Project 5: Drugs

TOTAL: 20pts

PURPOSE

To understand patterns of public health indicators across the U.S. and use those patterns to understand similarities and differences to Washington, D.C.

GOAL

Analyze drug activity and other community health metrics across big cities in the U.S. to identify places similar to Washington, D.C.

DATA

The Big Cities Health Inventory Data Platform, found here.

METHODS

Use the analytic skills you've developed in Projects 1-4 to:

1. Analyze D.C. for notable patterns across different metrics
2. Clearly Identify which specific metrics demonstrate a pattern, and what the pattern is for each
3. Find cities similar to D.C. based on these patterns
4. *Potentially* make a table of your results/rankings in R, and then analyze/visualize there
    a. Make an table of just city names
        i. data.rankings = data.frame("City" = c("Washington DC",
        ii. "Baltimore MD",
        iii. "Miami FL",
        iv. "Atlanta GA",
        v. "Etc",
        vi. "Etc etc",
        vii. "Etc etc etc"))
    b. Add columns for the metrics/datasets you analyze
        i. data.rankings$some.metric <- c(100,95,90,85,80,75,70)
    c. And then add more and more columns as you analyze the data from the website

i. data.rankings$some.other.metric <- c(50,100,74,25,10,90,88)

d. NOTE: keep the values in order of the list of cities, so everything matches up

ANALYSIS

When conducting your analysis, consider this perspective:

1. State a finding
    a. This is the new thing that you've identified from the data
2. Provide your evidence
    a. This is typically a statistical reference
3. Add the context
    a. This is the integration of the stat(s) and the finding
    b. Compare your finding to the norm/average, or a similar measure in the data

Your goal, for this project:

1. **Five similar cities**
2. **Four variables per similar city**
    a. Don't use attributes from the same field for one city (i.e. race or sex). Use completely different variables.
    b. This is potentially as many as twenty different variables, unless you use a different attribute from the same dataset for different cities
3. **One visual per city**
    a. That's five total.

FORMAT

Submit your project one of two ways:

1. As a usable HTML file, via RMarkdown. You create this output as a .Rmd file in RStudio, but only submit the .html file. Use this file as a template. If you do this, the expectation is that you write code to create your own graphs.
2. A document - Word, Google, Pages, PDF, etc. If you do this, the expectation is that you download or copy/paste visuals from the original source website into your document.

SUBMISSION

Once your analysis is complete, please submit your project via Canvas.

GRADES

Data: **2pt**

- Provide a brief paragraph (3-4 sentences) on the data used in this project. This includes the specific source(s), the size, and the specific temporal and spatial constraints.

Methods: **2pt**

- Provide a brief paragraph (3-4 sentences) on the research methods leveraged to answer this question. This includes the software, calculations, skills, techniques, and unique workflows used to analyze your data and develop an answer. You do NOT need to describe click-by-click instructions or lines of code describing how you did things; you DO need to describe a logical process that is specific enough that a reader could replicate.

Analysis: **10pts**

- Using the data specific to this project, identify five cities *similar* to Washington, D.C. (2pts each)
    - Provide justification of similarity for each city (4-5 sentences each)
        - Each justification should include at least **four** specific reasons for similarity
            - Each reason should include a relevant statistical reference

Visuals: **5pts**

- Create one visual per similar city (1pt each)
- Each visual should have a direct connection to the analysis, and be clearly labeled

Formatting: **1pt**

- Error-free writing. No typos, run-on sentences, or sentence fragments. Proper punctuation. Real words.
    - Need help paraphrasing dense content? Try this. And here's a great reference, too.
- Project submitted via Canvas.

Please email me with any questions.