Chicago Public Schools Community Schools Initiative: FY15 Cohort Impact Analysis Findings

OCTOBER 2019

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Contents

Executive Summary

Chicago Public Schools (CPS) uses 21st Century Community Learning Centers (21st CCLC) grants to provide afterschool and summer learning opportunities as part of a larger effort to transform the schools receiving funding into community schools aligned with a specific implementation framework. Starting with the 2014–15 school year, CPS began providing 21st CCLC funding to 24 schools (known as the FY15 cohort) to implement community school programming that was intended to support the achievement of a variety of outcomes related to academic achievement, student perceptions of the climate of the school, and behaviors related to school success.

The purpose of this report is to outline what was learned about how well schools represented in the FY15 cohort achieved positive outcomes for students participating in activities and services supported by the Community Schools Initiative (CSI).

What were we trying to learn?

The primary purpose of this report is to answer the following evaluation question:

> *What impact did participation in CSI programming for 120 hours or more during the 2016–17 and 2017–18 school years have on a series of school-related outcomes compared with similar students enrolled in CSI schools not participating in programming?*

Adoption of the 120-hour performance threshold is predicated on a series of impact studies associated with the 21st CCLC program that have shown that program effects are more likely to be more significant at this level of participation (Naftzger, Devaney, & Newman, 2015; Naftzger et al., 2018). In addition, a previous impact analysis conducted by the American Institutes for Research of schools enrolled in CSI also found that this level of program participation was associated with significant impacts among a sample of higher implementing schools (Naftzger, Williams, & Liu, 2014). A total of 1,531 students (or approximately 64 students per average per school) were found to have participated in CSI programming in both the 2016–17 and 2017–18 school years. In addition, these students attended CSI programming for 120 hours or more during this period and had at least some school-related outcome data available for both the 2015–16 and 2017–18 school years. The 2015–16 school year represented the baseline year from which growth was assessed, while the 2017–18 school year represented the outcome year of interest.

The comparison group was composed of students attending a CSI-funded school associated with the FY13 and FY15 cohorts (45 schools in total) that did not participate in CSI programming during the 2016–17 and 2017–18 school years. This broader domain of schools was included in

the process of identifying the comparison group to enhance the likelihood of finding comparison students who were as similar as possible to those students participating in CSI programming for 120 hours or more. Propensity score matching was used to create the comparison groups used in the impact analyses.

What did we learn?

The key findings resulting from the impact analyses undertaken by the evaluation team included the following:

- Participation in CSI programming for 120 hours or more across the two school years examined was found to have a positive impact on annual grade point average (GPA) and Northwest Evaluation Association (NWEA) scores in reading and mathematics. The latter impacts were especially noteworthy because they were found to be larger than what has typically been found when conducting statewide evaluations of the 21st CCLC program.

- Positive impacts were also found for students in Grades K–3 and 4–8 in relation to improving school-day attendance and reducing misconducts. These impacts were not observed in relation to students in Grades 9–12, although the sample for these analyses was quite small, raising concerns about the power to detect effects and the stability in impact estimates for this particular group of students.

- Similar issues of small sample sizes also plagued analyses related to assessing the impact of 120 hours of CSI participation on 5Essentials survey scores. Few significant effects were found in relation to these survey scores. One exception to this general trend is that participation in CSI programming led to higher scores on the psychological sense of school membership scale of the 5Essentials survey. This finding is especially noteworthy because impacts in this area seem to be well aligned with the vision for community school strategy implementation associated with most schools enrolled in CSI.

Based on these results, what else is being recommended?

In this report, we did not examine how issues related to implementation may be connected to the impacts found to be associated with CSI participation. However, a review of attendance-related key performance measures demonstrated improvement on the part of the FY15 cohort across the three years examined in terms getting youth into CSI programming and retaining them in CSI activities and services over time. In addition, FY15 schools demonstrated a higher level of performance on average on these attendance-related metrics than schools represented in the FY13 cohort. We also found some exploratory evidence that greater fidelity to the Continuous Quality Improvement Process (CQIP) was associated with greater improvement on these metrics over time as well. In this sense, it may be worthwhile to examine what strategies

especially high performing schools are using to get and keep youth engaged in CSI programming over time that may warrant replication and emulation more broadly across the Initiative.

Finally, some schools were overrepresented in the sample of students attending CSI programming for 120 hours or more across the two school years under consideration. We believe there would be value in studying these schools more closely to better understand how they are going about implementing the strategy and what key experiences youth may be having while participating in programming that may be supporting the outcomes being demonstrated through these analyses. This information could be useful in further refining the CSI implementation framework and tools like the CQIP that are meant to help new community schools implement the strategy more effectively.

