PHP2510

HYPOTHESIS TESTS & CIs WEEK 7-9 NON-PARAMETRIC TESTS WEEK 10

BIOSTATS IN THE LITERATURE

In this activity, you will find a research article that uses concepts we've covered in the course recently, connecting our material to real medical research.

IDENTIFICATION

Find a journal article that performs a statistical test on a health outcome (tip: pick a test we've learned about, not regression coefficients). Identify the following from your article:.

- What is the null hypothesis? Alternative hypothesis?
- What is the test statistic and test statistic distribution under the null hypothesis?
- What is the p-value?
- What alpha was chosen?
- What is the effect size and confidence interval?
- What assumptions are required to believe the result? Are there any concerns with their plausibility?

ONE STEP FURTHER

After reviewing the Week 10 content, discuss:

- What non-parametric test could be considered reasonable for your set-up? Identify its strengths and weaknesses in the context of your journal article. Would you prefer that approach?
- Create pseudo-code to implement the non-parametric test you proposed, pretending you have subject-level data from the article.
- Assume your non-parametric test had a different outcome (in terms of effect size or statistical significance) that what the journal reported. How would you explain that result to a non-technical audience?

Instead of submitting on Canvas, please come to class and be ready to share with the class. I will call on 3-5 people to report their selected article and any particularly interesting findings.