

## FACTOR ANALYSIS

In the CPS 1992 American National Election Study, survey respondents were asked to rate a series of social/demographic groups using feeling thermometers. The latter are essentially 0-100 rating scales, where 0 indicates extremely negative feelings, 50 is a neutral response, and 100 indicates an extremely positive response. Is there an underlying structure in the public's ratings of social and demographic groups? Use factor analysis to determine the answer to this question. Your write-up should be brief— think of it as the methodology section of a scholarly article. But, you should include the essential information about your results: For example, how many factors? How are they interpreted? Are they correlated or not? How well do they account for the observed variables?

Perform a principal components analysis of the same data. How do the PCA results compare with those you obtained from the factor analysis?

The data for this assignment are available in several formats: SAS (groups92.sas7bdat); STATA (groups92.dta); SPSS (groups92.sav); and ASCII text (groups92.txt). These files are all available on the "Assignments" page of the Workshop web site (<http://polisci.msu.edu/jacoby/icpsr/scaling/>).

Each dataset contains fifteen feeling thermometer variables and 1728 observations. There are no missing values in this dataset. In the ASCII text file, there is one line of data per observation, with whitespace between adjacent variable values; the variables appear in the order given below. For the SAS, STATA, and SPSS files, the variable names and descriptions are as follows:

- grp1 = Feminists
- grp2 = Conservatives
- grp3 = Big Business
- grp4 = Blacks
- grp5 = The Women's Movement
- grp6 = The Federal Government in Washington
- grp7 = Liberals
- grp8 = Hispanic-Americans
- grp9 = Lawyers
- grp10 = Southerners
- grp11 = Whites
- grp12 = Jews
- grp13 = Immigrants
- grp14 = Congress
- grp15 = Asian-Americans