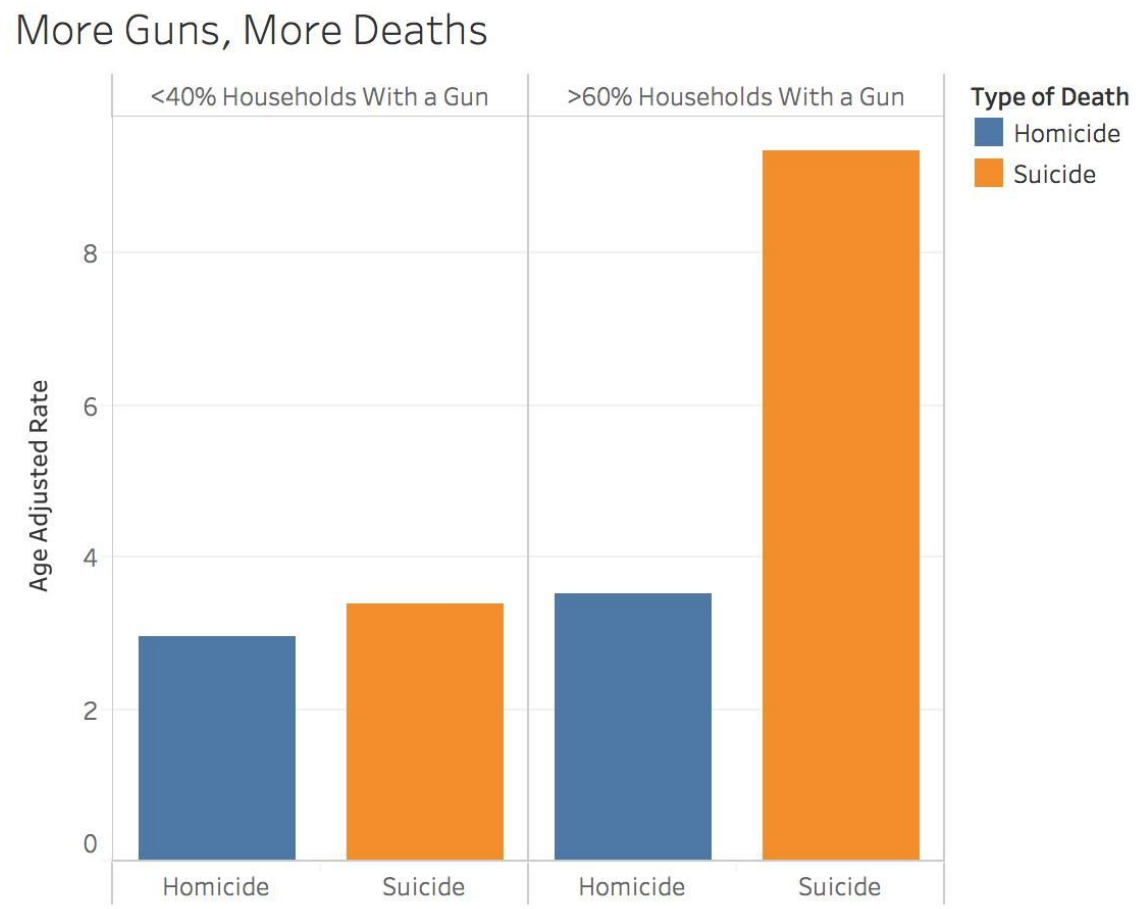
Individual Project: First Versions

Chart #11



The states with <40% households having a gun are Massachusetts, New Jersey, Rhode Island, Virginia, and Maryland, and the states with >60% households having a gun are Alaska, Kentucky, Utah, South Carolina, and Oklahoma

There are a few things I wanted to do with this chart. First, I wanted to correct a couple of glaring ambiguities: what the criteria used to determine highest and lowest rates of gun ownership was precisely, and what exactly the numbers of suicides represented (number of suicides per a certain number of people). Secondly, I wanted to strengthen the argument by swapping the number of non-firearm suicides (which seemed irrelevant and actually was counter-evidence to the argument) for firearm homicides.

A chart at http://www.nejm.org/doi/full/10.1056/NEJMp0805923, further explains that the data is from the CDC WISQARS from 2001-2005, with Wyoming, South Dakota, Alaska, West Virginia, Montana, Arkansas, Mississippi, Idaho, North Dakota, Alabama, Kentucky, Wisconsin,

Louisiana, Tennessee, and Utah as the states with the highest gun ownership, and Hawaii, Massachusetts, Rhode Island, New Jersey, Connecticut and New York as the states with the lowest rates of gun ownership. The source for the rates of gun ownership is the Behavioral Risk Factor Surveillance System (BRFSS) and the variable used in the original chart is percentage of households with a gun. I actually had an extremely difficult time opening and viewing the data from this site as it did not provide data in csv or excel files (they were in ASCII or SAS formats), but as I mention below another source calculated quintiles from the BRFSS for me.

