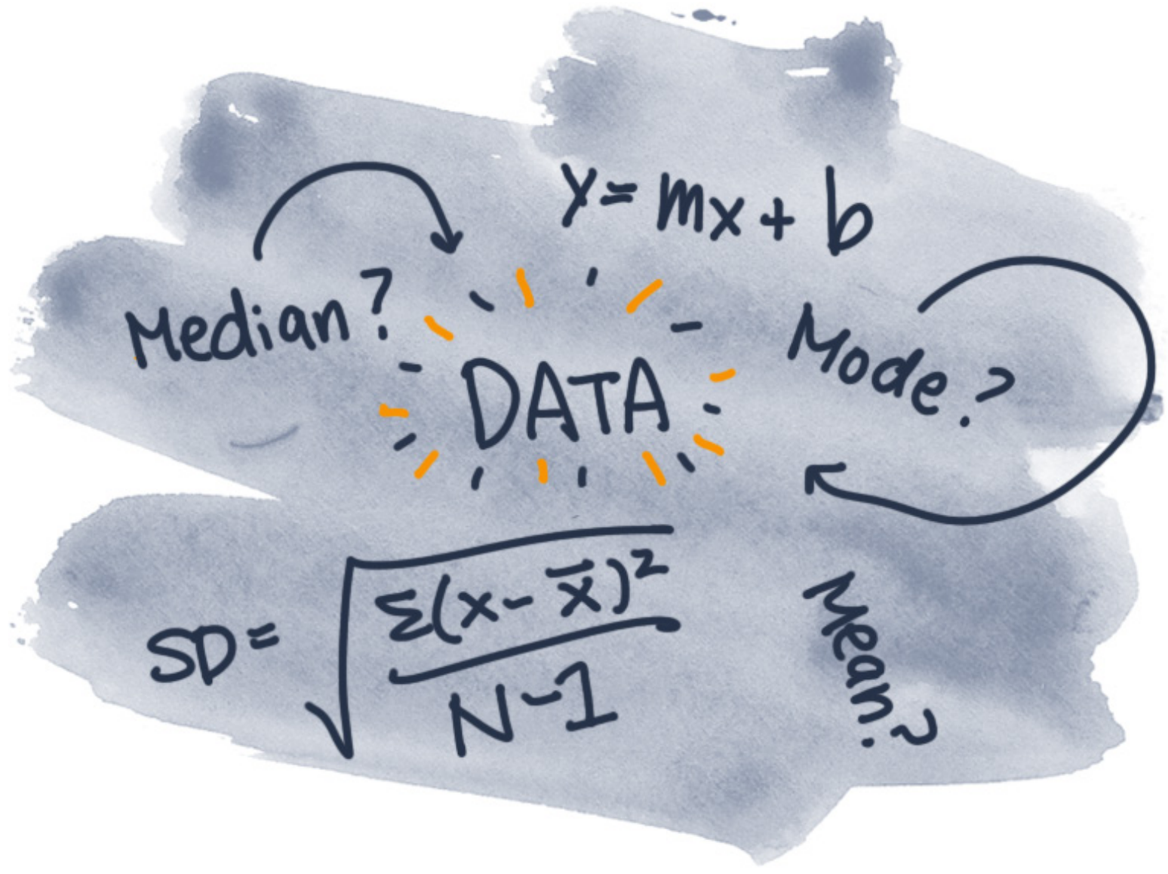
Statistical Reasoning: Making Inferences



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Learning Goals

- Describe the purposes of using inferential statistics.
- Explain how sampling procedures can impact inferential statistics.
- Explain what is meant by statistical significance.
- Explain the difference between statistical significance and practical significance.

Psychological research makes use of a variety of statistical methods. They can be broken down into 2 groups:

1. Descriptive Statistics: Statistics that are used to help organize/summarize data.

2. Inferential Statistics: Statistics that allow a researcher to make inferences about the characteristics of a population, based on the characteristics of a representative sample taken from that population.

