

15

Speaking about Numbers

PROBLEM SET

1. Adapt the material in text box 16.2 (*Writing about Multivariate Analysis*, 402) into slides for a 10-minute presentation to a general audience, including the comments that explain how the material illustrates the principles of how to write about numbers.
2. Write the speaker's notes to accompany the slides you created for the previous question.
3. Create one or more slides to present the following material to a scientific audience. "The Center for Epidemiological Studies-Depression Scale (CES-D) is a 20-item scale for epidemiological research that was developed by the National Institute of Mental Health. Respondents are asked to choose from four possible responses in a Likert format, where '0' is 'rarely or none of the time (less than one day per week),' and '3' is 'almost all or all of the time (five to seven days per week).' The theoretical range is from 0 to 60, with higher scores reflecting greater levels of depressive symptoms. The CES-D has four separate factors: depressive affect, somatic symptoms, positive affect, and interpersonal relations. The CES-D has very good internal consistency with alphas of 0.85 for the general population and 0.90 for a psychiatric population (Radloff 1977)."
4. Adapt the following tables into simpler tables or charts for use on slides for a speech. Aim for one concept or series of closely related concepts per chart. See table 6.1 (*Writing about Multivariate Analysis*, 150) for guidance on which type of chart to use for each topic.
 - a. Table 5.1 ("Households by type, race, and Hispanic origin," *Writing about Multivariate Analysis*, 84)
 - b. Table 9.2 ("Predicted difference in birth weight by race/ethnicity and mother's educational attainment," *ibid.*, 216).
 - c. Table 6B. "Estimated log-odds of first trip to the United States," Fussell and Massey (2004).
 - d. Table 10A. "Effect of own SAT scores and roommate's SAT scores on cumulative grade point average, by range of own SAT score," Zimmerman (2003). Create one chart to show how the coefficients on own and roommate's math and verbal SAT scores vary across the models for different levels of combined own SAT score.

5. Write “Vanna White” notes to introduce and explain the following the tables or charts to a scientific audience. Use the GEE approach to summarize the patterns where appropriate:
 - a. Figure 6.8 (“Log-odds from competing risks model of reasons for program disenrollment,” *Writing about Multivariate Analysis*, 132)
 - b. Figure 6.2b (“Federal outlays by function, 2000,” *ibid.*, 124)
 - c. Figure 6.12 (“Predicted birth weight by race/ethnicity and income-to-poverty ratio,” *ibid.*, 138)
 - d. Table 7.1. (“Poverty rates [%] by group under current and proposed poverty measures, United States, 1992,” *ibid.*, 176)
 - e. Table 9.2 (“Predicted difference in birth weight by race/ethnicity and mother’s educational attainment,” *ibid.*, 216)
6. Practice presenting one table and one chart from question 5, using the Vanna White notes you wrote for that exhibit. Evaluate each of those mini-presentations using the checklist in chapter 15 of *Writing about Multivariate Analysis*. Revise the presentation of each slide to fit within two minutes.
7. Create the following materials for speeches.
 - a. Adapt the material in table 14A into a series of chart slides demonstrating why a multivariate model is needed to assess the impact of the Yonkers Residential Mobility Program on neighborhood and housing quality outcomes. Aim for one concept or series of closely related concepts per chart. Include text annotations to describe the patterns.
 - b. Adapt the multivariate model results from table 14B into one or two chart slides.
 - c. Write speaker’s notes for those slides, including Vanna White descriptions of charts, and transition sentences between slides, following the guidelines on pages 372–76 of *Writing about Multivariate Analysis*.