The WISQARS data (https://wisqars.cdc.gov:8443/nvdrs/nvdrsDisplay.jsp) actually does not contain data for all these states. However, figure 2 in this source linked elsewhere in the vox article provides information on gun ownership quintiles for 1996-2010 using the BRFSS data (https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2015.302749). So I was able to classify several states for which there is data on the WISQARS site for the years 2009-2015 (since I couldn't use the exact data from the original chart I decided to use the most recent data available).

I decided to classify states with greater than >60% households with a gun as states with "highest rates" and <40% households with a gun as states with "lowest rates" for the purpose of recreating the chart. From the available WISQARS data, this meant Alaska, Kentucky, Utah, South Carolina, and Oklahoma were the states with the highest gun ownership, and Massachusetts, New Jersey, Rhode Island, Virginia, and Maryland were the states with the lowest gun ownership.

Below are my input options for the WISQARS report options:

1. Select a report type. (Select only one button from the eight options below.)
- I selected Violent Death Counts, and from the **Deaths and Rates,** I selected Age-adjusted Rates, Crude Rates and Death Counts with 2000 as the standard year.

2. What was the intent or manner of the injury based on the abstractor-assigned manner of death? (Select one or more boxes.)
- I selected suicide or homicide depending on the information I wanted.

3. Specify the relationship of victim to suspect. (When applicable)
- It wouldn't let me select "all" so I assume it wasn't applicable.

4. What was the cause or mechanism of the injury based on the abstractor-assigned manner of death? (Select one or more boxes.)
- I selected firearm, and all.

5. Select specific options. (Make multiple selections by dragging mouse or by holding down "control" [Ctrl] key.)

- I selected years 2009-2015, and either [Alaska, Kentucky, Utah, South Carolina, and Oklahoma] or [Massachusetts, New Jersey, Rhode Island, Virginia, and Maryland] depending on the information I wanted. I selected all races, all ethnicities and both sexes.

Select Age Group

- I selected all age groups.

After combining all information in an excel spreadsheet I added the state information and rate of gun ownership. These are the cells I used in Tableau:

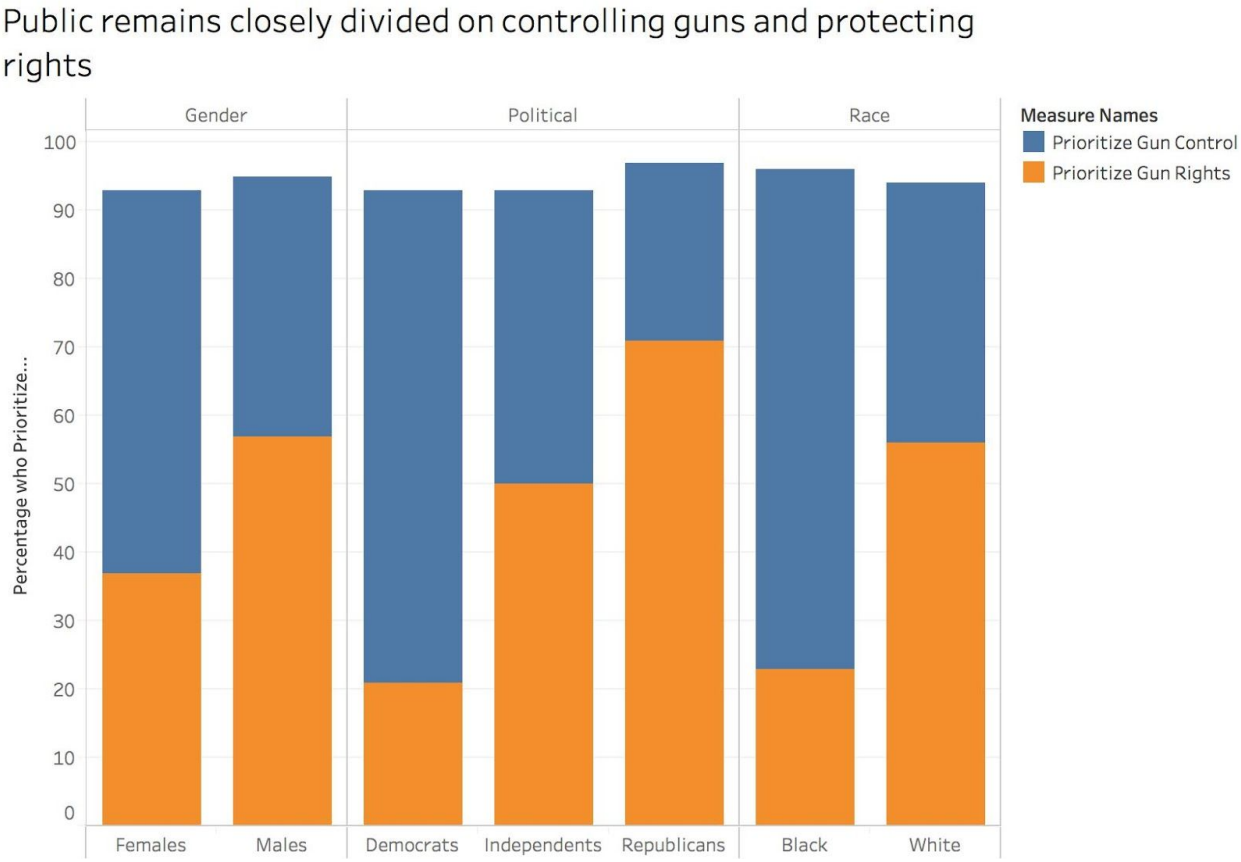
States	number of deaths	population	crude rate	age adjusted rate	type of death	years	Rate of Gun Ownership
AK, KY, UT, SC, OK	4,017	115532515	3.48	3.51	homicide	2009-2015	>60%
AK, KY, UT, SC, OK	10990	115532515	9.51	9.34	suicide	2009-2015	>60%
MA, NJ, RI, VA, MD	6,225	214,290,158	2.9	2.96	homicide	2009-2015	<40%
MA, NJ, RI, VA, MD	7707	214290158	3.6	3.38	suicide	2009-2015	<40%

