

Example

2016 ANES Pilot Data

Variables: info_age & score_scientists

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| Info_age | What is your age? |
| score_scientists | The thermometer score about how the respondent feels about the scientists (0 (cold) to 100 (warm)) |

Hypothesis: As an individual ages, they are more likely to feel colder about scientists.

1. What is the independent variable? **Info_age**
2. What is the level of measurement for the independent variable? **Interval-ratio**
3. What is the dependent variable? **Score_scientists**
4. What is the level of measurement for the dependent variable? **Interval-ratio**
5. Discuss a possible causal mechanism for this hypothesis. **The older someone is, the more likely they are to have seen how scientists fumble and fudge their findings, leading to a discrediting of academic scientists.**
6. State the null hypothesis. **There is no relationship between age and the feelings about scientists.**
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, age, is an interval-ratio variable. Thus I will report the mean (because there is no outlier), which is 62 years old. The standard deviation is 16.98 and the range is 76. My dependent variable, score_scientists, is an interval-ratio variable, thus I will either report the mean or median. Since there are no outliers in this variable, mean is more appropriate. The mean is 72.81. The standard deviation is 23.99 and the range is 100.**
8. What is the value of the Pearson coefficient? **.018**
9. In what direction does the independent variable affect the dependent variable? **Since the Pearson coefficient is positive, as the values of age increase, the feelings about scientists get warmer.**
10. How strong is this relationship? **This relationship is weak because it lands between 0 and .301.**
11. What is this test's significance value? **.268**
12. How do you interpret this significance value in evaluating the hypothesis? **There is a 26.8% probability that the relationship between age and their feelings about scientists is due to random chance. Our relationship is not significant.**

Hypothesis: As your feelings about Hillary Clinton get warm, your feelings about scientists get colder.

1. What is the independent concept? (variable: score_clinton)
2. What is the dependent concept? (variable: score_scientists)
3. What is the null hypothesis? (Answer: There is no relationship between your feelings about Hillary and your feelings about scientists)
4. What test statistic would you use? (Answer: Correlation)
5. What is the Pearson? (Answer: .324)
6. Is this a weak, moderate, or strong relationship? (Answer: Moderate)
7. What is the level of significance? (Answer: .000)
8. Do you accept the hypothesis? Do you confirm the null hypothesis? (Answer: Confirm the hypothesis, reject the null)