RESEARCH BRIEF

REDUCING HIGH SCHOOL DROPOUT THROUGH ELEMENTARY SCHOOL STUDENT SUPPORT: AN ANALYSIS INCLUDING IMPORTANT STUDENT SUBGROUPS

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OVERVIEW

This study suggests that childhood poverty is not destiny. Providing the right customized services and enrichments through a system within the elementary school makes a difference much later, improving school completion. These positive findings hold true for student subgroups that are particularly vulnerable for high school drop-out, including black and latino males.

INTRODUCTION

It is widely recognized that to close the achievement gap, schools must address the out-of-school barriers that impact academic success, especially those related to poverty. Recent research, newly updated here, shows that addressing these factors in a systemic way in elementary schools leads to benefits much later in reducing school drop-out.

Childhood poverty is manifested in food insecurity, housing instability, contagions in the environment, inadequate medical care and insurance, lack of access to enriching activities, and stress on families, among many other conditions. These manifestations of poverty, each one important, interact and exacerbate one another. They demand a flexible and customized approach to supporting the students who face them.

Comprehensive, customized student support pays careful attention to the individual strengths and needs of students in elementary school and links students to community- and school-based supports and enrichments that are best suited to their particular needs. New findings show that optimized student support contributes to the groundwork for high school graduation, impacting the life chances of students who experience childhood poverty.

The updated analysis presented here examines outcomes for Black and Latino male students, who demonstrate significant risk for high school drop-out. These students have been identified by several school districts across the nation (e.g. Boston Public Schools) as warranting increased attention and support for attaining educational success.

CITY CONNECTS: AN APPROACH TO COMPREHENSIVE, COORDINATED STUDENT SUPPORT

City Connects is a system that broadens the work traditionally done by student support staff in schools. At its core is a full-time, Master's-trained school counselor or social worker who works with each teacher to review the strengths and needs of every student in the school, then leverages community resources to match each student to the specific supports and enrichments they can most benefit from. Resource allocation is grounded in evidence. City Connects tracks referrals, service delivery, and outcomes and thus can measure effectiveness. It can easily be expanded and sustained in new districts. City Connects is comprehensive, ensuring that no student is overlooked, but also customized and dynamic, with ongoing reviews and adjustments—confronting the non-static nature of childhood poverty.

### CITY CONNECTS IN ELEMENTARY SCHOOL IMPACTS LATER SCHOOL DROP-OUT

Students who attended elementary schools implementing City Connects beginning in kindergarten or first grade are less likely to drop out of school in high school than comparison students (those who never attended a City Connects school).[1]

As shown in figure 1, at every grade level, students who attended City Connects elementary schools during at least kindergarten or first grade are less likely to drop out of school.[2] The difference at grade 9 is particularly notable

[1] Evidence is from a large-scale longitudinal quasi-experimental study.
[2] Students in the treatment sample entered City Connects in Kindergarten or grade 1. Similarly, students in the comparison sample enrolled in the district by

Figure 1. Proportion of students who drop out from school at each high school grade level, comparison vs. City Connects students

Comparison --- City Connects
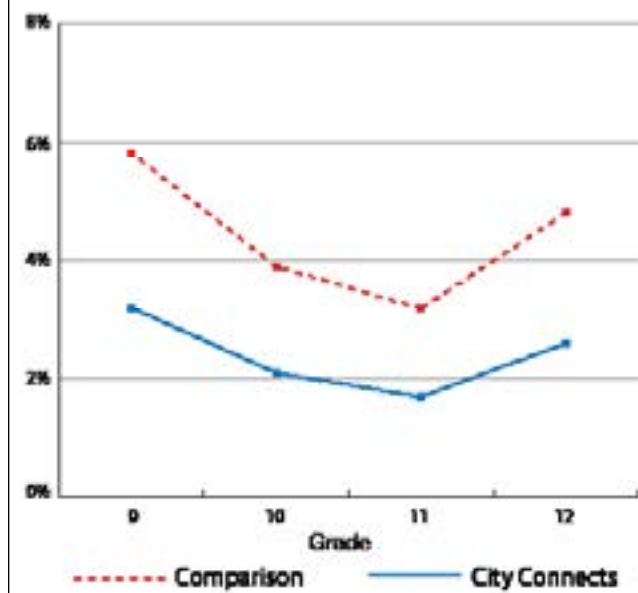
In both figures, proportions adjusted for demographic student characteristics. SOURCE: District withdrawal code data, 2005-2012. Comparison N= 10,200; City Connects N=894 – Updated Spring 2017

