

## ACTIVITY 5

PART E – Thursday, April 11

**Due:** Tuesday, April 23

A hard copy of Activity #5 is due on Tuesday, April 23 (Week 13).

Using the midterm dataset, evaluate the following hypotheses using regression.

- (1) Evaluate the hypothesis: A respondent becomes older (info\_age) they are more likely to feeling positively about Barack Obama (score\_obama).
  - (a) Copy and paste the “Coefficients” output box onto your document.
  - (b) For every additional year that someone ages, how do we expect to see the thermometer score for Barack Obama to change?
  - (c) When a respondent is born (age 0), what value is likely to be their thermometer score for Barack Obama?
  - (d) What is the probability that this relationship is due to chance?
  - (e) Do we accept or reject the hypothesis?
  - (f) Copy and paste the “Model Summary” output box onto your document.
  - (g) What is the r-square value for this hypothesis?
  - (h) This model explains how much of the variation in the dependent variable?
  
- (2) Evaluate the hypothesis: A respondent’s age (info\_age) **positively** affects a respondent’s political knowledge score (knowledgescore).
  - (a) Copy and paste the “Coefficients” output box onto your document.
  - (b) For every additional year that someone ages, how do we expect to see a respondent’s knowledge score change?
  - (c) When a respondent is born (age 0), what value is likely to be their knowledge score?
  - (d) What is the probability that this relationship is due to chance?
  - (e) Do we accept or reject the hypothesis?
  - (f) Copy and paste the “Model Summary” output box onto your document.
  - (g) What is the r-square value for this hypothesis?
  - (h) This model explains how much of the variation in the dependent variable?
  
- (3) Evaluate the hypothesis: Race (info\_white), party identification (info\_pid), education (info\_educ), gender (info\_gender), income (info\_income), and age (info\_age) affect the likelihood that someone will vote in the 2016 presidential election (willvote2016).
  - (a) Copy and paste the “Coefficients” output box onto your document.
  - (b) How much more likely is a white person to vote in 2016 than a non-white person?
  - (c) How much more likely is a male to vote in 2016 than a female?
  - (d) When all independent variables and control variables are 0, what is the likelihood that a person will vote?

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- (e) In this model, what is the probability that the relationship between race and the likelihood to vote is due to chance?
  - (f) In this model, what is the probability that the relationship between gender and the likelihood to vote is due to chance?
  - (g) Copy and paste the "Model Summary" output box onto your document.
  - (h) What is the r-square value for this hypothesis?
  - (i) This model explains how much of the variation in the dependent variable?
- (4) Evaluate your own hypothesis that is testable using a multiple regression. Remember, for a multiple regression, the independent variable should be interval-ratio, the dependent variable should also be interval-ratio. Your control variables can be any level of measurement.
- (a) What is the hypothesis?
  - (b) What is your independent variable?
  - (c) What is your dependent variable?
  - (d) What are your control variables?
  - (e) Copy and paste the "Coefficients" output box onto your document.
  - (f) Interpret the appropriate beta coefficient to explain how the independent variable affects the dependent variable.
  - (g) Do you confirm or reject the hypothesis?
  - (h) Interpret the r-square to explain how good of a predictor your model is.