Statistical Methods

Inferential statistics are used to interpret data and draw conclusions.

Inferential Statistics

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Can we conclude that all psychopaths have higher IQs than all non-psychopaths?

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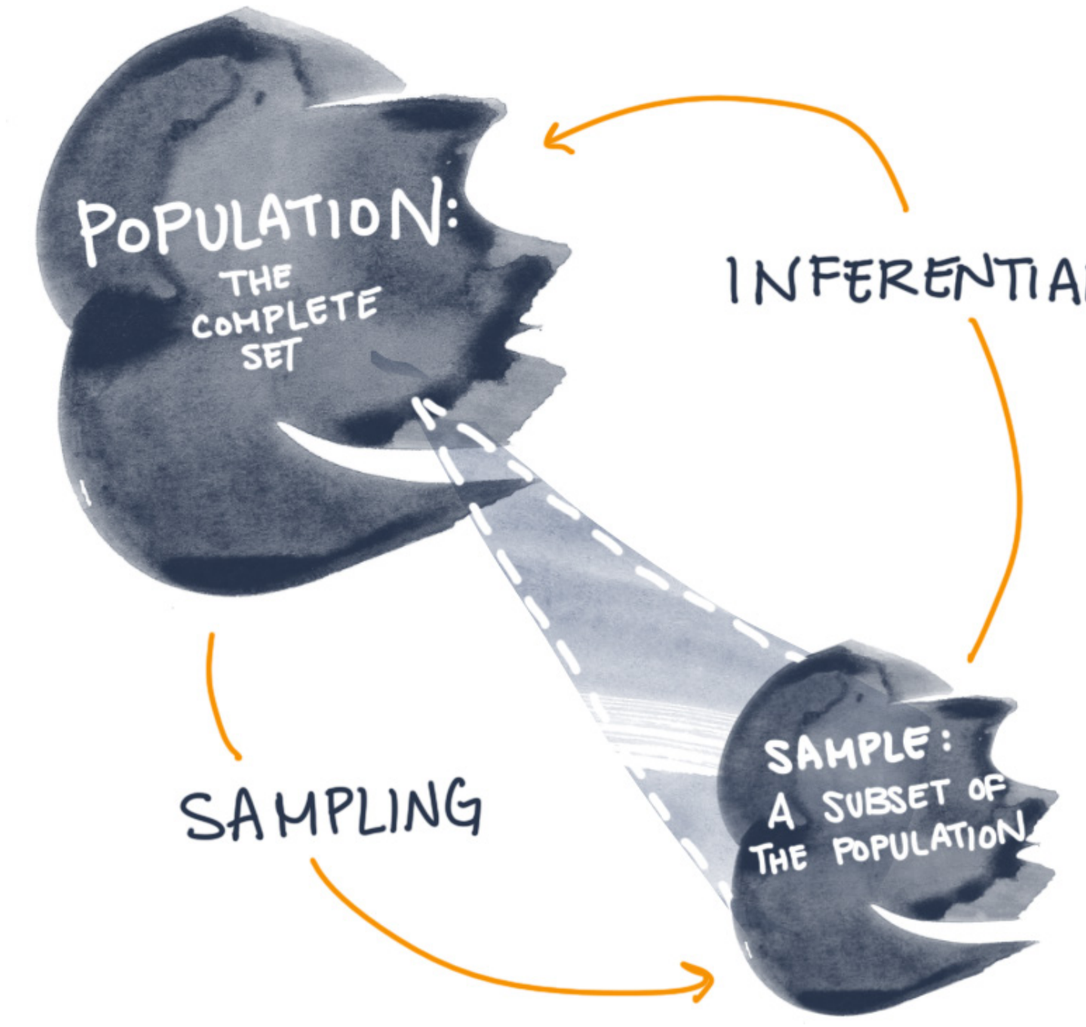

