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## Title Registration for a Systematic Review: “No Excuses” Charter Schools for Increasing Math and Literacy Achievement in Primary and Secondary Education: A Systematic Review

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Submitted to the Coordinating Group of:

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## **“NO EXCUSES” CHARTER SCHOOLS: ACHIEVEMENT EFFECTS ON MATH AND LITERACY**

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“No Excuses” charter schools are designed to improve the academic performance of poor and minority K through 12<sup>th</sup> grade students in the United States. Typically located in inner city neighborhoods, the schools feature strict discipline, uniform dress codes, longer academic calendars, and intensive tutoring. Taken together, these characteristics are part of a culture of high expectations for students and staff.

To assess the achievement impacts on students’ math and literacy skills we will conduct a comprehensive review of performance evaluations of “No Excuses” charter schools.

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### **BACKGROUND**

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#### ***The Problem***

The ethnic achievement gap is the most persistent problem facing American schools. Black and Hispanic twelfth graders on average read at a level that white and Asian eighth graders typically surpass in middle school, according to the National Assessment of Educational Progress. The dropout rate for Black and Hispanic students is nearly twice the national average (Heckman & LaFontaine, 2007). The “No Excuses” charter schools movement has become perhaps the most prominent reform effort to combat this achievement gap. Charter networks such as KIPP have received national attention by espousing a “No Excuses” philosophy. Many lesser-known charter schools have adopted a similar model, such as the Harlem Promise Academies and Achievement First. Studies of individual charter school networks provide promising evidence that “No Excuses” charter schools are improving the performance of minority and at-risk students (e.g., Tuttle et al. 2013), but no systematic review of the evidence has been conducted to assess the entire body of evidence.

#### ***The Population***

We will specifically examine students enrolled in “No Excuses” charter schools. The student populations at “No Excuses” charter schools are predominantly low-income and/or minority. Children from suburban, rural and affluent families are rarely enrolled in “No Excuses” charter schools.

#### ***The Intervention***

Broadly speaking, the intervention of interest in this systematic review is attending a “No Excuses” charter school. Specifically, there are actually two impact estimates of interest in this systematic review. First, we are interested in how receiving *the offer to attend* a “No Excuses” charter school affects student achievement, as captured by an intent-to-treat analysis. Second, we are interested in how actually attending a “No Excuses” charter school

affects achievement, as captured by treatment-on-the-treated analyses and quasi-experimental studies.

Students who attend charter schools do so for varying amounts of time; we anticipate that most of the literature reviewed will present findings ranging from 1 to 5 years of attendance.

### ***Outcomes: What are the Intended Effects of the Intervention?***

We will focus primarily on the achievement effects of “No Excuses” charter schools. Specifically, we will examine changes in literacy and mathematics scores on standardized tests – the primary accountability metric for most charter schools.

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## **OBJECTIVES**

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“No Excuses” charter schools are designed raise the achievement levels of students, particularly those who come from disadvantaged backgrounds. We will examine whether they have in fact done so, in mathematics and literacy.

There are numerous studies of individual “No Excuses” charter schools. Our review and meta-analysis will be the first study to estimate the grand mean effect of attending a “no excuses” charter school by combining all available research into a larger meta-analysis.

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## **METHODOLOGY**

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### **What types of studies designs are to be included and excluded?**

Our review will include rigorous studies that examine student-level data. We will include “gold standard” studies that use random assignment methods. We will also include “quasi-experimental” (QED) studies that make rigorous attempts to compare charter school students to similar students in other schools.

*Experimental Studies:* When oversubscribed, charter schools admit students by lottery. This has allowed a number of researchers to compare randomly assigned treatment and control groups. Random assignment analyses typically provide separate performance estimates based on two different questions: Intent to Treat (ITT) and Impact on Treated (IOT). We will provide separate analyses of both ITT and IOT estimates.

*Quasi-Experimental Studies:* When lottery-based analyses are not feasible, researchers have used complex quasi experimental designs (QED) to compare charter school students to demographically similar students who attend nearby traditional public schools. Apart from our review of the random assignment literature, we will review QED estimates of “No Excuses” charter schools’ effects. The QED studies included will use one of several research methods and designs which have been demonstrated to approximate random assignment when certain assumptions hold. The most prevalent QED evaluations will likely use

matching methods, where students attending “no excuses” charter schools are matched and compared to demographically similar students who do not attend charter schools. Another QED technique we will include in our systematic review are student-fixed-effect analyses, which attempt to measure the effect of attending a charter school by measuring “within student” performance changes among students who switch in or out of charter schools during a multiyear period. Finally, we will include studies using an instrumental variables approach; for example, the proximity to which a student lives to a charter school may serve as instrument for whether he enrolls in this school.

### **Inclusion criteria:**

To be included in the review, the study must satisfy all of the following conditions:

The study is conducted and published after 1990, since no charter schools existed before this date.

