Assessment Preparation Checklist:

To prepare for this assessment:

- Read Chapter 7 from your textbook, Elementary Statistics. This reading will help you understand the concept of the sampling distribution of the sample mean.

- Study the topics “Constructing Confidence Interval” and “Interpreting Confidence Interval” in the Module 3 lesson. These topics will help you learn how to construct and interpret the confidence interval.

Title: Interpreting the Confidence Interval

Solve the following problems:

- A simple random sample of 40 salaries of NCAA football coaches has a mean of $415,953 and a standard deviation of $463,364. Construct a 95% confidence interval estimate of the mean salary of an NCAA football coach.

- In a study designed to test the effectiveness of acupuncture for treating migraine, 142 subjects were treated with acupuncture and 80 subjects were given a sham treatment. The numbers of migraine attacks for the acupuncture treatment group had a mean of 1.8 and a standard deviation of 1.4. The numbers of migraine attacks for the sham treatment group had a mean of 1.6 and a standard deviation of 1.2.

  - Construct the 95% confidence interval estimate of the mean number of migraine attacks for those treated with acupuncture.

  - Construct the 95% confidence interval estimate of the mean number of migraine attacks for those given a sham treatment.

  - Compare the two confidence intervals. What do the results suggest about the effectiveness of acupuncture?

Submission Requirements:

- Submit the assignment in a Microsoft Word or Excel document.

- Show detailed steps and provide appropriate rationale with your answers.

Evaluation Criteria:

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Correctly answered each question

Included appropriate steps or rationale to determine the answer to each question