

## Example

### 2016 ANES Pilot Data

**Variables:** info\_gender, obamajob, willvote2016

Info_gender	Respondent's self-reported gender (0 = female; 1 = male)
obamajob	Do you approve, disapprove, or neither approve nor disapprove of the way Barack Obama is handling his job? (11 = Disapprove extremely strongly; 2 = Disapprove moderately strongly; 3 = Disapprove slightly; 4 = Neither approve nor disapprove; 5 = Approve slightly; 6 = Approve moderately strongly; 7 = Approve extremely strongly)
willvote2016	The likelihood that the respondent would vote in the upcoming 2016 presidential election (measured as a percentage likelihood from 0 to 100)

**Hypothesis:** The more that someone approves of the job Barack Obama is doing in office, the more likely they will be to vote in 2016, controlling for gender.

1. What is the independent variable? **obamajob**
2. What is the level of measurement for the independent variable? **Ordinal**
3. What is the dependent variable? **willvote2016**
4. What is the level of measurement for the dependent variable? **interval-ratio**
5. Discuss a possible causal mechanism for this hypothesis. **People are motivated by the performance of an incumbent an election. If people like the job that the incumbent is doing, they are going to make an effort to keep politics same as always.**
6. State the null hypothesis. **There is no relationship between someone's perception of Obama's job performance and the likelihood to vote in 2016.**
7. For both your independent and dependent variables, calculate and then write about your descriptive statistics. You should use the appropriate measure of central tendency and variability. **My independent variable, obamajob, is an ordinal variable. Thus I will report the mode, which is 1 (or 'Disapprove extremely strongly'). The range is 6. My dependent variable, willvote2016, is an interval-ratio variable. Thus I will report the mean (because there is no outlier), which is 85.70. The standard deviation is 29.178 and the range is 100.**
8. What is the value of the r-square in the regression? **.004**
9. How do you interpret the r-square? **This model (my independent variable and control variable) explains 0.4% of the variation in the likelihood to vote. We usually hope to get a r-square of .60, so this is not a strong model in whether or not someone is likely to vote.**

10. What is the value of the beta coefficient for your main independent variable?  
**-.507**
11. How do you interpret the effect of your main independent variable on the dependent variable? **For every unit increase on the approval scale for President Obama, there is a corresponding .507 unit decrease in the likelihood to vote. Given that this approval scale is measured in 7 categories, this is a tiny effect.**
12. What is the significance value of this main independent variable? **.156**
13. How do you interpret this significance value in evaluating the hypothesis? **There is a 15.6% probability that the relationship between obamajob and willvote2016, controlling for info\_gender, is related to chance. We reject the hypothesis.**
14. What is the value of the beta coefficient for your control variable? **2.376**
15. How do you interpret the effect of your control variable on the dependent variable? **Males are 2.376 percentage points more likely to vote.**
16. What is the significance value of this control variable? **.159**
17. How do you interpret this significance value in evaluating the hypothesis? **There is a 15.9% probability that the relationship between gender and willvote2016, controlling for obamajob, is related to chance. We reject this hypothesis.**
18. What is the constant for this model? **86.500**
19. How do you interpret this constant? What does it mean for the independent and dependent variables? **When obamajob and info\_gender are both zero, the probability someone will vote in 2016 is 86.500%**
20. Is this constant significant? **Yes, the regression shows that the significance value of the constant is .000.**

### American National Election Studies Dataset

**Hypothesis:** White respondents (info\_white) are more likely to feel coldly toward blacks (score\_black), controlling for age (info\_age).

1. What is the independent variable? **info\_white**
2. What is the level of measurement for the independent variable? **Nominal**
3. What is the dependent variable? **score\_black**
4. What is the level of measurement for the dependent variable? **Interval-ratio**
5. What is the value of the r-square? **(Answer: .025)**
6. How do you interpret the r-square?
7. What is the value of the beta coefficient for your main independent variable?  
**(Answer: -8.547)**
8. How do you interpret the effect of your main independent variable on the dependent variable?
9. What is the significance value of this main independent variable? **(Answer: .000)**
10. How do you interpret this significance value in evaluating the hypothesis?
11. What is the value of the beta coefficient for your control variable? **(Answer: .104)**

12. How do you interpret the effect of your control variable on the dependent variable?
13. What is the significance value of this control variable? (**Answer: .013**)
14. How do you interpret this significance value in evaluating the hypothesis?
15. What is the constant for this model? (**Answer: 68.237**)
16. How do you interpret this constant? What does it mean for the independent and dependent variables?
17. Is this constant significant? (**Answer: Yes**)