1. Introduction

Starting with the 2014–15 school year, Chicago Public Schools (CPS) began providing funding to 24 schools to implement community school programming supported by a series of grants received through the 21st Century Community Learning Centers (21st CCLC) program administered by the Illinois State Board of Education. These grants were designed to support the design and delivery of afterschool and summer learning programming provided at each of these schools for a 5-year period concluding with the end of the 2018–19 school year. CPS has used 21st CCLC grants to provide afterschool and summer learning opportunities as part of a larger effort to transform the schools receiving funding into community schools aligned with a specific implementation framework. Implementation of the CPS community school strategy at each school associated with what is known as the fiscal year 2015 (FY15) cohort was intended to support the achievement of a variety of outcomes related to academic achievement, student perceptions of the climate of the school, and behaviors related to school success.

The purpose of this report is to outline what was learned about how well schools represented in FY15 cohort achieved positive outcomes for students participating in activities and services supported by the Community Schools Initiative (CSI).

1.1 Background

The Community Schools Initiative

Since 2002, CPS has looked to community schooling as a strategy to support students, their families, and the broader school community. Leveraging resources provided through the 21st CCLC program and through the creation of partnerships between district schools and community-based organizations and providers, community schooling has resulted in additional programming and services being provided in CPS schools. A key component of CPS' CSI is ensuring that the needs of the school community are identified and that high-quality programming and services are provided to address these needs, particularly the academic, social, and emotional needs of students enrolled in CSI schools. It is expected that the investment that CPS has made in community schools will result in positive outcomes for participating youth, including the development of social and emotional skills and competencies, improvements in academic achievement, the development of behaviors important to school success, and better health and well-being among enrolled youth.

CSI Implementation Framework

Schools represented in the FY15 cohort were asked to implement the community school strategy by following key components of the CSI Implementation Framework. The CSI Implementation Framework was constructed by an internal CSI evaluation team after extensive

key informant interviews in a sample of schools aimed at identifying key drivers of CSI implementation (Zander, Burnside, & Poff, 2010). The framework articulated the core features of community schooling in Chicago and the steps and processes that schools need to go through and adopt in order to fully implement the strategy.

As shown in Figure 1, the framework includes nine steps related to implementation. These steps address

- readiness (principal commitment to the community school, a designated partnership between the school and a lead partner agency, and the development of a shared vision);

- preparation (hiring and preparing a resource coordinator who manages the community school strategy, forming an advisory committee, and conducting a needs and resources assessment); and

- implementation (developing, organizing, and conducting community school activities and revisiting these activities with the goal of program improvement).

The framework conveys to new CSI schools the steps they should follow in transforming themselves into a community school and reminds existing CSI schools about the need to evaluate and adapt programming throughout the lifetime of the community school.

The six sustainability factors are closely related to the implementation steps—emphasizing infrastructure, community relationships, evaluation, professional learning communities, program expansion as needed, and continued and close links to the school. Represented in the outer ring in Figure 1, the sustainability factors are essential for maintaining and developing the community school, particularly as certain components change, such as funding sources and partnerships.

Figure 1. The CSI Implementation Framework
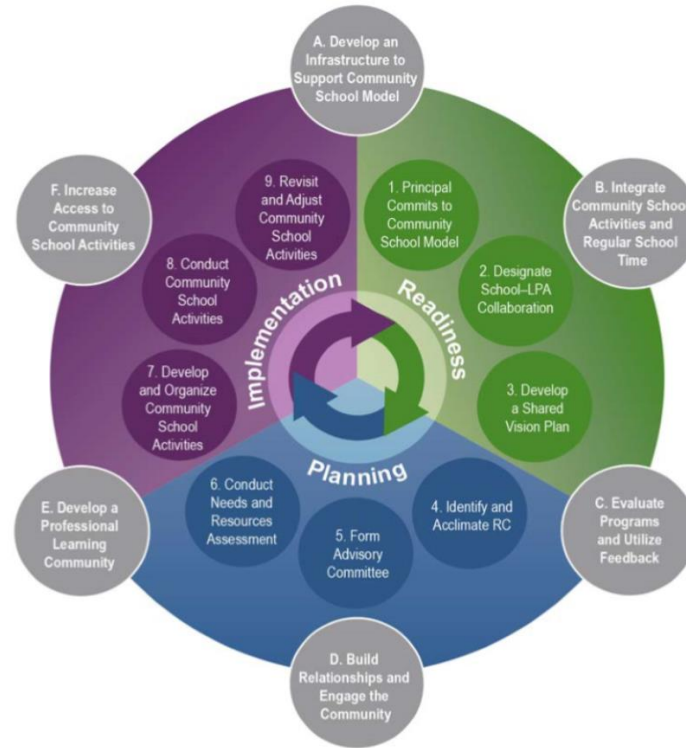
Continuous Quality Improvement Process