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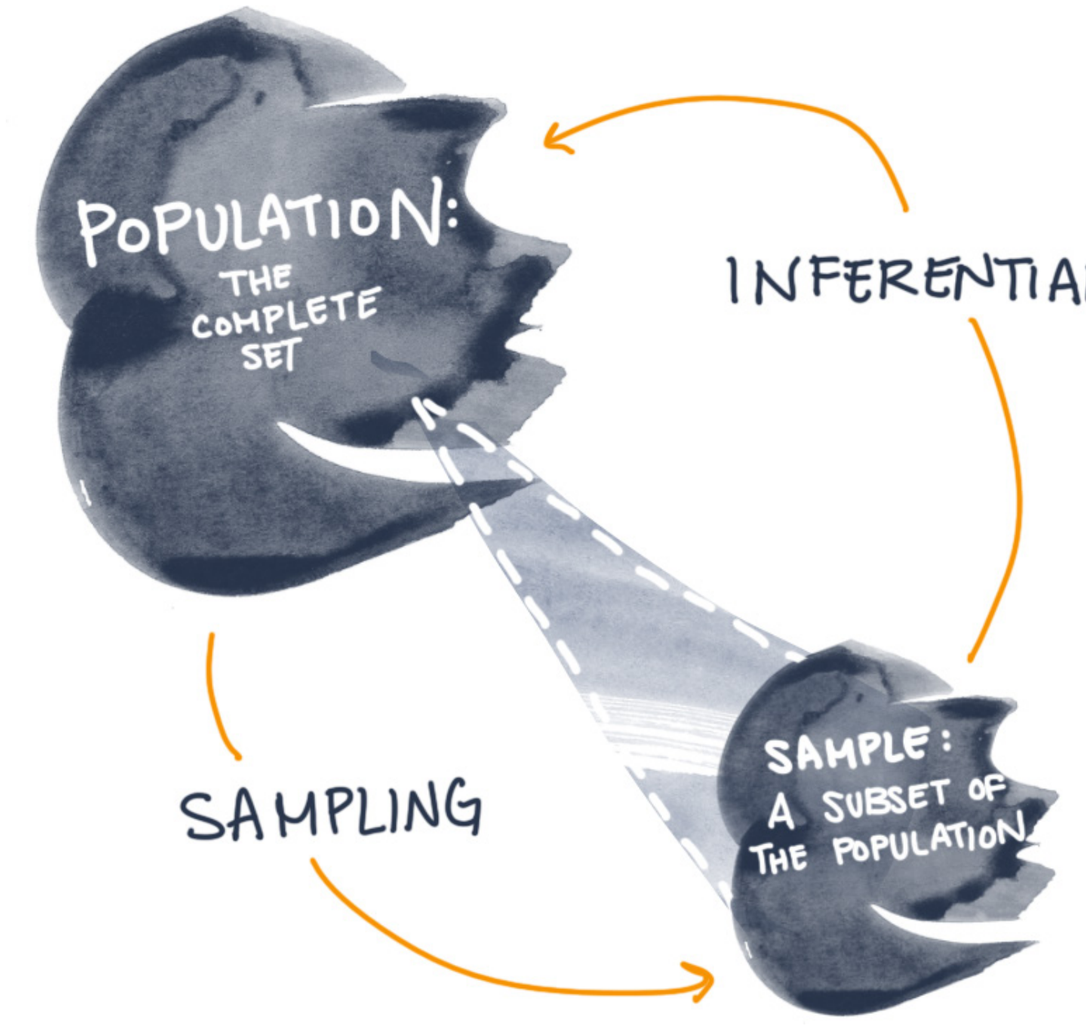

This inferential process is only as good as the samples are.

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t-tests	$t(34) = 3.45, p < .05$	$t(34) = 3.45, p = .0325$
ANOVA	$F(1,34) = 6.97, p < .05$	$F(1,34) = 6.97, p = .0325$

Inferential Statistics