Analyzing Data

Let's answer statistical questions by analyzing data, and comparing and contrasting their distribution shape and measures of center and variability.

16.1 Experimental Conditions

To test reaction time, the person running the test will hold a ruler at the 12 inch mark. The person whose reaction time is being tested will hold their thumb and forefinger open on either side of the flat side of the ruler at the 0 inch mark on the other side of the ruler. The person running the test will drop the ruler and the other person should close their fingers as soon as they notice the ruler moving to catch it. The distance that the ruler fell should be used as the data for this experiment.

With your partner, write a statistical question that can be answered by comparing data from two different conditions for the test.

16.2 Dropping the Ruler

Earlier, you and your partner agreed on a statistical question that can be answered using data collected in 2 different ruler-dropping conditions. With your partner, run the experiment to collect at least 20 results under each condition.

Analyze your 2 data sets to compare the distributions from the statistical questions. Next, create a visual display that includes:

- Your statistical question.
- The data that you collected.
- A data display.
- The measure of center and variability that you found that are appropriate for the data.
- An answer to the statistical question with any supporting mathematical work.

16.3 Heights and Handedness

Is there a connection between a student's dominant hand and their height? Use the table of information to compare the size of students with different dominant hands.