

## Lab 10: Student Evaluations of Teaching

These questions reference a paper published by researchers, some of whom were here in the Statistics Department at Cal. Anne Boring, Kellie Ottoboni and Philip B. Stark. *Student evaluations of teaching (mostly) do not measure teaching effectiveness*. Science Open Research. Vol. 0(0):1-11. DOI: 10.14293/S2199-1006.1.SOR-EDU.AETBZC.v1

1. **General:** As you read through the article, note here any words or acronyms that you were not familiar with before and provide their definition.
  2. **Abstract:** Which finding strikes you as the most important? Why?
  3. **Abstract:** Based on the results summarized here, what do you believe was the overarching research question that the scientists were wondering about when they devised this study?
  4. **Background:** Why is a student's answer to "How effective was the instructor?" not always helpful in understanding how effective the instructor was?
  5. **Background:** What is the general statement of the null hypothesis that is applied to every analysis in this paper?
  6. **Background:** What do the results of this study indicate about the relative impact of the teaching effectiveness and perceived instructor gender on SET?
  7. **Data:** Why did the researchers in the US experiment have the TAs swap identities for one of the sections that each of them taught?
  8. **Data:** Based on the description in the paper, sketch/speculate what the US experimental data frame might look like. Be sure to note the unit of observation, the number of rows and columns, that names of the variables, their data type, and the values they can take.
  9. **Methods:** The previous analysis of the US data (MacNell et al.) addresses the same questions that this analysis does. What differs in the two studies?
  10. **Methods:** What is the test statistic that is used throughout the analysis?
  11. **Methods:** Sketch/speculate what a plot could look like of the relationship between the Prompt SET scores and reported TA gender. This should be a plot of the full data set and should be consistent with the statistics shown in table 8. Repeat the exercise for the Responsive SET scores and reported instructor gender.
-