CH6 LAB - MORE ON UNIQUE STRENGTH

1. Download the sleepanimals.sav file from Nexus to your M: drive. This is an SPSS data file with variables to predict total sleep time (*totsleep*) for 62 species of animals on the basis of their bodyweight (*bodywt*) and exposure to danger (*exp*). Click on the file to load it into SPSS or enter SPSS then Open | Data to load the file into SPSS. Add syntax commands to answer the following questions.

2. Correlate the variables *totsleep*, *bodywt*, and *exp*. Is there anything unusual about the correlation matrix? Why might this be a problem for later regression analyses? Run the following commands and repeat the correlation command.

> SELECT IF NOT MISSING(totsleep).
> EXEC.

3. Do a FREQUENCY analysis of *bodywt* (use /FORMAT = NOTABLE /HISTOGRAM) and discuss the results and what might be an appropriate response. Enter the following command and rerun FREQUENCY.

> SELECT IF bodywt < 2500.

4. Use regression to obtain part and partial rs for predicting *totsleep* on the basis of *exp* controlling for *bodywt*, including CHANGE and ZPP options .

5. From the regression analysis in C4, calculate several measures of the strength of the unique contribution of *exp* to the prediction of *totsleep*. Find the statistics on the computer printouts.

6. Use SPSS to obtain the part r for *exp* using residual scores.

7. Use SPSS to obtain the partial r for *exp* using residual scores.

8. Compute standardized scores (z scores) for the variables and redo the overall multiple regression analysis. Compare the standardized and unstandardized regression coefficients and discuss their relative size.

9. What conclusions are warranted about the unique contribution of *exp* and about the effect, if any, of controlling for *bodywt*?