

Instructions

To earn credit toward grade advancement, this project must be

- completed and turned in by Friday, April 15 at 3pm.
- typed.
- show firm grasp of the mathematics by being complete and correct.

These are non-negotiable requirements. A paper which makes a good effort but falls just short will be given one opportunity to be revised and resubmitted. This decision will be at the discretion of the instructor.

The Assignment

The goal of this assignment is to explore a weird thing called *Simpson's Paradox*. Part of this will require some independence on your part, and you will need to get to the library and get some papers from Journals! You should feel free to work with a classmate on this project, but you must write up your own understanding in your own words. A complete assignment must do the following:

- Explain what Simpson's Paradox is in basic terms, and why it is something surprising.
- Incorporate the idea of conditional probability as part of the discussion. Which things in Simpson's paradox can be measured as conditional probabilities, and how does that play in to the confusion?
- Discuss the details of at least one historical example of Simpson's paradox. The most famous is *The Bias in Yale Admissions Trouble*, but if you find another that makes more sense to you, then use that one. There are plenty of examples if you start poking around.
- Report at least two separate Journal Articles you looked at from the statistics literature and how they helped you understand better. (If you find one that doesn't help you understand better, you might be better off finding another one.)

You might find the beginning of this article useful: <https://www.jstor.org/stable/2284382>

And, frankly, the Wikipedia page has an okay start.

Here is another paper that looks interesting: <https://www.jstor.org/stable/2684093>