In Tableau, Age-Adjusted Rate is in the rows, and rate of gun ownership and type of death are in the columns. Type of death is also in color. I named the chart More Guns, More Deaths, hid the field label for the columns and edited the aliases of the rates of gun ownership to be less ambiguous. I added a caption to explain the states used for the data visualization.

Future Improvements: There is a lot of information needed to make the data sources clear and convincing. I'm wondering if there is a better way to convey that the data only represents a sample of states than a caption. Secondly, the maybe the "Age-Adjusted Rate" as a measure is a bit ambiguous for someone who didn't trudge through the WISQARS data. The standard year for the age-adjusted rate is not conveyed either, and perhaps should be.

I also think it might be interesting to look at the death rate by year; so for an enhancement I might break down the deaths by year and perhaps add that as a filter.

Chart #15



For chart 15, the title reads "Public remains closely divided on controlling guns and protecting rights," but the chart just looks at public views on gun control over time, showing that it has decreased slightly (although years are not shown in this graph).

I thought it would serve the argument better if the chart showed divisions in opinions on gun control. A closer look (http://www.people-press.org/2012/07/30/views-on-gun-laws-unchanged-after-aurora-shooting/) has the survey data showing splits along gender, party, and racial lines: "The issue remains a highly partisan one: Republicans prioritize gun rights by a 71% to 26% margin, while Democrats prioritize gun control by a 72% to 21% margin. Independents are split, with 50% saying the priority should be protecting the right of Americans to own guns, while 43% say it should be controlling gun ownership.
The issue also continues to divide along racial and gender lines. Whites tend to see the protection of gun rights as the higher priority (by a 56% to 38% margin), while blacks overwhelmingly

back gun control (by a 73% to 23% margin). Men prioritize gun rights (57% to 38%), while women prioritize gun control (56% to 37%)."

I tabulated the data in an excel spreadsheet:

