

Reaching farther: combining data sources to extend and enrich research findings

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Discussant: Elizabeth Tipton (tipton@northwestern.edu)

Paper presentations: (* denotes presenting author)

“Characterizing Cross-Site Variation in Local Average Treatment Effects in Multisite RDD contexts with an Application to Massachusetts High School Exit Exams”

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“Generalizing Randomized Trial Findings to a Target Population using Complex Survey Population Data”

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“Lurking inferential monsters? Quantifying selection bias in non-experimental evaluations of school programs”

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Symposium Justification:

Data has become plentiful. States increasingly have integrated and longitudinal administrative data systems. RCT's are ubiquitous in education research. Older systems also have continued, with government agencies still collecting large scale nationally representative surveys. But all these data come with substantial methodological challenges. How can we use administrative data, absent an RCT, to generate valid causal estimates? How can we generalize findings from an individual site or experiment to a broader population? How do we adapt standard methods to accommodate multiple sites, studies, and data sources? In this symposium, we describe ways to use this data explosion to extend research findings beyond those one would get by examining a single study.

In our first study, we build off work estimating treatment effect variation in RCT's to estimate treatment effect variation in a quasi-experimental research design. In particular, we use a

collection of regression discontinuity designs in a state administrative dataset to estimate variation in the impact of a state exit exam policy. We use the variance estimates to understand differences in how that policy was implemented across schools.

In our second study, we show how to leverage large nationally representative government surveys to generalize findings from an RCT to a target population. In this paper, we demonstrate the importance of incorporating survey sampling weights when using surveys to generalize experimental findings to a new population.

In our final paper, we use meta-analytic techniques to improve our understanding of a collection of within study comparisons. We use these within study comparisons to examine how well using matching methods on administrative data works for obtaining plausible causal estimates of the effectiveness of school-based interventions.

The symposium's discussant is Elizabeth Tipton, associate professor at Northwestern University. She has received Early Career Awards from the American Psychological Association (2017, Division 5), the Society for Research Synthesis Methods (2017), and the American Education Research Association (2016, Division D). Amongst other things, Tipton is an expert on methods for meta-analysis, the generalizability of experimental results, and the use of (cluster) robust variance estimation. Topics that are relevant to all three of the symposium's papers.

Across all three studies, we see several cross-cutting themes. First is the idea of taking an individual study as only a starting point that provides a doorway to more broad and general inference about the subject being investigated. Second is the focus on the sample vs. the population, an important and often underappreciated consideration as we consider the significance of any evaluation. Third is the need to be careful about study design when using data that come from large-scale administrative datasets that we obtain from government agencies and surveys.