Lab Notes

Chapter 4

OpenIntro Biostatistics

Overview

1. Sampling Variability
   - *OI Biostat* Section 4.1
2. Confidence Intervals
   - *OI Biostat* Section 4.2
3. Hypothesis Testing
   - *OI Biostat* Sections 4.3 - 4.3.2
4. Inference Concept Check
   - *OI Biostat* Sections 4.3.3 - 4.3.5

Lab 1 illustrates the idea of sampling variability through simulation and explores the relationship between a point estimate and population parameter.

Lab 2 introduces the calculation and interpretation of confidence intervals.

Lab 3 introduces the mechanics of formal hypothesis testing.

Lab 4 examines some conceptual details of inference, including the relationship between hypothesis tests and confidence intervals.

These labs demonstrate inference with the t-distribution, rather than the normal distribution. While using the normal distribution is a convenient approximation when doing calculations without access to software, R offers functions that compute confidence intervals and p-values based on the t-distribution. The t-distribution is formally introduced in Chapter 5 of the text.