Project 1 Analysis draft

In this data set, we are exploring the income impact on higher education in the United States. We will be gathering data from 2019 to 2021 for those with a higher degree: Associates and Bachelor degrees, as well as those with no formal higher education.

Our questions:

1. What is the correlation between education levels (higher education vs no higher education) and income?
2. What degree type (associates or bachelors) has the greatest impact on income?
3. Which US Region has the highest amount of people with higher education degrees? Does this region have the highest income?

**Below are graph analysis**

* In the box plot the average Adjusted Per Capita Personal Income of 2021 was about $54,000 annually. The outliers are the max at $73,922.08 and the minimum at $29,324.54 annually.
* The map graph “State vs Adjusted Per Capita Personal Income 2021” North Dakota was the state with the most Adjusted Per Capita Personal Income 2021. The state with the least Adjusted Per Capita Personal Income 2021 is New York.
* Looking at the map graph “State vs Percent of Bachelor Degrees or Higher” North Dakota has 25% of Bachelor’s degree or higher while New York has over 30% of Bachelor’s degree or higher.
* The map graph “State vs Percent of Associate Degrees” is showing North Dakota above 35% of Associate degrees. New York has around 30% of Associate Degrees.
* The map graph “State vs Percent of No College” we notice New York is around 45% of No college degrees. North Dakota is sitting just over 40% with no college experience.
* Based on the scatter plot “% Any College vs Adj Income” there is a weak positive correlation with the percentage of people with degrees having a higher income in 2021.
* Based on the scatter plot “No College vs Adj Income” there is a weak negative correlation with the percentage of people with no degrees having a higher income in 2021.
* Looking at the scatter plot “% of Associate degrees vs Adj income” we see that there is negligible correlation in the percentage of people with associate degrees and having higher income in 2021.
* For the scatter plot “% of Bachelor degrees or higher vs Adj Income” has extremely weak positive correlation, much like scatter plot “% Any College vs Adj Income”.
* The bar graph displays the Adjusted Per Capita Personal Income in 2021 by region.
  + Based on the graph the Northeast has the highest amount of Bachelor degrees. The Northeast also is making the most Per Capita Income 2021.
  + The Midwest is shown to have the highest Adjusted Per Capita Income 2021. The Midwest has the lowest count of Associate and Bachelor’s degrees.
  + The South has the second lowest count of Associate and Bachelor’s degrees. They tie for third for Adjusted Per Capita Income 2021. They are the lowest region in terms of Per Capita Income 2021.
  + Based on the graph, the Southwest region has the second highest Adjusted Per Capita Income 2021.
  + The West region has the second most count of Bachelor’s degrees, and second most in Per Capita Income 2021. The West has a large range of colleges and population, for this is why it follows the Northeast in count of degrees.
* The bar graph of the South region is advising that TN is yielding the highest Adjusted Per Capita Income 2021. DE is resulting in half of Tennessee’s Adjusted Per Capita Income.
* The southwest region bar graph breaks down Texas as the clear leader in Adjusted Per Capita Income 2021 at just under $140,000 annually. AZ is in last place with Adjusted Per Capita Income 2021 at $60,000 annually.
* In the west region Wyoming is leading the pack with nearly $350,000 annually for Adjusted Per Capita Income 2021. It is shocking how low Hawaii is with all of their tourism, coming in at $50,000 annually for Adjusted Per Capita Income 2021.
* The Midwest is showing South Dakota as the highest Adjusted Per Capita Income 2021. The rest of the states are mostly in the range of $100,000 to $80,000 annually, with the exception of Kansas.
* The Northeast region bar graph has a wide range of Adjusted Per Capita Income 2021 from above $120,000 to just below $60,000 annually.

Conclusion:

Our questions:

1. What is the correlation between education levels (higher education vs no higher education) and income?
   1. In the below findings, any amount of college positively correlates to a higher income, but between the two degrees, bachelor’s degree and higher college degrees tend to yield a higher income.
2. What degree type (associates or bachelors) has the greatest impact on income?
   1. The scatter plot results advise that a bachelor degree returns a greater impact on income compared to the associates degree.
3. Which US Region has the highest amount of people with higher education degrees?
   1. Based on the bar graph findings, the Northeast region has the higher amount of people with the highest education.

Note limitations: Adjusted Per Capita Personal Income eliminated outliers, this removed the state Louisiana in our data as a result. We adjusted the income to match the cost of living per state, to provide better findings. We understand people can have multiple degrees. (Associates, Bachelors, and higher degrees)