

Exploring treatment impact heterogeneity across sites: Challenges and opportunities for early childhood researchers ^[1]

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AVAILABILITY

Access online (via subscription or paid access) ^[2]

Excerpted from abstract

The rise of multi-site, field-based trials in early childhood research coupled with advances in statistics offer an unprecedented opportunity to understand how context affects children's wellbeing. In the current study, we chart our journey in exploring heterogeneity in the treatment effects of an existing large-scale evaluation to provide guidance for early childhood researchers interested in studying treatment impact variation. To do so, we employ data from a professional development intervention implemented in early childhood education programs across 9 U.S. cities. We generate three broad lessons on the challenges and opportunities in examining treatment impacts across sites. First, we find that using the right statistical approach – namely fixed intercepts, random coefficient (FIRC) modeling – is critical for generating accurate estimates of cross-site variation. Second, we find that measures that traditionally have been associated with average treatment effects (e.g., program dosage) can be used to predict treatment impact. Third, we acknowledge trade-offs in statistical power for detecting average treatment effects versus treatment impact variation and discuss the implications of these trade-offs for the future design of early childhood evaluations. Findings are discussed in terms of how treatment impact variation has the potential to advance early childhood research.

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