Summary of Sample Size and Power

In this lesson, you learned the role that sample size plays in statistical inference. Statistical inference is about making sound decisions from your data.

In interval estimation, larger samples provide smaller margins of error and narrower confidence intervals. With more data, you have more precise estimates of the population parameters.

In hypothesis testing, larger samples increase the power of your tests. With a larger sample, you have a more sensitive test and are less likely to commit a false negative (a type II error).

However, sampling comes at a cost. When planning for data collection, you need to consider the practical implication of collecting larger samples. How much precision do you need? How small is the difference that you need to detect?

You have learned the basic thinking behind sampling. But remember that understanding how much data you need can be extremely complicated. The sample size computations depend on the types of data that you will collect, your study design, and the analyses that you will run.

Again, prior to data collection, we strongly suggest that you consult with an expert for guidance on determining how much data you will need.

For more information about determining the sample size for interval estimation and hypothesis testing for continuous and categorical data, see the Read About It for this module.

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