Activity: Understanding confidence intervals
Data Collection

This document provides some additional instructions and examples for the instructor, if the instructor wishes to collect data from the class to use instead of the provided dataset on Facebook friends. This is an optional modification to the activity.

Google Forms:

Google Forms is an online tool that enables the collection of information via a personalized survey. Depending on the classroom response system technology available (e.g. iClicker), all data can be collected from students via Google Forms or a mix of Google Forms and the classroom response system. Detailed instructions on how to use Google forms can be found online (e.g., https://support.google.com/docs/answer/87809?hl=en).

The form should include a title relating to the activity (e.g., "Activity: Understanding confidence intervals"), followed by a brief description of the survey. An example text for the description is:

> We will be conducting a class activity that will make use of data collected from all students in the class. Please provide your answers below. Thanks!

The survey should include one or more questions, in a "Short answer text" format, to allow the students to input their responses. The questions should measure a quantitative variable that is of interest to students. Below are several example questions:

> What is your height in cm? (**Enter just the number, no words or 'cm' etc.**)

> How much do you pay each month for housing (i.e. rent)? (**Enter just the number, no words or $**)

> How many Facebook friends do you currently have? For non-Facebook users, please enter 0.

Instructors can modify the survey questions as desired. The question should specify the units in which the response should be given. It is also advised that the instructions include a statement about the format in which the responses should be entered to minimize the need for data cleaning.

Concept of "Population"

If the instructor is collecting data from the class to use (instead of the provided dataset), then the population becomes all students who respond to survey questions. For more advanced

classes, instructors may wish to address the concept of 'population' in further detail. Instructors may ask questions about the link between the recorded population and the theoretical population of interest (e.g., all students in the class; all students in the course in recent years; all students who might ever take/have taken course; etc.).

This issue will be hard to avoid when you are collecting data from your class and not all students respond. For the random number generation, students will need to use n = the number of respondents, not the number of students enrolled in the course.