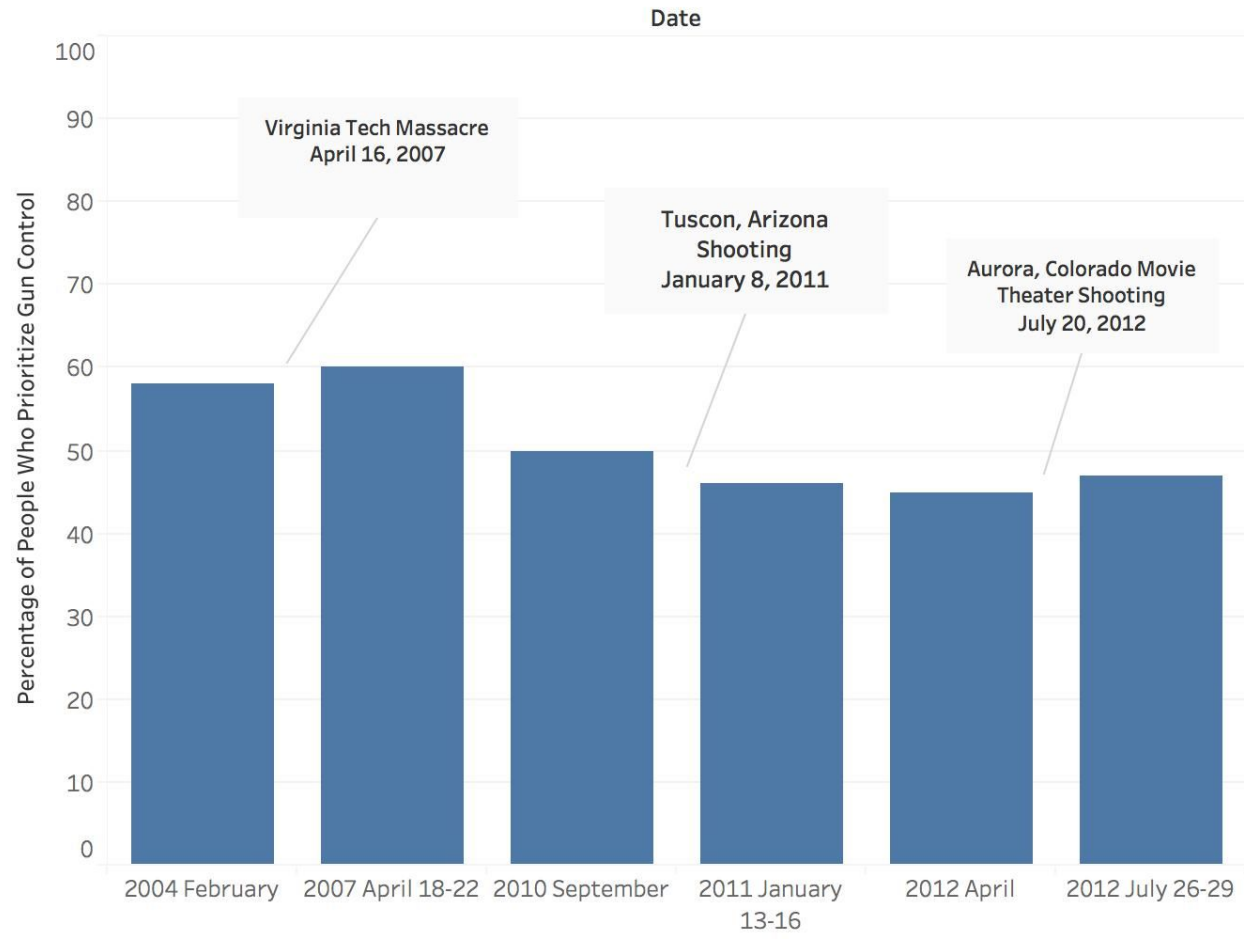
Prioritize Gun Control	Prioritize Gun Rights	Category	Type
26	71	Republicans	Political
72	21	Democrats	Political
43	50	Independents	Political
38	56	White	Race
73	23	Black	Race
38	57	Males	Gender
56	37	Females	Gender

In Tableau, I used Type and Category for the columns, Measure Names for the rows, and dragged Measure Names to color as well. I hid the field labels for the columns, renamed the chart to match the original, and renamed the axis to "Percentage who Prioritize…"

Future Improvements: My concern is that since prioritizing gun rights is basically the complement of prioritizing gun control, including both could be including redundant information. I left both for now because I liked the visual *divisions.*

I'm wondering if showing the mark labels would provide additional useful information without cluttering the visual. In addition, perhaps a filter for Type might help viewers streamline and tailor the information to their interests.

Chart #16



I thought this chart was not as effective as it could be because the "before and after" is not that clear. The "before" actually appears after the "after." Furthermore, the chart doesn't show the dates of the actual mass shooting events--it's only implied that the shooting takes place between the two survey dates. Secondly, since the focus is on support for gun control, and support for gun ownership rights are basically the complement of support for gun control, having data for support for gun ownership rights seems redundant.

I got the data directly from the chart and organized it in a csv file:

Date	Percentage of People Who Prioritize Gun Control
2012 April	45

2012 July 26-29	47
2010 September	50
2011 January 13-16	46
2004 February	58
2007 April 18-22	60

In Tableau, I put Date in the columns and Percentage of People Who Prioritize Gun Control in the rows. I widened the chart a little so that we can see the dates, changed the title to match the original one, and annotated the spaces where the shootings chronologically belong with the names and the dates of the shootings. I also changed the vertical axis slightly (to 100) to give some space at the top for the annotations and since the data is in percentage points.

Future Improvements:
I would like to include a small bit of context on each shooting--something that will help identify it in the audience's memory--so that they might compare this survey data to their own thoughts around the time of these terrible incidents.

I would also like to explore other types of charts for representing this data--I used a bar graph here because the original did, but maybe another type could be an even better choice.