

# CHAPTER 7

## Survey Sampling and Inference

### Section 7.1 Learning about the World through Surveys

Write the vocabulary terms in this section on 3 x 5 cards and study them. Important terms include **population, parameter, census, sample, statistic, estimators, estimates, statistical inference, biased method, sampling bias, measurement bias, response bias, convenience sample, simple random sampling, without replacement.**

Be sure to also read and study the key points, highlighted in the blue boxes in the text.

The reading quiz on this section covers mainly the vocabulary, so be sure you study the words mentioned above thoroughly. Specifically, know:

- The difference between a parameter and a statistic
  - That both parameters and statistics are NUMBERS that characterize a set of data
  - What statistical inference is
  - Be able to answer the question: Do we use statistics to estimate parameters or do we use parameters to estimate statistics?
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### Section 7.2 Measuring the Quality of a Survey

Write the vocabulary terms in this section on 3 x 5 cards and study them. Important terms include: **sampling distribution, bias, precision, standard error.**

Be sure to also read and study the key points, highlighted in the blue boxes in the text.

- Be sure to know what a sampling distribution is – THE MOST IMPORTANT IDEA IN THE SECTION!
  - Try to understand the difference between accuracy and precision
  - Know that BIAS is a measure of accuracy and the STANDARD ERROR is a measure of precision
  - Bias is the distance from the mean of the sampling distribution and the parameter
  - Precision is reflected in the spread of the sampling distribution
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### Section 7.3 The Central Limit Theorem for Sample Proportions

Write the vocabulary terms in this section on 3 x 5 cards and study them. The Important new term in this section is **Central limit Theorem.**

Be sure to also read and study the key points, highlighted in the blue boxes in the text.

Be able to:

- List the 3 conditions that must be met for the Central Limit Theorem for sample proportions to apply (p. 341)
  - Write the formula for standard error and be able to apply it
  - Know how to check if the sample size is large enough
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## Section 7.4 Estimating the Population Proportion with Confidence Intervals

Write the vocabulary terms in this section on 3 x 5 cards and study them. Important terms include **confidence interval, margin of error, confidence level**.

Be sure to also read and study the key points, highlighted in the blue boxes in the text.

- Focus on the vocabulary and the correct interpretation of a confidence interval
  - Know how to find the margin of error
  - Be sure you know what a confidence level measures
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