Day of Discovery

Data Visualization of Coronavirus

Data is a tool used to strengthen an argument. It provides more information either quantitatively (numerically) or qualitatively (non-numerically, descriptive). Graphs, tables, charts and maps can all be used to visualize data. Sometimes, how the data are presented can affect how people understand and process what it actually means. Maps have been used a lot recently to depict the global spread of the COVID-19, but not all maps are created equal. We will explore how maps are used to present and/or misrepresent data here.

Why do these maps matter?

COVID-19 has caused major disruptions to life, including thousands of fatalities, travel bans and of course the selfquarantine "Safer at Home" orders issued all over the world. Consider the following map that was circulating around Twitter last week, that measured when people started "staying home."



Help us collect some data on this activity by completing a short survey here! Thanks!



Interested in more data?

Explore Google Trends to see what people are Googling!

Example: <u>Cupcake Search</u> Results

Check out Our World in Data. The name says it all!

USA Facts has open source data pertaining to various American Issues.

If you want to keep it local, Nashville Open Data keeps track of all Metro

When average distance traveled first fell below 2

Data is through March 26. Only weekdays were counted, because almost everyone traveled less on weekends.

This map sparked a lot of controversy and some bad-mouthing of the Southern states. Based on what is depicted here, does it illicit an emotional response in you? What assumptions do you make or do you think other people make about how these states responded to the Coronavirus pandemic? Now ask yourself, where do you think people were traveling to? Collaboration for STEM and Education Outreach Vanderbilt University



The map above is visualizing similar data. Does this map elicit the same response as the first? Do you think Southern states responded differently to the pandemic than other states? Does one map give more information than the other? If so, how? Original article is <u>here</u>.

Science and data are supposed to be unbiased. However, scientists are people and people have biases (preferences for one idea over another). Consumers of data also view the data through the lens of their own bias. If data is presented in a biased manner, it may misrepresent the argument it is supporting. Biased data visualization can lead to misinformation. We have to be careful when communicating our data that we are honoring it by visualizing the true results, not what we want people to see. Check out this <u>article</u> on bias, misinformation and techniques for data visualization, or watch this short <u>video</u>.



Data Scientist vs Data Analyst video

The Importance of Data Literacy

Thomas Edison said, "The value of an idea lies in the using of it." It does society no good to gather data if we can't read it or use it to improve our quality of life in some way. The media often uses data to influence our decision-making, so it would benefit us to have the basic skills to understand it. Data science as a career field is also booming, as someone has to collect and process our data. Check out this video on data careers.