

Class 6 — iTV Experiments Encouragement Designs, Compliance, Instruments

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Here are a few of the questions that arose during my reading. You will have others, so this list is not meant to restrict our discussion.

1. What is an encouragement design? When might one want to use such a design?
2. How might we have Compliers, Always-Takers, Never-Takers, and Defiers in the lab?
3. What is the ITT and CACE/LATE as compared to what Gerber and Green call the ATE?
4. What are the dangers of “as treated” comparisons? What are the benefits of “as assigned” comparisons?
5. What assumptions do we need to bring in from outside the design in order to use treatment assignment as an instrument for treatment compliance/taking? Can we explain each of those assumptions in ordinary language? What kinds of design and analysis choices can we make that help us make the case for the assumptions?
6. In what kinds of designs might we see one-sided noncompliance? What about two-sided noncompliance?
7. Review: Why would an experiment help you answer your question and/or shed light on your theoretical concerns? [What are the key features and benefits of an experiment?]
8. Review: What is randomization inference? How would you do statistical inference for a causal effect or hypothesis/model using randomization inference? Why do Gerber and Green use randomization inference?
9. Review: How does randomization inference relate to the differences of means that arise from regressions of the form $Y_i = a + bZ_i + e_i$ where $Z_i \in \{0, 1\}$ is the treatment assignment and Y_i is the observed outcome?
10. Review: When might one want to avoid using regression for the analysis of experimental data? When might one feel comfortable with regression-based approximations? And what might one do differently when one is using a regression to approximate randomization-based- rather than model-based or infinite-sample-based inferences?
11. Review: How is moderation different from mediation?
12. Review: How might one assess claims about mediation?