PubH 8485
Final Project

As a final project, you will conduct a simulation study to investigate the theoretical properties of an estimator/comparative performance of different approaches. The question that you seek to investigate via simulation should be (at least somewhat) novel and interesting to a person knowledgeable to causal inference. This should not rehash some well-known concept (e.g., augmented inverse probability weighted estimators are more efficient than traditional inverse probability weighted). You will write-up your findings; the paper should be at most 5 double-spaced pages excluding tables and figures.

For the simulation study, the paper should be organized like a scientific paper with a brief introduction, methods, results, and conclusions. The introduction should briefly describe the motivation for the simulation study (why is this an important problem?, why can't this problem be solved analytically?) and include a few citations to justify the motivation. The methods should describe the experimental conditions (i.e., the data generating scenarios that you considered) for the simulation study as well as how you will analyze the results of the study. The results section should describe the main findings of your analysis. Editorial/normative statements should be reserved for the brief discussion section.

For both the simulation study and literature review, I would like for you to decide on the topic on your own. Mostly, I would like this to be of some benefit to your graduate career. The simulation study could be (part of) a chapter of your dissertation or submitted as a journal article. Although I would like each of you to ultimately decide on the problem that you will work on, I am happy to offer ideas and discuss.

Simulation Topic and Question: October 29

Simulation Plan and Draft Methods: November 12

Preliminary Results and Tables/Figures: December 8

Due: Friday December 17 at 5 pm.