**PRACTICE PROBLEMS**

Use the *schools* file for the following analyses. These data come from 64 Chicago high schools.

A) Look at the distribution of these schools’ average 1993 tenth grade math performance data and at the distribution of their average 1993 tenth grade reading performance data. If you find any outliers in these distributions, indicate the name of the outlying school, whether the outlying score is high or low, and whether or not it is extreme. Is there anything noteworthy about these distributions?

B) How many of these schools showed a higher graduation rate in 1994 than in 1993? For how many schools did this rate drop in 1994? Did any schools show no change in the graduation rate across these two years?

C) The percent of students from low-income households was tallied for each school. What are the mean and median values for this variable? Describe the shape of the distribution for this variable. Do schools below the median for percent of low-income households have a significantly different mean on average 1993 tenth grade math performance than schools above the median? Report your results in APA style. What are these two means? Repeat this comparison for the average 1993 tenth grade reading performance data. Summarize these findings.

D) Describe the direction and strength of the relationship between a school’s average tenth grade math performance in 1993 and its average 1993 ACT score. Does a linear model seem appropriate for judging this relationship? Do you find any outlying schools when examining this relationship? What percent of the variance in these schools’ average 1993 ACT scores can be associated with average tenth grade math performance in 1993?

E) Describe the direction and strength of the relationship between a school’s 1993 graduation rate and the percent of its students from low-income households in 1993. What is the linear regression equation for predicting the 1993 graduation rate on the basis of the 1993 low-income percent? If 22% of a particular school’s students came from low-income households in 1993, what would you predict its graduation rate to have been that year? As it happens, 22% of Lake View High School’s students came from low-income households in 1993, but its graduation rate that year was only 51.3%. What is the residual for Lake View?