General Feedback on SPLH 861 HW 1

1. I asked you to submit both syntax and output so I could see where any problems crept in, but I noticed most of you did not add comments to your syntax. Comments are your trail of breadcrumbs to refer to later and to make these files as useful to you as possible in analyzing your own data. If nothing else, please humor me and use comments!

2. A common syntax problem was that some of you tried to turn opponent into two different variables. Instead, opponent type should still be one variable that distinguishes the two groups, just using values of 0 and 1 instead of 1 and 2. In my chapter 2 example, demgroup became two variables because it was originally three groups, not two. In addition, I provided the −2LL values so that you would know if you have the right model predictors, and I provided the fixed intercept so that you would know if you had centered those predictors correctly. So make sure those two numbers match your output before proceeding.

3. Try to use real minus signs (i.e., find it in the symbols menu) rather than dashes in your text and tables. Copy editors will thank you and your text will look more professional.

4. We do not "run" or "perform" or "calculate" models. We "estimate" models; we "conduct" or "perform" analyses.

5. Many of you added extra conditionality to your interpretations that should not have been there (presumably following chapter 2, in which conditionality was necessary). If a predictor only has a main effect, then that main effect is for the entire sample, and is not specific to any other predictor variable's value. Only once it is part of an interaction term does the "for the interacting predictor $= 0$" idea come into the interpretation.

6. There was some confusion over how to report the significance test of the model R^2. F-test results only are provided in SPSS, χ^2 results only are provided in STATA, and both are provided in SAS. You may report either one because F*numerator degrees of freedom $= \chi^2$ (in which numerator df $= $ # predictors tested). However, χ^2 assumes infinite denominator degrees of freedom (i.e., infinite sample size). The format of these tests (which tell you whether the total variance accounted for by the set of predictors listed is > 0) is as follows:

    F (numerator df, denominator df) = F value, $p = $ p value

    χ^2 (numerator df) $= \chi^2$ value, $p = $ p value

    > Note that p-values cannot be 0! If reported as .000 or .0000 in your output, then say $p < .001$ or $.0001$.

7. The proportion of variance accounted for by the model is called R^2. It is a proportion that cannot go above 1. It is calculated using the residual variances from the empty model and the target model as $R^2 = (\text{resvar}_{empty} - \text{resvar}_{target}) / \text{resvar}_{empty}$. A related but separate quantity is the incremental R^2 for the change in R^2 after adding a new predictor, which is calculated as the difference in R^2 between the old model and the new model. So I would calculate the R^2 per model first, then subtract between them to get the incremental R^2.