

Visualization Project 1

Domain

My data visualization focuses on various psychoactive drug categories and the abusing of psychoactive substances in Australia. Through visualization, users can learn how to differentiate psychoactive drugs based on their common symptoms.

Additionally, the safety ratio helps users understand various drugs associated with their safety ratio. Finally, the users will learn about the cases of arrest for illicit drug use in Australia from 2017 – 2018. The visualization serves as an educational tool that hopefully provides the users with a general picture of various psychoactive substances and how are they being misused in Australia.

What

First chart

The first section is the qualitative data that shows four main categories of psychoactive drugs. I choose the shape mark to represents each category. Each category is represented by the most common substances associated with it. The definition of each category is quoted from Psychology, an Introduction (Morris and Maisto, 2005).

I had the idea of creating symbols that represent drug categories from the initial design.

Second chart:

The second section is the safety ratio of the most common psychoactive drugs. The safety ratio data is extracted from “Comparison of acute lethal toxicity of commonly abused psychoactive substances” (Gable, 2004). The lower the safety ratio, the more damage it causes to the brain in the long term.

Initially, the second chart is a bar chart. Then I changed to a treemap in the final design.

Third chart:

The data for the third visualization was extracted from the “National Drug Strategy Household Survey 2019” conducted by the Australian Institute of Health and Welfare. The report has a total of 102 tables with detailed data. For this project, I filter out the illicit drug users based on different age groups.

From the proposal, I plan to use the dot chart (or the combination of dot chart and line chart) for this visualization. In the end, I keep the original design.

Fourth chart:

The final visualization shows the arrests cases for illicit drug use from 2017 – 2018 in Australia. The data was extracted from the “Illicit Drug Data Report 2017 – 2018”

conducted by the Australian Criminal Intelligence Commission. The raw data is over 169 pages include all the operations of Australian law enforcement in 2017 and 2018. For this project, I extracted the cases of arrest based on gender in each state.

I decided to use the bar chart for the final visualization.

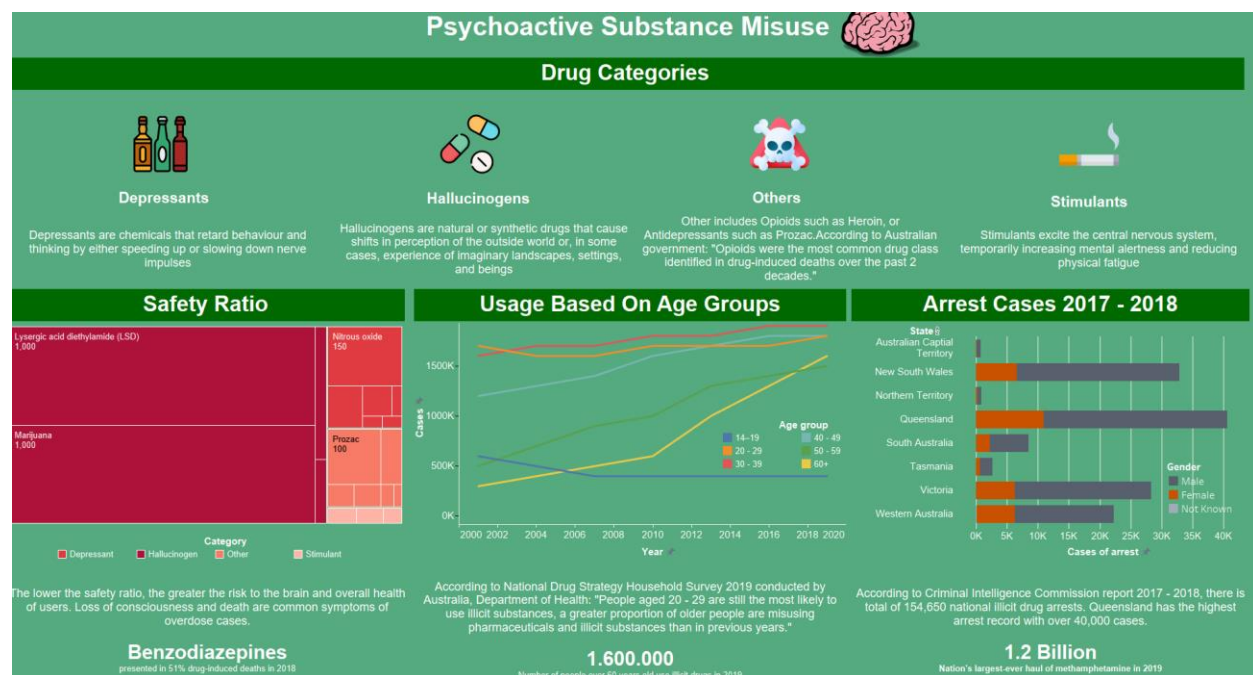
Why and How

The first visualization helps the users understand that based on the common symptoms, psychoactive drugs are divided into four main categories. I use shape marks to represent each category. Users can hover over each category for further explanation.

The second visualization shows the safety ratio of common drugs. The lower the safety ratio, the greater the risk. The treemap shows the hierarchy so people can easily recognize which drug has the highest safety ratio and which drug has the lowest safety ratio.

The third visualization demonstrates the shift of illicit drug users based on age groups. The line chart is a perfect tool to show the trend. This chart also helps readers track the changes in different age groups over a long period (over 10 years).

The final visualization shows the cases of arrest in each state of Australia in 2017 – 2018. The stack bar chart helps readers compare the cases of arrest between females and males.



Visualization URL:

https://public.tableau.com/views/MinhQuangHoangVisualizationProject1-FinalDesign/Dashboard1?:language=en&:display_count=y&publish=yes&:origin=viz_share_link

Special features of visualization

- Users can hover over the symbols for detailed symptoms of each category
- Click on the icon to filter the safety ratio of drugs that have the same category
- Arial San Serif font for the entire visualization
- Sightlines are applied to separate different sections.
- Click on the age group to highlight
- Click on gender to highlight

References

- A. (2019). *Illicit Drug Data Report 2017–18* (pp. 134-169, Rep.). Australian Criminal Intelligence Commission.
- B. T. (2020). *National Drug Strategy Household Survey 2019* (pp. 1-102, Rep.). Canberra, ACT: The Australian Institute of Health and Welfare.
- C. Stangor, C. (2010). Chapter 6. States of Consciousness. In 924890889 725535155 J. Walinga (Author), *Introduction to Psychology: 1st Canadian Edition*. BCcampus.
- D. Morris, C. G., & Maisto, A. A. (2005). Chapter 4. States of Consciousness. In *Psychology: An introduction* (pp. 144-183). Upper Saddle River, NJ: Pearson Prentice Hall.