Data Visualization Project: US Census Demographic Data Report

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Submission

My whole story link: Project story | Tableau Public

Insight 1: Unemployment, Working in public or private sector is all correlated to the poverty level

Link: Project final dash1 | Tableau Public

Summary:

My question is: How can working for a certain sector (*private* or *public*) in addition to *unemployment* rate affect the *poverty* level in a country?

The dashboard shows how working to *public* or *private* sector is correlated with the *poverty* level. Mainly, I used the *map* and *scatter plot* for the visualization. Interestingly, we found that working to private sector is associated with decreasing poverty level in a negative strong correlation. On the contrast, there is a positive strong relation between working to public sector and poverty level. Additionally, it is found that the unemployment rate is affecting the poverty level and shows a positive strong correlation too.

Design comment:

I used two visualizations: *Map* and *scatter plot*. Scatter plot is the best method of visualization when comparing between two descriptive measures and finding the relation or correlation between them. In my project, it helped me to show how different sectors that people are working for are correlated with the poverty level. In addition to unemployment rate as well. Combining scatter plots with the map and enabling filtering feature could give an informative insight about this overall and even for each state individually.

Resources:

- https://www.kaggle.com/datasets/muonneutrino/us-census-demographic-data
- Showing Correlation in Tableau for Better Analysis | DataCrunchCorp

Insight 2: Based on (Transit) and (mean commute time), (Washington DC) is the best state I terms of transportation.

Link: Project final 3 dash2 | Tableau Public

Summary:

My question is: What is the best state in *transportation*?

Bar plot was my choice to represent and sort the results. My benchmark was the average number of people using the public transportation (*Transit*) in addition to the (*mean commute time)* spent in transportation. My finding was that (Washington DC) is the best state in the transportation as it showed the minimum mean commute time along with highest number of people who use its public transportation which indicates the high quality of the transportation system of the state.

Design comment:

Bar plot was the most suitable for this. Choosing the bars *colors* and considering the *data-ink ratio* made it very clear to be understandable. The appropriate usage of blue colors for the bar along with the map enabled the clear visualization for the best transportation state in US overall and also to filter by each state to find its (transit) and (mean commute) values

Resources:

- https://www.kaggle.com/datasets/muonneutrino/us-census-demographic-data
- https://en.wikipedia.org/wiki/Washington,_D.C.

Insight 3: Can we know the proportion of each measure of interest overall or for each state? (Example: Number of men and women in California?

Link: Project final 3 dash3 | Tableau Public

Summary:

This is to find different statistics and information about any measure or number related the population. For example, you can compare between the total number of *men* or *women* in USA or for each state separately. I used pie chart to show clearly the accurate representation and visual of each measure of interest.

Design comment:

Pie chart plot is used with minimum labels and avoiding *chart junk* along with taking consideration of *design integrity* by representing the true size of the represented data.

Resources:

- https://www.youtube.com/watch?v=QQsuySeE9HY

Insight 4: Is there a correlation between the *total number of population* and the *number of under poverty level* individuals?

Link: Project final 3 dash4 | Tableau Public

Summary:

My last question was how the *total number of population* affects the *poverty* level. By using (side-byside) bar plot and scatter plot, I could find that the total number of population is really associated with increasing the poverty level or by other words when the total number of population increases, the total number of people who are under poverty level increases. So, I sound logical for some countries to put some plans related to this point in order to limit the massive increase of population that strongly affects its economy.

Design comment:

I used the *side-by-side bar* plot represented by two colors (blue and red) to show the comparison between the total population number and number of population who are under the poverty level (which is a new created column by (calculated field) option in Tableau). Along with the *scatter plot* to show the relation between the two attributes. The visuals used appropriate *colors* and considered high value of *data-ink ratio* in addition to accurate visual encodings using colors.

Resources:

- https://www.geeksforgeeks.org/side-by-side-bars-intableau/#:~:text=To%20draw%20a%20side%20by,side%20by%20side%20bar%20graph.