Chapter 7

# Try It Yourself: Perform a t-Test Using a Different Alternative Hypothesis

## Excel Instructions

1. Open the school.csv dataset in Excel.
2. Verify that the first row of Column B is labeled “gpa.”
3. Calculate Sample Mean and Standard Deviation:
   1. In Cell I2, type the following expression as the sample mean:

=AVERAGE(B:B)

* 1. In Cell H2, type the following label: “Sample mean:”
  2. In Cell I3, type the following expression as the sample standard deviation: =STDEV.S(B:B)
  3. In Cell H3, type the following label: “Standard deviation:”

1. Determine Sample Size:
   1. In Cell I4, type the following expression for the number of observations in the sample:

=COUNT(B:B)

* 1. In Cell H4, type the following label: “Sample Size:”

1. Set Hypothesized Mean:
   1. In Cell I5, enter the value 3.5.
   2. In Cell H5, type the following label “Hypothesized Mean”:
2. Calculate t-statistic:
   1. In Cell I6, type the following expression:

=(I2 - I5)/(I3/SQRT(I4))

This is based on the following formula:



* 1. In Cell H6, type “t-value:”

1. Find p-value:
   1. In Cell I7, type:

=T.DIST(I6,I4-1,TRUE)

* 1. In Cell H7, type “p-value:”