Starting in 2011, CPS began working with a new evaluation team composed of the American Institutes for Research (AIR) and the Diehl Consulting Group. The team utilized the CSI Implementation Framework as the catalyst to develop a quality improvement tool and process predicated on the CSI Implementation Framework. Schools enrolled in the initiative can use this tool to promote strategies for successful community schooling. This effort resulted in the creation of the CQIP and an aligned set of self-assessment rubrics. The CQIP has been in place in its current configuration since the 2015–16 school year.

In undertaking the CQIP, schools are asked to complete a self-assessment annually on a portion of the CQIP rubrics. The goal of the self-assessment is to help schools identify where they stand on key elements related to effective implementation of the strategy; target areas where improvements can be made; and develop and implement an action plan for areas targeted for improvement.

The intent of the CQIP is to help schools become more familiar with the core attributes of community schooling in Chicago and take steps to enhance their efforts to implement the strategy in accordance with the implementation framework. Schools represented in the FY15 cohort were involved in CQIP-related processes during the 2015–16 to 2017–18 school years, covering the implementation period that will be focused on in this report.

1.2 Schools Represented in the FY15 Cohort

A total of 24 schools funded under six 21st CCLC grants were associated with the FY15 cohort (see Table 1; the grant a school was connected to is outlined in parentheses). A total of 15 elementary schools and nine high schools were associated with the FY15 cohort. This report will focus on the impact of CSI participation in this set of schools.

Table 1. List of Schools Represented in the FY15 Cohort

School (Grant Number)
Chavez Elementary Multicultural Academy Center (1)
Doolittle Elementary School (1)
Sumner Elementary Math and Science Community Academy (1)
Tilden Career Community Academy High School (1)
Alice l. Barnard Computer Math & Science Center (2)
Esmond Elementary School (2)
Fenger Academy High School (2)
Morgan Park High School (2)
Mason Elementary School (3)
Spencer Technology Academy Elementary School (3)
Spry Community Links High School (3)
Uplift Community High School (3)
Hirsch Metropolitan High School (4)
Mann Elementary School (4)
South Shore Fine Arts Academy (4)
South Shore International College Preparatory High School (4)
Hope College Preparatory High School (5)
Libby Elementary School (5)
Martin Luther King School of Social Justice (5)
Peck Elementary School (5)
Clinton Elementary School (6)
Greeley Elementary School (6)
Kilmer Elementary School (6)
Sullivan High School (6)

2. Study Design

The primary purpose of this report is to answer the following evaluation question:

> *What impact did participation in CSI programming for 120 hours or more during the 2016–17 and 2017–18 school years have on a series of school-related outcomes compared with similar students enrolled in CSI schools not participating in programming?*

Adoption of the 120 hour performance threshold is predicated on a series of impact studies associated with the 21st CCLC program that have shown that program effects are more likely to be more significant at this level of participation (Naftzger, Devaney, & Newman, 2015; Naftzger et al., 2018). In addition, a previous impact analysis conducted by AIR of schools enrolled in the Community Schools Initiative also found that this level of program participation was associated with significant impacts among a sample of higher implementing schools (Naftzger, Williams, & Liu, 2014). A total of 1,531 students (or approximately 64 students per average per school) were found to have participated in CSI programming in both the 2016–17 and 2017–18 school years. In addition, these students attended CSI programming for 120 hours or more during this period and had at least some school-related outcome data available for both the 2015–16 and 2017–18 school years. The 2015–16 school year represented the baseline year from which growth was assessed from, while the 2017–18 school year represented the outcome year of interest.

Throughout this report, the 1,531 students included in the impact analyses are identified as the treatment group of interest for the analyses summarized in this report. This represented approximately 60% of youth attending FY15 schools and attended CSI at any level in both school years with prior year data available and 44% of youth attending CSI at any level during the 2016–17 and 2017–18 school years with prior year data available.

