



Math225N Week 7 Lab Assignment

Name: _____ Instructor Name: _____

1. Write a paragraph summarizing what you learned from the articles provided. Consider the use of confidence intervals in health sciences with these articles as inspiration and insights.

The two articles listed below were sourced using the link provided by the Chamberlain Library.

📖 First Article: Confidence Intervals, Part 1

📖 Second Article: Confidence Intervals, Part 2

Summary of Articles:

The articles provided valuable insights into the concept of confidence intervals (CIs). A CI is a range of values that is believed to encompass the true population value under study. If a data sample is taken, plotted, averaged, and the CI is determined, it indicates that the true population mean lies within the lower and upper boundaries of the CI. The confidence level can be 90%, 95%, or 99%. A larger CI, such as 90%, may suggest that the collected data is insufficient or that the data sample may not accurately represent the population mean. On the other hand, a narrower CI is closer to the actual mean value of the sample set, thus more accurately representing the population mean. In health sciences, a 95% CI is typically used. Some studies calculate statistical significance using the mean of two CIs. If the ranges of two CIs overlap, the difference in the mean value is not statistically significant. However, if there is no overlap, the mean value is statistically significant.

Sampling Method Used:

The study employed a systematic sampling approach to determine the participants' height data.

Systematic sampling is a survey methodology that involves selecting components in a sequential manner from an organized population. This method is quick, simple to use, and offers fewer opportunities for data manipulation.

Advantages and Disadvantages of the Systematic Method:

While systematic sampling is efficient and straightforward, it has its drawbacks. These include the potential for over- or under-representation of certain patterns and a higher risk of data manipulation.

Alternative Sampling Methods:

Although the systematic approach is easy to implement, the stratified approach could have been a better choice. Stratified random sampling ensures that the sample adequately represents each demographic subgroup. As researchers have control over the subgroups and can ensure each is represented in the sampling, stratified random sampling provides better coverage of the population.

Data Collection