SPSS Class Notes

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Useful resource for learning SPSS: http://www.ats.ucla.edu/stat/

What To Do

- Icons / Syntax file
- Analyzing Data
  - Descriptive Statistics: Frequencies (Ch. 3, 4, 5) / Crosstabs (Ch.7)
  - Adjusting and Pasting results into Word
- Plotting Data (Chapter 6, 8)
- Testing Hypotheses (Chapter 9 ~ 12)

How To Do

- Open the file **GSS93 subset.sav**

  [File → Open → Data → (Choose the **C**: drive**,** the **SPSS** folder**,** then **GSS93 subset.sav]**

- *Analyzing Data*
  - Frequency Table and Charts

    [Analyze → Descriptive Statistics → Frequencies → (choose variables: **childs, sibs, educ) → Charts (**choose **histogram)→ OK (**or click **Paste**)]**

  - Adjusting and Pasting results into Word

    [(in SPSS double click on a table or a graph) → (adjust the size of table or double click on any object to rewrite it)]

    [(in SPSS click on a table) **Edit → Copy Objects →** (switch to Word) **Edit → Paste]**

  - Descriptives: It provides basic descriptive statistics: n, mean, standard deviation.

    [Analyze → Descriptive Statistics → Descriptives → (choose variables: **childs, sibs, educ) → options → OK (**or click **Paste**)]**

  - Systax file: It is useful to keep the history of your work and adjust it simply.

    [(in the previous step, use Paste command) **Paste →** (highlight the commands and click arrow sign) **→ File → Save]**

    [(You can open the systex file later.) **File → Open → Systax]**

  - Crosstabs: It creates a two-way table or corsstabulation.

    [Analyze → Descriptive Statistics → Crosstabs → (choose variables for row and column: **educ, childs) →** (if you want to obtain separate crosstabulations for men and women, then choose **sex) → OK (**or click **Paste**)]**

  - Correlation: This displays a matrix of (Pearson) correlations for the variables selected.

    [Analyze → Correlate → Bivariate → (choose variables:childs, sibs, educ) → options → OK (or click **Paste**)]**

- *Plotting data*

■ Histogram   [**Graphs → Histogram (**choose **educ**, check display normal curve**) →**
       Titles → OK (or **Paste)**]
       [Double click the histogram → Double click on the x(y) axix →
         choose custom intervals]

■ Scatter plot   [**Graphs → Scatter (**choose **simple) → Define → (**choose **rincome91** and
       educ) Titles → OK (or **Paste)**]
       [**Graphs → Scatter (**choose **simple) → Define → (**select **sex** for **Set**
       Markers by)   **→ OK (**or **Paste)**]
       → It is for identifying points by sex.
   # Case Identification: In scatterplots, you can display case labels for all points in your chart,
            or for selected points.
     [**Graphs → Scatter (**choose **simple) → Define → (**select **region** for **Label Cases by)** **→**
     OK (or **Paste) → (activate the Chart Editor and turn the point selection mode on) →**
     (click point selection cursor on points to display case labels]

■ Stem-and-leaf plot [**Analyze → Descriptive Statistics → Explore (**choose **age** and
   classical) → statistics (select **outliers)→ plots (**choose **stem and leaf**) **→ OK (**or **Paste)**]
   # **Explore** provides more descriptive statistics and is good for in depth analysis of a particular
     variable. As you see, stem and leaf plots are not located under the **graph** menu, but are part
     of **Explore.**

- *Testing Hypotheses*

■ **One sample t-test**: It is the single-sample t-test, testing whether the sample was drawn
   form a population with a *known* mean.
   Ex. Let's assume that the mean of the income is known to be 10,000 dollars.
   [**Analyze → Descriptive Statistics → Descriptives → (**choose variables: **rincome91) →**
   OK (or click **Paste)**] → The sample mean is 12,800 dollars. For one sample t-test,
   [**Analyze → Compare Means → One Sample t-test (**pick the variable **rincome91** and
   let's compare it to 10) **→ (**set 10 for **Test Value** and decide the significant level in **Option)**
   → OK(or **Paste)**]
   # You can compare this outcome with your own result by hand.

■ **Paired-Samples t-test**: It makes use of the t-test for dependent samples. For example, we can test whether there is a significant difference between the average time watching TV shows and the average time watching TV News. The null hypothesis is that the difference in means of two related variables is zero. Remember that this test if for paired-samples.

(Analysis for the results of experiments when the same person or animal is observed under two different conditions, or studies in which you have a pair of subjects.)

[**Analyze → Compare Means → Paired-Samples T-test** (pick the variable **tvpbs** and **tvnews**) → **OK**(or **Paste**)]

■ **Independent Samples T-test**: It makes use of the t-test for independent samples. For example, we can test whether there is a significant difference in income level between males and females. Remember that this test is for independent samples (males and females).

[**Analyze → Compare Means → Independent Samples T-test** (pick the variable **rincome91** for T**esting Variable** and **sex** for **Grouping Variable**) → (specify the subgroups by giving 1 and 2) → **OK**(or **Paste**)]