- 1.** *The study examines charter schools in the United States, or in other countries, a similar type of school.* The United States Department of Education defines a charter school as follows: “A public charter school is a publicly funded school that is typically governed by a group or organization under a legislative contract or charter with the state or jurisdiction. The charter exempts the school from selected state or local rules and regulations. In return for funding and autonomy, the charter school must meet the accountability standards articulated in its charter.” We will use this definition to identify studies of charter schools outside of the United States; thus we will review studies that, for example, include “charter schools” in Canada, New Zealand and Sweden, and “free schools” in the United Kingdom.

- 2.** *The study reports student-level data.*

- 3.** *The results must include literacy or math achievement outcomes.*

- 4.** *The study must utilize experimental methods or a quasi-experimental design.*

- 5.** *Studies with differential attrition in either the treatment or control groups would be excluded because differential attrition typically biases analytical results.* Differential attrition occurs when a participant’s likelihood of exiting the study sample is dependent on his treatment condition (i.e., whether he belongs to the treatment group or control group). Studies usually conduct and report statistical tests to determine whether treatment status is correlated with the likelihood of attrition. We will only include studies that conduct these tests and present evidence that treatment conditions are uncorrelated with attrition patterns. Also, for studies that encountered attrition, those that neither conduct nor report tests for differential attrition will be excluded as we will be unable to ensure that attrition is non-random.

**6.** *The study must report or control for baseline equivalence between treatment and control groups.* Statistical tests for equivalence on participant characteristics at baseline provide a degree of assurance that a study's results are driven by the intervention of interest rather than differences between treatment and control group members. These tests usually take the form of t-tests for differences in means between treatment and control group members. Studies will only be included if they report such tests and if a sufficient number of these tests fail to indicate significant differences between treatment and control groups. Furthermore, studies often include these baseline covariates as control variables in order to achieve more precise estimates of the intervention effect. Our systematic review will separately analyze effect estimates that employ baseline covariate controls and those that do not.

**7.** *The study must contain the necessary statistics to calculate mean effect sizes as well as various confidence intervals about those mean effect sizes (e.g. standard errors, sample standard deviations, sample Ns).*

**8.** *The study must pertain to "no excuses" charter schools.* "No Excuses" is often but not always a term that certain charter schools apply to themselves. Researchers sometimes assign the term. We will use the following work definition: "no excuses" charter schools feature: a culture of high (i.e. college-going) academic expectations; strict disciplinary codes; a widespread use of data; and extra attention and resources for their lowest performing students.

### **Exclusion criteria:**

A study that fails to meet any of the criteria above will be excluded.

### **Your method of synthesis:**

Our review will use random effects meta-analysis, which estimates a general effect size across studies that examine diverse populations. We will calculate grand mean effect sizes separately for experimental and quasi-experimental studies.

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## **SOURCES OF SUPPORT**

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This review is supported by a grant from the Campbell Collaboration Education Coordinating Group.

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## **DECLARATIONS OF INTEREST**

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No author has professional or material interests that conflict with the research being reviewed.

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## REQUEST SUPPORT

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We will not require external personnel or managerial support.

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## AUTHOR(S) REVIEW TEAM

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## ROLES AND RESPONSIBILITIES

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- **Content:** The review team has extensive research and practical experience related to charter schools and education research. Collin Hitt has written numerous case studies on

Illinois charter schools, has served on an Illinois state task force for charter schools and is a former board member of the Springfield Ball Charter School. Brian Kisida has co-authored numerous federal government studies and peer-reviewed articles on school choice, including an analysis of inner-city charter school enrollment patterns. Sherri Lauver, PhD. has conducted several local, state, and federal program evaluations of educational and social programs and provides expert review to the U.S. Department of Education on other evaluations. Jonathan Mills has authored an article on the achievement impacts of Arkansas charter schools appearing in the Spring 2013 issue of *The Journal of Education Finance*. *Collin Hitt will be responsible for organizing the content of the report.*

- **Systematic review methods:** Sherri Lauver has previously co-authored a systematic review for the Campbell Collaboration (Zief et al, 2006). *Dr. Lauver will be responsible for overseeing the systematic review process.*
- **Statistical analysis:** Jonathan Mills has earned undergraduate and graduate degrees in economics from the University of Missouri. Albert Cheng holds a bachelor's degree in pure mathematics from the University of California, Berkeley. Both are mathematics and statistics instructors in the Department of Education Reform at the University of Arkansas. Both are also well-versed in econometrics. *Jonathan Mills and Albert Cheng will be responsible for the statistical analyses.*
- **Information retrieval:** All authors have collectively been conducting academic research and doing academic research for several years. As a result, they are familiar with numerous research databases, accessing them, and retrieving necessary articles from them. *Albert Cheng will be responsible for retrieving articles for the review.*

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## PRELIMINARY TIMEFRAME

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We expect to submit a Draft Protocol within 45 days of the approval the title submission.

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## CITATIONS

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Heckman, J. J., & LaFontaine, P. A. (2010). The American high school graduation rate: Trends and levels. *The review of economics and statistics*, 92(2), 244-262.

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