...Meets Specifications

Hi,
Good Job on your first submission. I can see your effort in finishing this. I like the way you implemented the visualisations. And the observations you made are accurate. There's not much to add here except from congratulations. Please keep up the good work.

Additional Resources

- I'd like to invite you to look at this link on this article on data wrangling

Code Functionality

- All code is functional and produces no errors when run.
- The code given is sufficient to reproduce the results described.

Great job, the code runs with no issues

Suggestion

- In case you get errors or you feel the need to debug your code, please take a look at this post that goes into it debugging tips.
- Learn more about python best practices here.

- The project uses NumPy arrays and Pandas Series and DataFrames where appropriate rather than Python lists and dictionaries.
- Where possible, vectorized operations and built-in functions are used instead of loops.

NumPy arrays, Pandas Series and DataFrames have been efficiently used throughout the project instead of python data structures.

Tip

- Pandas is such a high level tool that most tasks can be performed with vectorized operations. It is always less computationally expensive to use pandas and numpy's built in functions instead of loops.
- Take a look at this link if you are interested in learning a little more about vectorized operations and why they are much more efficient

- The code makes use of at least 1 function to avoid repetitive code.
- The code contains good comments and meaningful variable names, making it easy to read.

Well done including a function in order to reduce repetitive coding.

Suggestion

- Please take a look at this link to learn more about commenting in python

Quality of Analysis

The project clearly states one or more questions, then addresses those questions in the rest of the analysis.

Excellent, research questions have been clearly stated and addressed in the analysis.

Tip

- Here is a link that'll will help with asking ideal research questions

Data Wrangling Phase

The project documents any changes that were made to clean the data, such as merging multiple files, handling missing values, etc.

Exploration Phase

- The project investigates the stated question(s) from multiple angles.
- The project explores at least three variables in relation to the primary question. This can be an exploratory relationship between three variables of interest, or looking at how two independent variables relate to a single dependent variable of interest.
- The project performs both single-variable (1d) and multiple-variable (2d) explorations.

Awesome

- At least 3 variables have been provided for investigation.

- The project's visualizations are varied and show multiple comparisons and trends.
- At least two kinds of plots should be created as part of the explorations.
- Relevant statistics are computed throughout the analysis when an inference is made about the data.

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- At least two kinds of plots should be created as part of the explorations. ✓
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Conclusions Phase

- The Conclusions have reflected on the steps taken during the data exploration.
- The Conclusions have summarized the main findings in relation to the question(s) provided at the beginning of the analysis accurately.
- The project has pointed out where additional research can be done or where additional information could be useful.
- The conclusion should have at least 1 limitation explained clearly.
- The analysis does not state or imply that one change causes another based solely on a correlation.

- The steps taken during the data exploration have been reflected in the conclusion. ✓
- A summary of the main findings according to the questions you posed has been correctly presented ✓
- The analysis does not state or imply that one change causes another based solely on a correlation. ✓

Communication

- The code should have ideally the following sections: Introduction; Questions; Data Wrangling; Exploratory Data Analysis; Conclusions, Limitation.
- Reasoning is provided for each analysis decision, plot, and statistical summary.
- Interpretation of plots and application of statistical tests should be correct and without error.
- Comments are used within the code cells.
- Documented the flow of analysis in the mark-down cells.

- Markdown comments are rightfully placed throughout the code which makes it very easy to

follow the flow of thought.✓

- Reasoning has been provided for each analysis.✓

Visualizations made in the project depict the data in an appropriate manner (i.e., has appropriate labels, scale, legends, and plot type) that allows plots to be readily interpreted.

Good job in providing multiple polished visuals.