

## P Chapter 8 Projects

### Project A: Constructing a Confidence Interval for a Population Mean

*Choose a study question and follow the given steps to construct a confidence interval for a population mean.*

Choose one of the study questions below, or write your own study question for which you could collect data from students on your campus to estimate a population mean.

- How many hours per week do college students on your campus study?
- What is the mean number of parking tickets college students on your campus receive per semester?
- What is the mean price of rent paid per month by college students on your campus?

For the study question you chose, construct a confidence interval for that parameter by doing each of the following.

1. Collect data on your study question from at least 30 students on your campus.
2. Calculate the sample mean and sample standard deviation of your sample data.
3. Calculate the margin of error for a 95% confidence interval using your sample statistics.
4. Construct a 95% confidence interval using your sample statistics.
5. Write a summary of your results.

## Project B: Constructing a Confidence Interval for a Population Proportion

*Choose a study question and follow the given steps to construct a confidence interval for a population proportion.*

Choose one of the study questions below, or write your own study question for which you could collect data from students on your campus to estimate a population proportion.

- What percentage of college students on your campus own a smartphone?
- What percentage of college students on your campus are seeking a degree in your field of study?
- What percentage of college students on your campus live in on-campus housing?

For the study question you chose, construct a confidence interval for that parameter by doing each of the following.

1. Collect data on your study question from at least 30 students on your campus.
2. Calculate the sample proportion from your sample data.
3. Calculate the margin of error for a 90% confidence interval using your sample statistics.
4. Construct a 90% confidence interval using your sample statistics.
5. Write a summary of your results.