Chapter 9

# Try It Yourself: Connecting Linear Regression and T-Tests

## Excel Instructions

Note: Because of the way t-tests and regression are implemented in Excel, the data need to be in a format specific to each. This is why there is a different file for each procedure. In other words, penguins\_bill\_sex.csv is the same data as penguins.csv but formatted differently.

Perform the Two-Sample T-Test:

1. Open the penguins\_bill\_sex.csv dataset
2. Click “Data” tab
3. Click “Data Analysis”
4. Click “t-Test: Two-Sample Assuming Equal Variances”
5. Click “OK”
6. Variable 1 Range → select the data in the bill\_male column A2:A169
7. Variable 2 Range → select the data in the bill\_female column B2:B166
8. Click “OK”

Fit a Regression Line:

1. Open the penguins.csv dataset
2. Create an indicator variable for sex first
   1. In cell I1, type “sex\_male”
   2. In cell I2, type:

=IF(G2="male",1,0)

* 1. Double-click the right bottom corner of the cell to populate the whole column.

1. Click “Data” tab
2. Click “Data Analysis”
3. Click “Regression”
4. Click “OK”
5. Input Y Range → select all data in the bill\_depth\_mm column*,* D2:D334
6. Input X Range → select all data in the sex\_male column, I2:I334
   1. Be sure that your columns do not contain any missing values!
7. Click “OK”