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     (a) the variables you plan to explore,

     (b) the analysis you plan to perform

     a) the possible results your analysis may produce,and

     (b) how this could be relevant for the objectives of the course project

1. Social Connections/Activities with Family and Wellness

Self reported wellness scores

Interactions with family that may include:

     Calls, gatherings, and the amount of activities with family in the past 7 days.

Analysis to Perform

- **Correlation Testing**: By calculating the correlation coefficient, you can determine if there is a linear relationship between social connections with family and wellness levels. A positive correlation might indicate that increased family interaction is associated with higher wellness scores.
- **Paired test** - look at how lower and higher levels of family interactions will change wellness
  - To compare wellness scores before and after an increase in family interaction, or between individuals with low vs. high family interaction levels.
  - When you have paired samples (e.g., comparing wellness scores for the same individuals before and after increased family interactions).
- Confidence interval to see if certain levels of family interaction have an effect or if only above or below a certain threshold
- **Graphing the Data**:
  - **Scatter Plot**: Create a scatter plot of family connection levels (e.g., frequency of family interactions or time spent with family) on the x-axis versus wellness scores on the y-axis. This will help visualize any potential linear relationship between these variables.
  - **Bar or histogram graphs** may also be applicable to look at shape, skewness, outliers etc.
  - **Shape Analysis**: Observing the shape of the scatter plot may reveal patterns or clusters in the data, such as linear, curvilinear, or even non-linear associations. This can help confirm whether a linear correlation is appropriate or if other relationships exist.

Possible Results

- **Positive Correlation**: If the correlation coefficient is positive and statistically significant, it would indicate that higher levels of family interaction tend to align with better wellness outcomes. The scatter plot should show an upward trend if this is the case.
- **No or Weak Correlation**: A weak or near-zero correlation would suggest that family connection may not have a strong direct effect on wellness. In this scenario, the scatter plot might show no clear pattern, with data points scattered without a noticeable trend.
- **Negative Correlation**: Although less likely, a negative correlation could imply that increased family interaction is associated with lower wellness scores, which could indicate unique or complex influences on wellness in this data set.

Relevance:

- Could demonstrate a relationship of family interactions and health to help emphasize the importance of those interactions.

2. **Age and loneliness**

   Analysis to Perform
   - Simple Regression: Analyze the relationship between different age groups and loneliness. You could group participants by age ranges (e.g., 18-30, 31-45, etc.) and use regression to model the trend.

   Graphing the Data:

   - Box plot: Can help to show the shape of the different ages groups and can compare different median, quartiles, and any outliers.
   - Scatterplot to see how loneliness varies across age groups.

   Possible Results:
   - May find that loneliness increases or decreases with age, the results will help to better understand how loneliness varies by age.

   Relevance:

   - Can provide important information on how age can influence loneliness and overall mental health.

3. **Self perception and mental health.**

How someone sees themselves and their mental health, isolating each area.

Variables to Explore:

- **Self-perception scores**:
  - (FRIENDSHIP_hall_friendship_standards_self_similar_0)
  - How individuals view themselves in terms of physical appearance, social relationships, and personal strengths.
- **Mental Health Scores**: Self-reported measures of mental health, possibly including anxiety, depression, or overall emotional well-being.

Analysis to Perform:

- **Correlation Testing**: Investigate how self-perception correlates with mental health scores. A stronger self-image might be linked to better mental health.
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Graphing the Data:

- **Scatter Plot**: To visualize the relationship between self-perception and mental health scores.
- **Bar Graphs/Histograms**: To observe the distribution of self-perception scores and mental health outcomes, skewness and shape. Look for outliers too.

Possible Results:

- A **positive correlation** might indicate that people with higher self-perception have better mental health outcomes.
- **Weak or no correlation** could suggest that self-perception doesn't strongly influence mental health, or that other factors play a more significant role.

Relevance:

- Insights from this analysis could help inform strategies for improving self-perception to enhance overall mental well-being, important for mental health initiatives or interventions.

Other possible analysis

age on social wellness, can also isolate variables

Friends or family