

Homework 3

Due Wed, Nov 30, 4 pm

For all questions, please show your work or include a copy of the output, whichever is relevant. Please write your answers in report form, as if you were describing results in a published study. Most responses should not be longer than one paragraph. The data for each problem can be downloaded from the website: <http://www.upa.pdx.edu/IOA/newsom/data.htm>. **All answers should be in your own words.**

1. Use the data from the latest version of the *Socio-Economic Indicators for Functional Urban Regions in the United States, 1820-1970* study data set available at <http://www.upa.pdx.edu/IOA/newsom/data.htm>.

a. Test whether growth has a significant curvilinear relationship to income. Obtain a scatterplot of the relationship with a curved regression line drawn through it. Interpret your results in terms of the research problem.

b. Use the SPSS moderation macro to investigate whether the relationship of growth (X) to income (Y) depends on the percentage of adults in the city (Z). Report your findings, including the interpretation of the interaction and the simple effects (if appropriate) in terms of the research problem. Include information about the relevant regression coefficients, significance, and R^2 .

2. The data used for the remaining problems are from a survey of Chilean voters in 1988 who were asked whether they wanted to keep General Pinochet as a military leader or elect a new government. VOTE is the survey respondent's preference six months before the election (0 = Pinochet, 1 = new government). SEX is the sex of the respondent (0=female, 1=male), AGE is the age of the respondent, EDUC is a variable for three levels of education (primary, secondary, post secondary), INCOME is income in Chilean Pesos, and STATQUO is a score on a measure of political support for the status quo (standardized scores).

a. Use the SPSS macro for indirect effects to investigate whether income mediates the relationship between education and support for the status quo.

b. Using SPSS and the Crosstabs procedure, perform a chi-square analysis to determine if males or females (SEX) are more likely to vote for a change in government (VOTE).

c. Based on the frequencies obtained in the above problem, calculate an odds ratio by hand to determine the relative odds of voting for a new government (VOTE=1) if the respondent is male. Please show your work and interpret the results.

d. Using SPSS, request a logistic regression for SEX predicting VOTE. Interpret the chi-square fit, the regression coefficient, and the odds ratio in terms of the research problem. How does this compare to the results from 2b above?

e. Using SPSS, test a logistic model in which AGE predicts VOTE. Interpret the odds ratio, the chi-square fit, the psuedo-R-square, the significance test, and confidence interval in terms of the research problem.

f. Test a logistic model in SPSS, using SEX, AGE, EDUC, INCOME, and STATQUO to predict VOTE. Interpret the chi-square fit, the odds ratios, significance tests, confidence intervals, and the psuedo-R-square in terms of the research problem.

3. Read **one** of the following articles (copies available from the class website <http://www.upa.pdx.edu/IOA/newsom/da2>) and write **two paragraphs** summarizing the article. First, describe the study design (e.g., experimental, non-equivalent control group design, cross-sectional survey) and purpose of the study **in your own words**. Be sure to include who/what was studied (e.g., who were the participants?) and the number of cases. Then, choose one analysis used in the article that you have learned about in this section of the course (e.g., moderation, curvilinear, mediation, logistic, probit analysis), and, **in your own words**, describe the hypothesis that is being tested, the results obtained, and what the findings mean. Be sure to include the relevant statistical values and whether the results were significant. Write your paragraphs as if you were describing results in a published article and reporting someone else's results as in a review article.

Altpeter, M, Mitchell, J., & Pennell, J. (2005). Advancing Social Workers' Responsiveness to Health Disparities: The Case of Breast Cancer Screening. *Health and Social Work, 30*, 221-232.

Audirac, I. (1999). Stated Preference for Pedestrian Proximity: An Assessment of New Urbanist Sense of Community. *Journal of Planning and Educational Research, 19*, 53-66.

Egan, M., & Kadushin, G. (2004). Job satisfaction of home health social workers in the environment of cost containment. *Health and Social Work, 29*, 287-296.

Smith, D.T. (2005). Developing self-employment among African Americans: The impact of household social resources on African American entrepreneurship. *Economic Development Quarterly, 19*, 346-355.

Sullivan, D.M. (2007). Reassessing Gentrification Measuring Residents' Opinions Using Survey Data. *Urban Affairs Review, 42*, 583-592.