10.1: Why It Matters- Inference for Means

Learning Objectives

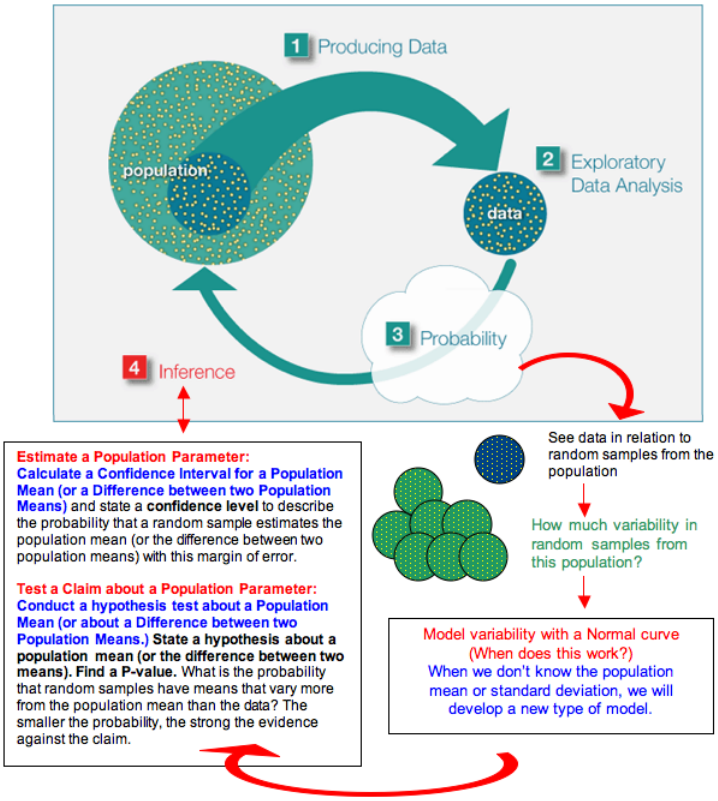
- Recognize when to use a hypothesis test or a confidence interval to draw a conclusion about a population mean.

Why learn to make inferences about population means?

In *Inference for Means*, we learn to make inferences about population means. Here are the types of research questions we focus on. Notice that we are working with quantitative variables for the first time in our inference work.

Type of Question	Examples	Variable Type	Unit
Make an estimate about the population	What proportion of all U.S. adults support the death penalty?	Categorical variable	Inference for One Proportion
	What is the average number of hours that community college students work each week?	**Quantitative variable**	**Inference for Means**
Test a claim about the population	Do the majority of community college students qualify for federal student loans?	Categorical variable	Inference for One Proportion
	Has the average birth weight in a town decreased from 3,500 grams?	**Quantitative variable**	**Inference for Means**
Compare two populations	Are teenage girls more likely to suffer from depression than teenage boys?	Categorical variable	Inference for Two Proportions
	In community colleges do female students have a higher average GPA than male students?	**Quantitative variable**	**Inference for Means**

Here again is the Big Picture. We have highlighted ideas new to this module in purple.



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