Homework 6
SOCI 502B: Graduate Statistics (Fall 2017)

10 points

Due: December 13, 2017

Overview:

In this assignment, you'll be completing 1 problem using SPSS (or R). This problem covers topics from Chapter 19 in your textbook.

Problem 1 (*Logistic Regression*)

- Using the GSS 2014 data set (`GSS2014_final`)[1], conduct a multivariate logistic regression analysis of how a person's "political (conservative) views" (`polviews`), and their race (`race`) influence their "beliefs about racial inequality" variable (`racdif4`).[2]

- You will need to run two separate models: The first with only `race` in the model as the IV, and the second (full model) with both `race` and `polviews` to the subsequent model.

- First, recode the variables as such:

    - `racdif4` is racial inequality: 1 = racial inequality because blacks lack motivation; 0 = racial inequality **NOT** because blacks lack motivation
    - `race` is race: 1 = white; 0 = non-white

- In the full multivariate logistic regression model, what is the value of the Nagelkerke's R^2 (our psuedo-R^2) coefficient? How does it change from the first model?

- In the full multivariate logistic regression model, what is the value of the $-2LL$ statistic? How does it change from the first model?

- In the full multivariate logistic regression model, what is the value of the X^2 statistic? How does it change from the first model?

- Correctly and fully report and interpret the full model statistics. Include variance explained (Nagelkerke's R^2, with interpretation), model fit (X^2 and $-2LL$, with interpretation), and the values (odds ratios) and significance of each independent variable.

- Next, run the full model with race dummy coded:

    - `black` = 1 and everything else is 0

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[1]For SPSS, use `GSS2014_final.sav`. For R, use the R script and `GSS2014_final.csv`

[2]The survey question reads: "On the average (Negroes/Blacks/African-Americans) have worse jobs, income, and housing than white people. Do you think these differences are... because most (Negroes/Blacks/African-Americans) just don't have the motivation or will power to pull themselves up out of poverty?"

- – `other` $= 1$ and everything else is 0

- How do the model fit statistics (X^2 and $-2LL$) differ between the regular `race` model and the dummy coded race (`black` and `other`) model?