

P5: Candy in the USA

Data chosen

We chose to visualize the Candy data.

List of analytic tasks

Our visualization supports these analytic tasks:

- Retrieve the value of the Candy data case
 - Individual candy
- Filter
 - Find the States that find the candy Joy
 - Find the States that find the candy Meh
 - Find the States that find the candy Despair
- Computed derived value
 - Calculate the sum of the number of the ratings of each rating category to determine if a State finds the candy Joy, Meh, or Despair
- Cluster
 - Cluster the group of candies into groups of Joy, Meh, Despair category for a selected State or two States

Design overview

When creating this visualization, we came up with questions we had about the Candy dataset and prioritized them to three when designing and implementing P5. Our first question was how do States feel about certain candies based on their preference using the rating of Joy, Meh, and Despair? Secondly, how do

specific States differ their preferences from one another? Lastly, do candies have regional preferences, not simply state-wide?

When designing this visualization, we decided to use a Choropleth map with the States and a separate Force-Directed graph for the candy data. A Choropleth map was used to show the States. One may hover over the State to read the State's name, total response numbers, and gender data for responses. Brown in default, the State becomes blue when clicked using the mouse. In the Force-Directed graph, we mapped each candy to a bubble, individually showing their overall relative scores of 'Joy', 'Meh', and 'Despair'.

The two visualizations and the interactions support answering our objectives. First, how States feel about certain candies can be seen by selecting a State in the Choropleth map.

A linking interaction between the Choropleth and the Force-Directed graph was created to support this. If a State is selected in the Choropleth map, then the bubbles in the Force-Directed graph group into clusters in a 3-node split showing each candy bubble in a 'Joy', 'Meh', or 'Despair' group based on the highest response rate for each candy for that State. The user can hover over the bubbles inside the graph to see the candy name, which helps them understand which candies the State rated 'Joy', 'Meh', and 'Despair'.

The States' candy preferences can be compared and contrasted by selecting two States and inspecting the candy-bubbles in the Force-Directed graph. The user can select two States at once using the Number of States dropdown menu. When '2' States are selected using the menu, the user can select 2 different States in the Choropleth. This interaction will display the group of categorized candy-bubbles on each graph; the first selected State on the left graph, the second selected State on right. By having the graphs adjacent to each other, the user can compare the State's relative 'Joy', 'Meh', or 'Despair' candy-bubble groups and

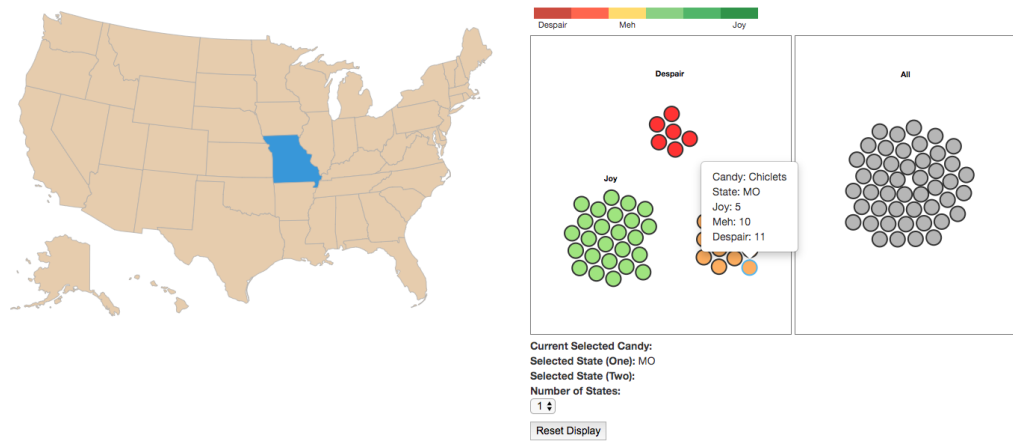
hover over the bubble to see which candy falls in which rating category for the two States.

