Chapter 7

# Try It Yourself: Perform a t-Test on Observational Data

## Excel Instructions

1. Open the school.csv dataset in Excel.
2. Verify that the first row of Column C is labeled “daily\_sleep\_hr.”
3. Calculate Sample Mean and Standard Deviation:
   1. In Cell I2, type the following expression:

=AVERAGE(C:C)

This is your sample mean.

* 1. In Cell H2, type the following label: “Sample mean:”
  2. In Cell I3, type the following expression:

=STDEV.S(C:C)

This is your sample standard deviation.

* 1. In Cell H3, type the following label: “Standard deviation:”

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

=COUNT(C:C)

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

1. Set Hypothesized Mean:
   1. In Cell I5, enter a value of 7. This represents 7 hours.
   2. In Cell H5, type “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 the label “t-value:”

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

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

* 1. In Cell H7, type the label: “p-value:”