

10.15: Hypothesis Test for a Population Mean (4 of 5)

Learning Objectives

- Under appropriate conditions, conduct a hypothesis test about a population mean. State a conclusion in context.
- Under appropriate conditions, conduct a hypothesis test about a mean for a matched pairs design. State a conclusion in context.

This page contains four opportunities for practicing the hypothesis test for a population mean from start to finish. The last two activities guide you through this hypothesis test using data and your statistical software package.

How Much Are College Students Sleeping?

(not including naps in class!)

Scenario: Americans average 6.9 hours of sleep on weeknights, according to a report released in 2011 by the National Sleep Foundation. A student in a statistics class at Los Medanos College wondered if the average amount of sleep on weeknights is different for LMC students. She collected data from a survey of 43 randomly selected students at LMC. Respondents averaged 7.12 hours of sleep a night with a standard deviation of 1.45 hours.

Learn By Doing

<https://assessments.lumenlearning.co...sessments/3698>

<https://assessments.lumenlearning.co...sessments/3769>

<https://assessments.lumenlearning.co...sessments/3770>

<https://assessments.lumenlearning.co...sessments/3771>

<https://assessments.lumenlearning.co...sessments/3699>

<https://assessments.lumenlearning.co...sessments/3772>

Use [this simulation](#) when needed to answer questions above.

Texting and Concentration

Scenario: An instructor at Los Medanos College conducted an experiment with her statistics class to study the effect of texting on concentration. She created two audio clips in which she read two different lists of words. The treatment required students to send a short text message to a friend while listening to one of the audio clips. In the control setting, students simply listened to one of the audio clips. Everyone wore earphones and listened to the audio clips in the same order. But a coin flip determined who was and was not texting each time. After each listening session, students had 2 minutes to write down all the words they could remember. Twenty three students participated in the experiment.

Learn By Doing

<https://assessments.lumenlearning.co...sessments/3703>

<https://assessments.lumenlearning.co...sessments/3773>

<https://assessments.lumenlearning.co...sessments/3774>

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