19. *Speaking about Multivariate Analyses*

1. Adapt the material in text box 20.3 and figure 20.5 on pp. 460–61 of *Writing about Multivariate Analysis, 2nd Edition* 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, following the guidelines in chapter 19.

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 for the overall CES-D 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 on pp. 140–41 in *Writing about Multivariate Analysis, 2nd Edition* for guidance on which type of chart to use for each topic.

   a. Table 5.1 ("Households by type, race, and Hispanic origin" p. 80)
   b. Table 6C ("Estimated log-odds of first trip to the United States," p. 39 of the *Study Guide to Writing about Multivariate Analysis, 2nd Edition*).
   c. Table 11A. ("Effect of own SAT scores and roommate's SAT scores on cumulative grade point average, by range of own SAT score," Zimmerman [2003], p. 85 of the *Study Guide to Writing about Multivariate Analysis, 2nd Edition*). 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," p. 124 in *Writing about Multivariate Analysis, 2nd Edition*)
   b. Figure 6.2b ("Federal outlays by function, 2000," p. 116)
   c. Figure 6.12 ("Predicted birth weight by race/ethnicity and income-to-poverty ratio," p. 129)
   d. Table 7.1. ("Poverty rates [%] by group under current and proposed poverty measures, United States, 1992," p. 166)
   e. Figure 16.1 ("Predicted difference in birth weight by mother's educational attainment and race/ethnicity," p. 342)

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 19. Revise the oral presentation of each slide to fit within two minutes.

7. Create the following materials for speeches.

   a. Adapt the material in table 15A (p. 116 of this study guide) 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 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 15B (p. 117 of this study guide) into one or two chart slides.
   c. Write speaker's notes for the slides you created in parts a and b, including Vanna White descriptions of charts, and transition sentences between slides, following the guidelines in the section on "Speaker's Notes" on pp. 430–34 of *Writing about Multivariate Analysis, 2nd Edition*.