Finally, the regional preferences of the candies can be observed by selecting a candy-bubble in the Force-Directed graph and viewing the color-coded patterns on the Choropleth map. If a bubble is selected from the Force-Directed graph, then the States in the Choropleth map become color-coded. The State is color-coded into one of the colors in the color-bar legend with a spectrum between green and red, depending on whether the responses for that candy in those particular States were more 'Joy' heavy or 'Depair' heavy. By observing how the colors are distributed or clustered in the Choropleth, the user can see which regions - north, south, east, west - rated the specific candy 'Joy', 'Meh', or 'Despair'.

Visualization Screenshots

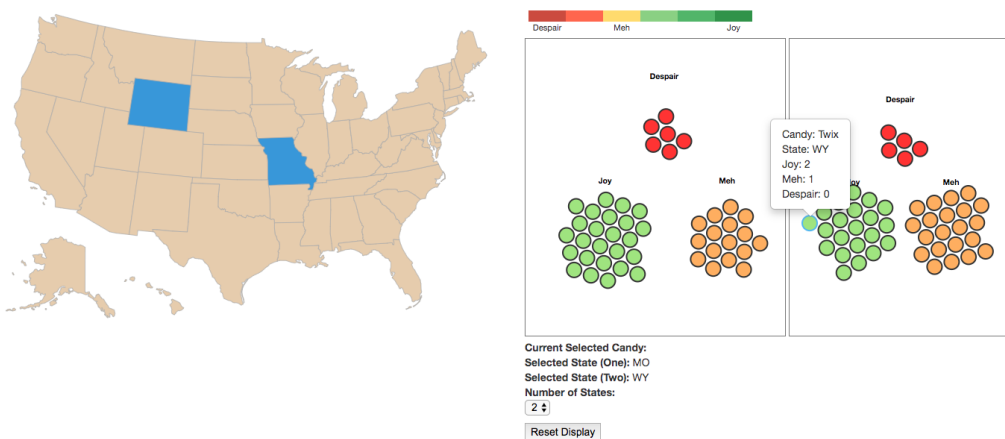
Condition: 1 State Selected in Choropleth map

Candy in the USA



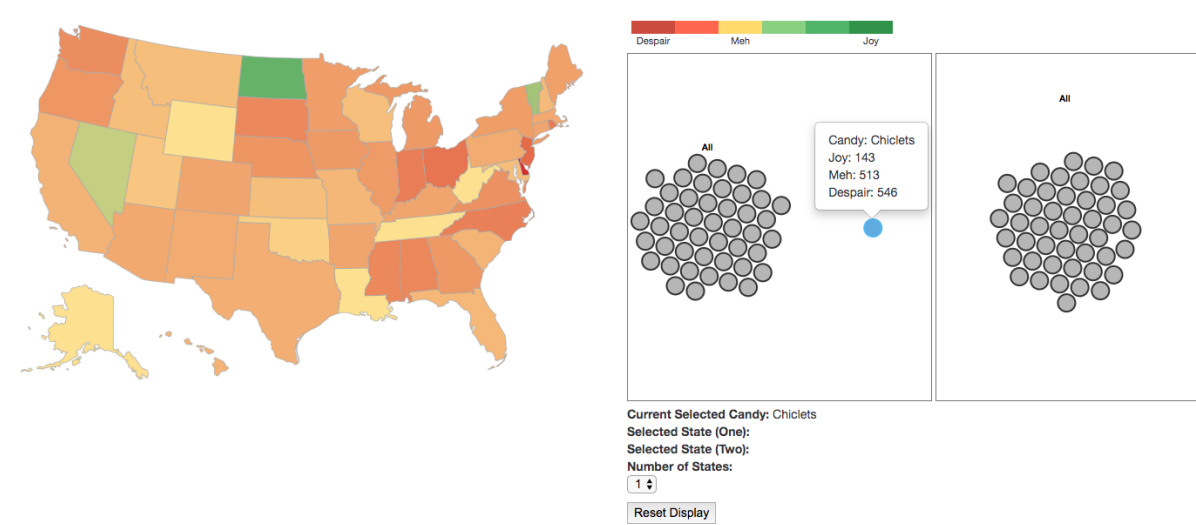
Condition: 2 States Selected in Choropleth

Candy in the USA



Condition: A candy bubble selected in Force-Directed graph

Candy in the USA



Candy in the USA

