Advanced Survey Data Analysis for Categorical and Rating Scale Data

EPSY 5245

Assignment 1: Analysis of Nominal & Ordinal Data

For this assignment you are free to use the data I have provided (TIMSS, MSS, EPSY5244) or your own data. SPSS and Excel copies of the student and teacher versions of the TIMSS data can be found on the course website. The teachers and students in these files are a representative sample of middle-school mathematics teachers and students from the U.S. Please complete the assignment in 4-5 pages. All statistics, tables, and graphical displays should be presented in APA format.

PART I: Graphical Display Critique

1. Find a graphical display of survey data online in a survey report. The graphical display should report more than one variable. Critique the graph based on the principles we reviewed in class. What is poorly done and what is well done in this graph?
2. Propose an alternative graph. Using roughly the same values reported in the critiqued graph, produce a graph that is consistent with good practice.

PART II: Categorical Associations

1. Identify and report two survey questions (variables) for which you are interested in examining a potential association. These two questions should be nominal or ordinal in their measurement scale, and substantive rather than demographic.
2. Examine the distributions of these two variables. Provide a table of frequencies and an appropriate graphical display for each of the two variables. Briefly describe each distribution.
3. Conduct and report the results of a Chi-Square test of independence examining the association between these two variables. Include the cross-tabulation table and an appropriate graphical display that relates the presence or absence of a relation between these two variables.
4. Interpret the results found in parts 2 and 3. Is there an association between these two variables?
5. Conduct one Chi-square goodness-of-fit test. Identify one categorical variable, report the frequencies, and report the hypothesized expected frequencies. Do your observed frequencies fit the expected frequencies?