Assignment: Assignment03

Exercise 5: 2014 American Community Survey

Name: Rattanavilay, Thip

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1. What are the elements in your data (including the categories and data types)?

Answer:

There is 1 data frame and 2 factors as our data types. 136 observations and 8 variables

Variables:

* Id: Quantitative
* Id2: Quantitative
* Geography: Categorical
* PopGroupID: Quantative
* POPGROUP.display-label: Categorical
* RacesReported:Quantitative
* HSDegree: Quantitative
* BachDegree: Quantitative

Chart, histogram

Description automatically generated

4. Answer the following questions based on the Histogram produced:

4a - I would say this is unimodal because there is really one noticeable hump in the data near the 90% mark.

4b - This is not symmetric as there is more data on the left side of the peak than on the rights side.

4c - I would not consider this bell shaped as the data is mostly peaked on the far-right side so there is not an even bell curve on either side of the peak

4d - Normal distribution can resemble the bell shape as well. I wouldn't consider this normal because we have tight distribution between the 85-95% range with several outliers below that 85% mark.

4e - I think the data is skewed. We have a high population at the top percentage, but lots of outliers below the 85% mark with some sitting at 65%.

4g - Normal distribution cannot be used for this as we have a high percentage of the population that have their HS Degree. In order for it to be normal we would expect to have an even amount of distribution on either side of the peak or mean.

Chart, histogram

Description automatically generated

Chart, line chart, scatter chart

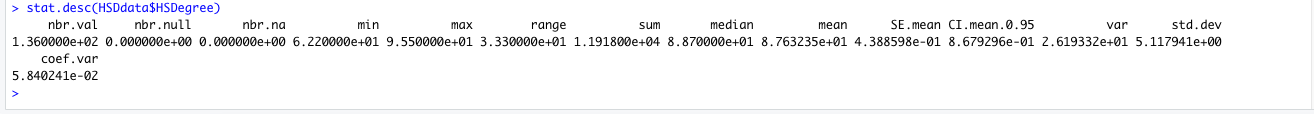
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Chart, line chart, scatter chart

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Table

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8. In several sentences provide an explanation of the result produced for skew, kurtosis, and z-scores. In addition, explain how a change in the sample size may change your explanation?

Answer:

The average percent of the population to have completed their HS Degree is 88%. Out data is actually skewed to the left of the mean based on the calculated normality. The kurtosis is telling us that this isn't a normal distribution because the numbers are farther from 0, which would represent our normal distribution.