



Design & Analysis of Quasi-Experiments for Causal Inferences

ED PSYCH 963-001 – Fall 2023

Tentative Schedule & Readings

Explanation of Readings

- **Primary** readings cover the core content of the topic.
- **Alternative** readings cover most of the same material as the primary reading on the same topic, but usually at a simpler level of statistical detail.
- **Recommended** readings provide further important details on the topic, or are very well-conducted studies that add new insights to the topic.
- **Further** readings cover more technical or specialized content, in case you are interested in delving in beyond what is covered in class.

Key to Abbreviations

- **CIWI:** Hernán & Robins (2020). *Causal Inference: What If*. Boca Raton: Chapman & Hall/CRC. Available at <https://www.hsph.harvard.edu/miguel-hernan/causal-inference-book/>
- **MIX:** Cunningham (2019). *Causal Inference: The Mixtape*. Available at <https://www.scunning.com/mixtape.html>
- **FIELD:** Gerber & Green (2012). *Field Experiments: Design, Analysis, and Interpretation*. W. W. Norton.

Tentative Schedule

2023-09-07 – Course introduction

- Primary: CIWI, chapter 1
- Primary: Kim & Steiner (2016)
- Further: Holland (1986), Rubin (1986)

2023-09-12 – Probability

- Primary: Course notes on probability (sections 1 & 2)
- Further: MIX, sections 2.1-2.12

2023-09-14 – Conditional probability

- Primary: Course notes on probability (section 3)

2023-09-19 – Simple randomized experiments

- Primary: CIWI, chapter 2
- Recommended: FIELD chapters 2-3

2023-09-21 – Block-randomized experiments

- Primary: FIELD chapters 2-3
- Further: Raudenbush & Bloom (2015), sections 1 and 2 (pp. 475-485)

2023-09-26 – Covariate adjustment

- Primary: FIELD, chapter 4

2023-09-28 – To Be Determined

2023-10-03 – Instrumental variables

- Primary: Fiala et al. (2022)
- Primary: CIWI, chapter 16

2023-10-05 – Instrumental variables (continued)

- Primary: Guryan et al. (2021)
- Recommended: Angrist, Imbens, & Rubin (1996)

2023-10-10 – Instrumental variables (continued)

- Recommended: Blackwell (2017)

2023-10-12 – Regression discontinuity designs

- Primary: Skovron & Titiunik (2015)
- Further: Bloom (2012)

2023-10-17 – RDD (continued)

- Primary: Bonilla, Dee, & Penner (2021).
- Further: Cattaneo, Idrobo, & Titiunik (2017), parts I and II
- Further: Eckles et al. (2020)

2023-10-19 – RDD (continued)

- Primary: Larsen & Vallant (2023).

2023-10-24 – Observational studies and confounding

- Primary: CIWI, chapter 3
- Recommended: Pearl, Glymour, & Jewell (2016), chapters 1-3.

2023-10-26 – Identification with directed acyclic graphs

- Primary: CIWI, chapters 6-7

2023-10-31 – DAGS (continued)

- Recommended: Elwert (2013)

2023-11-02 – Regression analysis

- Primary: Schafer & Kang (2008)

2023-11-07 – Regression analysis (continued)

- Primary: Ho, King, Imai, & Stuart (2007)
- Further: Aronow & Samii (2016)

2023-11-09 – Regression analysis (continued)

- Ecton, Heinrich, & Carruthers (2023).

2023-11-14 – Multivariate matching using propensity scores

- Primary: CIWI, chapter 15
- Further: Rosenbaum & Rubin (1983)

2023-11-16 – Matching

- Primary: Greifer & Stuart (2021)
- Recommended: Ho, King, Imai, & Stuart (2007)
- Further: Stuart (2010)

2023-11-21 – Weighting

- Primary: CIWI, chapters 12 & 18
- Recommended: Hirano & Imbens (2001)
- Further: Li & Li (2021)

2023-11-23 – Thanksgiving Day – NO CLASS MEETING

2023-11-28 – Innovations in propensity score methods

- Further: Zhao (2019)

2023-11-30 – Innovations in propensity score methods

- Primary: Kush et al. (2023)
- Recommended: Lopez & Gutman (2017)

2023-12-05 – Difference-in-differences

- Primary: MIX, chapter 9
- Recommended: Angrist & Pischke (2009), chapter 5

2023-12-07 – Comparative interrupted time series

- Primary: Hallberg, Williams, & Swanlund (2020)
- Recommended: Card & Giuliano (2017)

2023-12-12 – CITS (continued)

- Recommended: Chaisemartin & D'Haultfœuille (2021)
- Recommended: Goodman-Bacon (2020)
- Recommended: Calloway & Sant'Anna (2021)