In addition, a decision was made to focus on participation in CSI programming during the 2016–17 and 2017–18 school years in order to provide schools represented in the FY15 cohort a couple of years to refine efforts to implement the strategy. This included the opportunity to participate in the CQIP to explore what it means to implement the strategy in accordance with the CSI Implementation Framework and take steps to improve implementation efforts.

The comparison group was composed of students attending a CSI-funded school associated with the FY13 and FY15 cohorts (45 schools in total) that did not participate in CSI programming during the 2016–17 and 2017–18 school years. This broader domain of schools was included in the process of identifying the comparison group to enhance the likelihood of finding comparison students who were as similar as possible to those students participating in CSI programming for 120 hours or more. Propensity score matching was used to create the

comparison groups used in the impact analyses. Additional information about this approach can be found in Appendix A.

3. Report Organization

This report is organized into three primary sections. Section 4 provides information on how well schools in the FY15 cohort performed on a series of key performance metrics related to CSI program attendance and provides details on the demographics and participation of students associated with the treatment population.

Section 5 of the report describes results from the impact analyses oriented at answering the primary evaluation question underpinning the study.

Finally, a conclusion and recommendations section provides a summary of what was learned from the impact analyses described in the report and a series of recommendations regarding what may warrant consideration in future analyses.

4. Implementation Characteristics Associated With the FY15 Cohort

4.1 Students Served in CSI Programming

Per the CSI Implementation Framework, community schools participate in an intentional needs assessment process involving multiple key stakeholder groups, including school-day staff, parents, partner agencies, and member of the community. The process helps schools to identify student needs and assets and to design and deliver programming oriented at addressing identified needs in accordance with a shared vision for how CSI activities and services will positively impact participating youth and their families. Generally, participation in the programs resulting from this process are voluntary for students. Therefore, the student's family has made a decision to enroll their child in afterschool or summer programming or the student has elected to so on their own accord.

In this sense, attendance in CSI programming is a critical implementation factor in demonstrating how successful the school has been in attracting and retaining youth to the programs. Students cannot benefit from CSI offerings if they do not participate in them on a regular and sustained basis. In Table 2, the number of students served per year and by school are outlined for the 2015–16 to 2017–18 school years.

Table 2. Total Number of Youth Served in CSI Programming: 2015–16 Through 2017–18 by School

School (Grant Number)	2015–16	2016–17	2017–18
Chavez Elementary Multicultural Academy Center (1)	793	818	726
Doolittle Elementary School (1)	171	209	142
Sumner Elementary Math and Science Community Academy (1)	190	175	175
Tilden Career Community Academy High School (1)	115	111	70
Alice l. Barnard Computer Math & Science Center (2)	237	218	206
Esmond Elementary School (2)	182	199	156
Fenger Academy High School (2)	161	81	92
Morgan Park High School (2)	336	246	286
Mason Elementary School (3)	143	142	155
Spencer Technology Academy Elementary School (3)	384	290	205
Spry Community Links High School (3)	147	149	130
Uplift Community High School (3)	213	225	148
Hirsch Metropolitan High School (4)	88	52	83
Mann Elementary School (4)	240	251	161
South Shore Fine Arts Academy (4)	379	234	140
South Shore International College Preparatory High School (4)	412	475	527
Hope College Preparatory High School (5)	181	88	58
Libby Elementary School (5)	123	170	133
Martin Luther King School of Social Justice (5)	105	126	143
Peck Elementary School (5)	540	721	354
Clinton Elementary School (6)	393	510	472
Greeley Elementary School (6)	284	367	359
Kilmer Elementary School (6)	386	402	401
Sullivan High School (6)	345	359	422

Source. Cityspan.

On average, schools associated with the FY15 cohort served 240–275 students in CSI programming annually. Chavez Elementary Multicultural Academy Center consistently served the largest number of students per year (an average of 779 students per year), largely due to an extended-day program that involved almost all of the students enrolled in the school. The fewest number of youth were served by Hirsch Metropolitan High School, which served an average of 74 students on average during this period.

4.2 Attendance Key Performance Indicators

The number of youth served in CSI programming per year provides only a partial understanding of how well CSI schools are going through the process of engaging students in programming and keeping those youth participating in programming over time. To better understand the progress CSI schools are making in each of these areas, each year, four attendance-related key performance metrics are calculated for each school associated with FY13 and FY15 cohorts based on data collected in Cityspan pertaining to student participation in CSI activities and services. These metrics are as follows:

- The **percentage of the school's total student population enrolled in CSI programing and services** measures the degree of success a school has had in enrolling youth in CSI activities and services.

