Title: Experimental Evidence on the Effect of Childhood Investments on Postsecondary Attainment and Degree Completion

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Background / Context:
*Description of prior research and its intellectual context.*

Education is intended to pay off over a lifetime. Recent studies of educational interventions during early childhood (in particular, the Perry Preschool Program and Head Start) have found large impacts on contemporaneous outcomes that quickly faded. In all of these studies, though, treatment effects have re-emerged in adulthood as increased educational attainment, improved labor market outcomes, and reduced crime.

Purpose / Objective / Research Question / Focus of Study:
*Description of the focus of the research.*

This paper measures the impact of a randomly assigned educational intervention from kindergarten through third grade on college going and completion.

Setting:
*Description of the research location.*

The data are from Tennessee’s Project STAR, a randomized educational intervention that reduced class size for some students in 79 schools across the state from 1985-1989.

Population / Participants / Subjects:
*Description of the participants in the study: who, how many, key features, or characteristics.*

Over 11,000 students and their teachers participated in the original randomly assigned experiment. The study participants were representative of the state’s population, and included both male and female, low-income and higher income, and black and white students.

Intervention / Program / Practice:
*Description of the intervention, program, or practice, including details of administration and duration.*

Children and teachers were randomly assigned within schools to either a small class (12-17 students) or a regular-sized class (22-25 students, with or without a full-time teacher’s aide). Students were randomly assigned when they entered a school and cohort that was part of the experiment, and were expected to remain in the same class type through 3rd grade. In practice, there were some deviations from the experimental protocol. To address non-random switching across experimental groups, we use initial assignment to small class in an intention-to-treat framework. Being randomly assigned to a small class increases a student’s exposure to small classes by 2.1 years.

Research Design:
*Description of the research design.*

The research design is an experimental analysis using an intention-to-treat framework. Because students were randomly assigned within schools to treatment status, we simply compare
outcomes conditional on school fixed effects. Results are unchanged whether or not we control for other covariates. We also look for heterogeneous impacts by stratifying on pre-determined characteristics.

**Data Collection and Analysis:**
*Description of the methods for collecting and analyzing data.*

The main innovation of our paper is matching the STAR data to the National Student Clearinghouse (NSC) records. The NSC, using its proprietary matching algorithm, merged the STAR data to their records. As a result, for all positive matches we have information on college attendance, degree attainment, and in some cases field of study.

**Findings / Results:**
*Description of the main findings with specific details.*

We find that random assignment to a small class increases the probability of attending college by 2.7 percentage points, with effects more than twice as large among blacks. Small class assignment increases the likelihood of earning a college degree by 1.5 percentage points, and shifts students toward higher-earning fields such as STEM, business and economics.

**Conclusions:**
*Description of conclusions, recommendations, and limitations based on findings.*

We confirm the standard finding that test score effects fade out by middle school, but show that contemporaneous test score impacts during the experiment are good predictors of long-term improvements in postsecondary attainment.
Appendices
Not included in page count.

Appendix A. References
References are to be in APA version 6 format.

References are available in the paper.
Appendix B. Tables and Figures
Not included in page count.

Tables and figures are available in the paper.