Figure 2. Cumulative percentage of students who drop out from high school, comparison vs. City Connects students
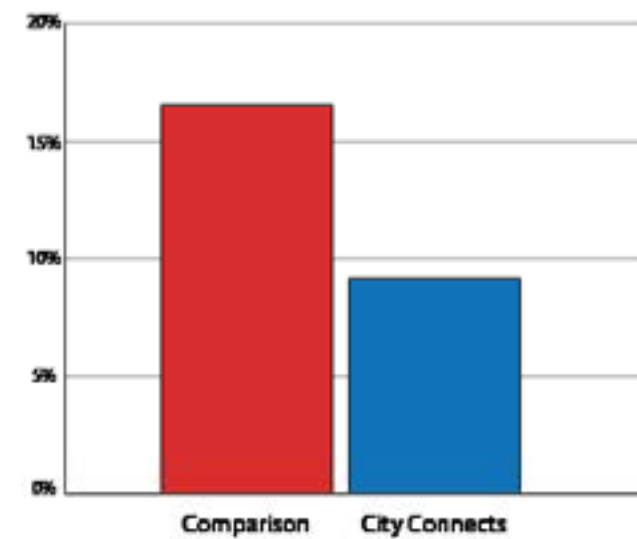
(almost 6% for comparison students and 3% for City Connects students).

The cumulative percentage of students who drop out across the four years of high school is also substantially lower for students who attended an elementary school implementing City Connects starting in kindergarten or first grade than for those who never attended a City Connects school. (See Figure 2.)

For students who started City Connects in kindergarten or first grade, the difference between students who attended City Connects elementary schools and comparison students translates to approximately 50% lower odds of dropping out between grades 9 and 12. If an entire district experienced drop-out at a rate similar to that of City Connects students, for a cohort of 5,000 students, approximately 370 fewer students would have dropped out of high school.

High school graduation is widely argued to yield public economic benefits, including higher tax revenue and lower spending on the justice system,

healthcare, and public assistance programs. A conservative estimate of the benefit is $127,000 per graduate.[3] Assuming this estimate, if a district with a cohort of 5,000 had experienced drop-out at a rate similar to City Connects students, the public benefit would have exceeded $45 million.

Black and Latino male students often experience pressing educational needs, and have received increased attention and support from several school districts across the nation.

For example, Boston Public Schools commissioned a study in 2014 in order to determine how to better serve and support Black and Latino male students. As the authors of the study explain, "despite being the focus of education reform initiatives for several decades, disparities in access, opportunity, and achievement persist for Black and Latino males."[4]

[3] Levin, H., Belfield, C., Muennig, P., & Rouse, C. 2006. The costs and benefits of an excellent education for all of America's children. Teachers College, Columbia University.

[4,5] Miranda, H., Mokhtar, C., Tung, R., Ward, R., French, D., McAlister, S., & Marshall, A. 2014. Opportunity and Equity: Enrollment and Outcomes of Black and Latino Males in Boston Public Schools. Center for Collaborative Education and the Annenberg Institute for School Reform at Brown University. P. 7

Kindergarten or grade 1. Both groups were less mobile than the district population in general because they did not include students who entered City Connects or comparison schools after grade 1 (although students originally enrolled in K or grade 1 may have left the district before reaching high school).

Figure 3. Cumulative percentage of Black male students who drop out from high school, comparison vs. City Connects students
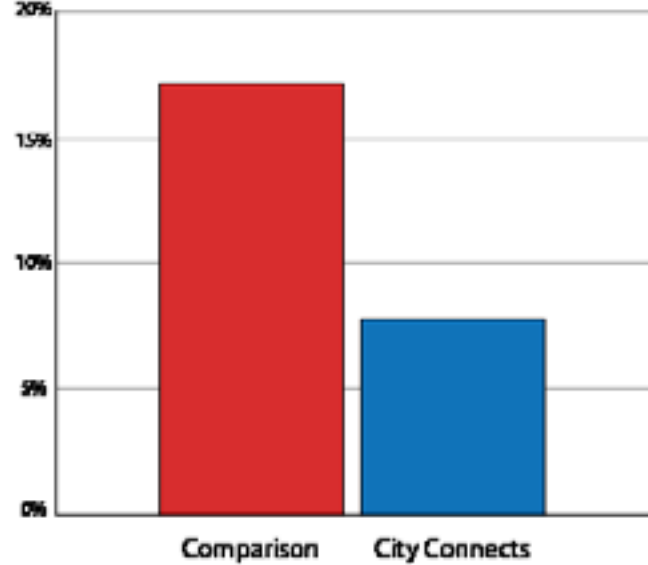
Proportions adjusted for demographic student characteristics. SOURCE: District withdrawal code data, 2005-2012. Comparison N= 2132; City Connects N=154 – Updated Spring 2017