- The **percentage of youth enrolled in CSI programing in both the fall and spring semesters of the school year** measures the degree of success a school has had in retaining youth in programming across the school year in question.

- **The percentage of youth enrolled in programming for more than 120 hours during the school year** measures the degree of success a school has had in keeping youth enrolled in and attending CSI programming and services at this level during the school year in question. Previous impact studies conducted in relation to CSI and other afterschool and summer programs funded by the 21st CCLC program specifically have demonstrated larger positive effects at this level of participation (Naftzger, Williams, & Liu, 2014; Naftzger, Devaney, & Newman, 2015; Naftzger et al., 2018).

- The **percentage of youth attending 60 hours or more across 2 years** measures the degree of success a school has had in keeping youth retained in programming across schools at sustained levels. Previous studies have also demonstrated that sustained student involvement in programming akin to that provided under the auspices of CSI is associated with larger program effects.

Figures 1 through 4 outline the average level of performance across the 2015–16 to 2017–18 school years on each of the four attendance-related key performance metrics by schools represented in the FY15 cohort. For comparison purposes, the average level of performance of the 21 schools represented in the FY13 cohort is also presented in each figure.

Summary of Attendance Indicator Findings

Two key summary points should be made about the performance of schools represented in the FY15 cohort on the attendance-related, performance metrics. Generally, schools in the FY15 cohort (a) demonstrated a higher level of performance than schools associated with the FY13

cohort and (b) demonstrated improvement across the three school years examined, oftentimes further accentuating the performance gap between the FY15 and FY13 cohorts.

It is not clear what accounted for these differences across the two cohorts. Further examination is warranted to assess what characteristics may be associated with schools that demonstrate improvement across these indicators and which schools demonstrate a consistent level of performance or a decline.

A future study should investigate the degree to which schools undertook the CQIP with fidelity. Based on an analysis completed by AIR and the Diehl Consulting team in 2018, nine schools associated with FY13 and FY15 cohorts were identified as implementing the CQIP with a higher degree of fidelity on 10 fidelity indicators based on how schools undertook the process during the 2015–16 and 2016–17 school years relative to the remaining FY13 and FY15 schools (see Naftzger, Diehl, Vote, & Sutter, 2018, for additional details).

As shown in Table 3, schools with higher fidelity to the CQIP demonstrated both a higher average number of attendance-related metrics where improvement was demonstrated and a higher mean level of improvement on three of the four indicators in question. These results likely do not account fully for why some schools demonstrated improvement on the attendance-related indicators in question, while other stayed consistent or witnessed some decline in performance across years. This is especially true for the FY15 cohort where fidelity to the CQIP process varied substantially across schools represented in the cohort.

Table 3. Differences in Attendance Indicator Improvement by CQIP Fidelity Status

School Status: CQIP Fidelity	Mean Number of Indicators Showing Improvement	Mean Change From 2015–16 to 2016–17			
		Percentage of Schools in CSI	Percentage in CSI Both Terms	Percentage Attending 120 Hours	Percentage Attending 60 Hours in Two Years
Higher CQIP fidelity (*n* = 9)	2.78	4.22%	4.67%	5.00%	4.67%
Lower CQIP fidelity (*n* = 36)	2.06	1.39%	5.36%	1.78%	−0.08%

Performance on each indicator by the FY15 cohort points to an enhanced capacity to attract and retain students in CSI programming over time, which would seem to support positive student outcomes.

As shown in Figure 2, schools in the FY15 cohort consistently enrolled approximately half of their student population on average in CSI programming across the three school years

considered. This rate was substantially higher than schools represented in the FY13 cohort, which averaged enrolling 35% to 38% of their population in CSI programming.

