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Lecture 5b: Practice Problems

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1. In a high school in the United States, dietary counseling is being tested to measure the program’s long-term impact on student’s fat intake. Of the three hundred students at the school, 150 are randomized to receive five one-hour sessions of dietary counseling; the other 150 students receive no counseling.
   - Six months after the last counseling sessions, all students are asked to keep a food diary for one week
   - Each student’s average fat intake in grams, is calculated at the end of this week
   - The results of this exercise are as follows:
Practice Problems

- **Intervention group**
  - \( \bar{x}_1 = 54.8 \text{ grams} , s_1 = 28.1 \text{ grams}, n_1 = 146 \)

- **Control group**
  - \( \bar{x}_2 = 62.8 \text{ grams}, s_2 = 34.7 \text{ grams}, n_2 = 142 \)
  - (Please note—follow up sample sizes differ slightly from initial sample size because of loss to follow up)

- The public-health question of interest is whether there is a difference in mean fat intake between the two groups, six months after the intervention ended. You are going to help answer this question:
  - Compute a p-value for testing the null of no association between counseling and average fat intake. Is this consistent with the confidence interval estimated in the section A problems?