Figure 4. Cumulative percentage of Latino male students who drop out from high school, comparison vs. City Connects students
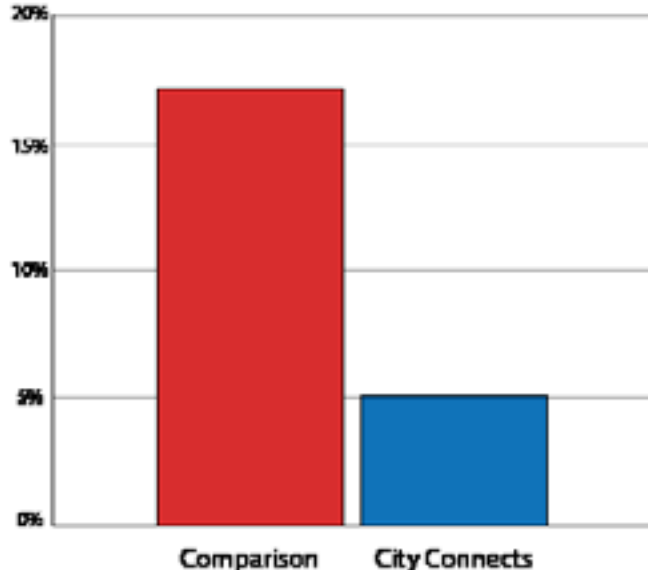
Proportions adjusted for demographic student characteristics. SOURCE: District withdrawal code data, 2005-2012. Comparison N= 2195; City Connects N=173 – Updated Spring 2017

With respect to high school drop-out in particular, Miranda and colleagues (2014) state: "on average, Black and Latino males complete less education than do their peers. Nationally, about 52% of Black and 59% of Latino male students graduated from high school in 2010, compared to 78% of White,

non-Latino male students."[5]

Positive findings on drop-out seen for former City Connects students overall also hold true for Black and Latino male students who participated in City Connects, as seen in figures 3 and 4. The cumulative percentage of Black and Latino male students who drop out across the four years of high school is substantially lower for students who attended an elementary school implementing City Connects starting in kindergarten or first grade than for those who never attended a City Connects school (over 50% lower for Black male students and over 66% lower for Latino male students).

METHODOLOGY

This study followed students' longitudinal data records in an intervention, into middle and high school (N=2,265). A comparison group of students who attended school in the same district at the same time but never attended a City Connects school was also followed (N=19,979).

The study looked at the longitudinal records of City Connects and comparison students who had also been enrolled in elementary school.[6] When students leave the district, the reason for departure is recorded. The analysis drew on this information to classify each student's "drop-out" status:

Students classified as non-drop-out: Students who leave the district for reasons other than drop-out, such as graduation or transfer to another district. If a student does not depart the district, but his/her longitudinal record does not reach grade 12 simply because the student is not old

[6] Several other conditions applied: (1) the student's longitudinal record extended to at least the beginning of grade 9; (2) the student was not enrolled in a substantially separate special education classroom at the endpoint of their record; (3) the student's record included complete information on control variables (race, gender, ever eligible for free/reduced priced lunch, ever classified as an English language learner, ever eligible for special education services, total number of school transfers experienced since kindergarten, and grade level at end of longitudinal record).

enough to have completed high school, no withdrawal information appears in the record. These students are also included in the non-drop-out group.

Students classified as drop-out: Students who (1) withdraw from the district entirely; (2) never return to the district; and (3) have a record that clearly indicates non-graduation (such as drop-out, pregnant, expelled, or incarcerated).

The City Connects effect on drop-out is modeled using discrete event history analysis: repeated measures are nested within students using hierarchical logistic regression and repeated measures and student-level characteristics serve as controls.

These models also included student-level "propensity score weights" that make City Connects and comparison samples more similar in pre-intervention/baseline characteristics. This helps reduce selection bias and strengthen the rigor of the analyses.[1]

The individual student record method has advantages over school-level proxies for drop-out (i.e., cohort size difference at 9th and 12th grade). Education program evaluations sometimes follow a school cohort from the beginning of high school to the end, and examine aggregate enrollment differences at grade 9 and grade 12 four years later. That is, these methods estimate drop-out rates by counting the number of students at the beginning and end of high school. This strategy may misrepresent true drop-out rates because a number of factors besides drop-out may affect aggregate enrollment counts (e.g., student transfers, retention in grade, school restructurings). In contrast, student-level records provide more precise indicators of drop-out status because they follow the actual enrollment of each student over time. (Also, some districts report dropout rate calculated as the percentage of students who drop out each year; the analysis reported above examined the percentage of students in each 9th grade cohort who drop out over their time in school.)

[7] Austin, P. 2011. An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies, Multivariate Behavioral Research, 46:3, 399-424; Guo, S. & Fraser, M.W. 2010. Propensity score analysis: Statistical methods and applications. California: SAGE Publications, Inc.

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