Exploring The Web

Chapter 5

5.65 Association and causation. Find an example of a study in which the issue of association and causation is present (either association is confused with causation or the association is not confused with causation). Summarize the study and its conclusions in your own words. Be sure to include a copy of the actual article or at least the web source, title, and location where the article was published. The *Chance News* website at `www.causeweb.org/wiki/chance/index.php/Main_Page` is a good place to look for examples.

5.66 Predicting batting averages. Go to `www.mlb.com/` and find the batting averages for a diverse set of 30 players for both the 2014 and 2015 seasons. You can click on the STATS tab to find the results for the current season as well as historical data. You should select only players who played in at least 50 games both seasons. Make a scatterplot of the batting averages using the 2014 season average as the explanatory variable and the 2015 season average as the response. Is it reasonable to fit a straight line to these data? If so, find the least-squares regression line for predicting batting average in 2015 from that in 2014 based on your sample of 30 players. In 2014, the major league leader in batting was Jose Altuve, who had a batting average of 0.341. What does your least-squares regression line predict for the 2015 batting average of someone who hit 0.341 in 2014? Is the 2015 predicted batting average higher or lower than 0.341?

5.67 Predicting the federal budget. Go to the Congressional Budget Office website, `www.cbo.gov/topics/`. Click on the TOPICS AND SUBTOPICS button and select BUDGET AND ECONOMIC OUTLOOK. Then click on APPLY. What is the current prediction for the federal budget in five years' time? Is a surplus or a deficit predicted? Do you think the prediction is accurate? Why or why not?