COMPARING GROUPS: CONFIDENCE INTERVALS AND EFFECTS

EPsy 8251

Assignment #5

In Assignment #4, you examined salary data from 28 school districts in Minnesota to determine whether there were statistically reliable differences in the average salary for a public school and non-public school teachers in Minnesota. In this assignment, you will continue analyzing those data. Please submit your responses to each of the questions below in a printed document. All graphics should be resized so that they do not take up more room than necessary and all should have an appropriate caption. Any equations should be appropriately typeset within the document. There are 10 points possible for the assignment (each question is worth one point).

RAW EFFECT

Begin by carrying out the test of no differences as you did in Assignment #4.

1. Report the point estimate for the mean difference.
2. Report the 95% confidence interval for the mean difference.
3. In 1–2 sentences, provide an interpretation of the 95% confidence interval using the context of the data (i.e., teacher salaries).
4. Explain why it is wrong to say that "there is a 95% chance" that the parameter is between the lower and upper limit of the confidence interval.
5. Explain how you could use the results of your 95% confidence interval to test the hypothesis of no difference.

STANDARDIZED EFFECT

6. Compute Cohen's d based on the sample data.
7. In 1–2 sentences, provide an interpretation of Cohen's d using the context of the data (i.e., teacher salaries).
8. Compute an interval estimate for Cohen's d.
9. In 1–2 sentences, provide an interpretation of the interval estimate for Cohen's d using the context of the data (i.e., teacher salaries).
10. Given this research question, which point and interval estimate (those for the raw effect or those for the standardized effect) would you report in a publication? Explain.