Lab 4: Scatterplots, Regression, Correlation, Variable Transformation

Scatterplots

- Menu: **Graphs -> Chart Builder**
- Choose "Scatter/Dot" from the bottom left, then the first graph option
- Place variables on the two axes
- If cause-effect relation, put cause in x axis, effect in y axis
- May need to enable "group/point id" to identify outliers
- May need to adjust the axis endpoints to "zoom in"

To add a **regression line**:

- Double-click the graph to edit it
- Under Elements, choose "Fit Line at Total"
- Choose "Linear" from the Properties window.
- The line's formula appears in the graph.
- r^2 shows up in the corner.
- Also worth looking at "Loess". It provides the best "smooth line". Use as a guide to assess whether linear fit is appropriate.

Computing Correlations

You can quickly generate a table of correlations for the various variables in the dataset.

- Menu: **Analyze -> Correlate -> Bivariate**
- Select all variables you want to compare, move to right.
- Look for the pairs with high values.

Recoding Variables

Used when variables are coded incorrectly.

- Menu: **Transform -> Recode Into Different Variables**
- Choose the source variable.
- Type name and label for the output variable.
- In "Old and New Values" add pairs "old -> new".
- When the new variable is created, use "Data -> Define Variable Properties" to set its data values.
- Use a crosstabs or direct inspection to make sure the values got transformed correctly.

Creating New Variables via Formula

Use when you want to create a new variable via a formula using existing variables.

- Menu: **Transform -> Compute Variable**
- Type name for the new variable.
- Enter formula. Can type or click/drag.
- You can find lots of built-in functions at the bottom right.