

Designing a study

In political polling, a *job approval rating* for a person or organization is the proportion of people who approve of the job that person or organization is doing in their elected role. The one most commonly referred to in the U.S. is the U.S. President's job approval rating.

Your group task is to **design a method for determining or estimating the President's current job approval rating among Puget Sound students**. As in the real-world, you face limited time and resources. You should design a method that your group could carry out by a deadline of noon tomorrow.

In describing your method, aim to be precise and detailed. Include enough detail to allow another group to carry out your plan using only the detail you provide in writing.

Sample survey terminology

- ▶ **population:** entire group of interest
Example: all current Puget Sound students
- ▶ **sample:** a set selected from the population
Example: a small number of Puget Sound students selected to be asked about job approval
- ▶ goal is to select in a way that is likely to produce a sample with relevant characteristics that match the population
Example: want sample to have proportions of political party affiliation (Democrat, Republican, independent/other) similar to population
- ▶ **bias:** sample has characteristic relevant to what is being measured that differs from the population
Example: a sample of only College Democrats or only Young Republicans would have bias in terms of political party affiliation

Simple Random Samples

- ▶ ideal for sampling is a **simple random sample (SRS)**
- ▶ a simple random sample of size n is a sample chosen by a process in which every combination of size n has an equal chance of being chosen
- ▶ one method to generate a SRS: make list of entire population and then use a *table of random digits* or a *random number generator* to select a sample
- ▶ picking a SRS is not always feasible when the population is large or not fully accessible
- ▶ examples of non-SRSs are *convenience samples* and *systematic samples*