Figure 2. Percentage of School Student Population Enrolled in CSI Programing and Services
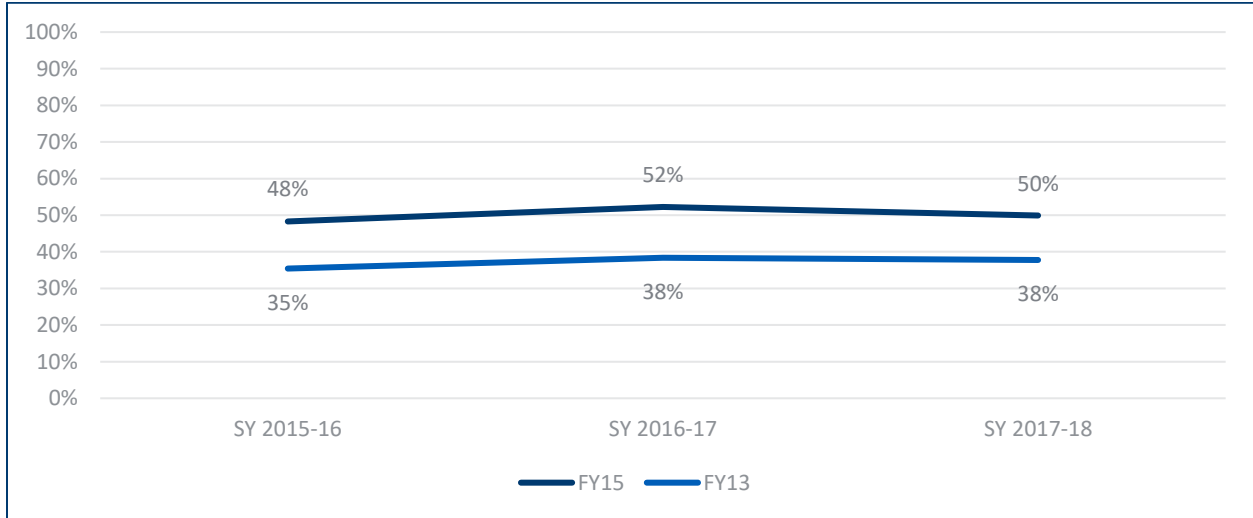
Source. Cityspan.

Schools represented in the FY15 cohort demonstrated an upward trajectory in terms of the percentage of students attending CSI programming during both the fall and spring semesters of the school year, improving from 63% in 2015–16 to 73% in 2017–18 (see Figure 3). During this same period, schools in the FY13 cohort remained largely flat on this metric, with performance levels hovering around 55%.

Figure 3. Percentage of Youth Enrolled in Programing in the Fall and Spring Semesters of the School Year
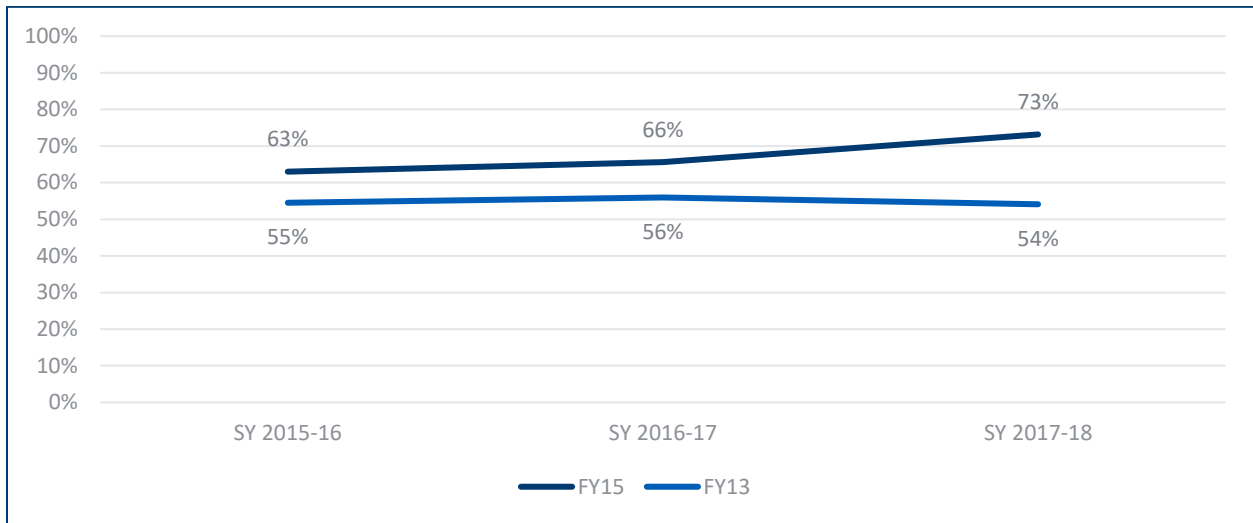
Source. Cityspan.

After showing virtually no change between the 2015–16 and 2016–17 school years, schools in the FY15 cohort demonstrated an increase in the percentage of students participating in CSI programming for 120 hours or more, reaching 31% on average of youth participating in CSI activities and services (see Figure 4). Schools in the FY13 demonstrated a decline in 2017–18 to 17% after a period of stable performance levels in the prior two school years.

Figure 4. Percentage of Youth Enrolled in Programming More Than 120 Hours During the School Year
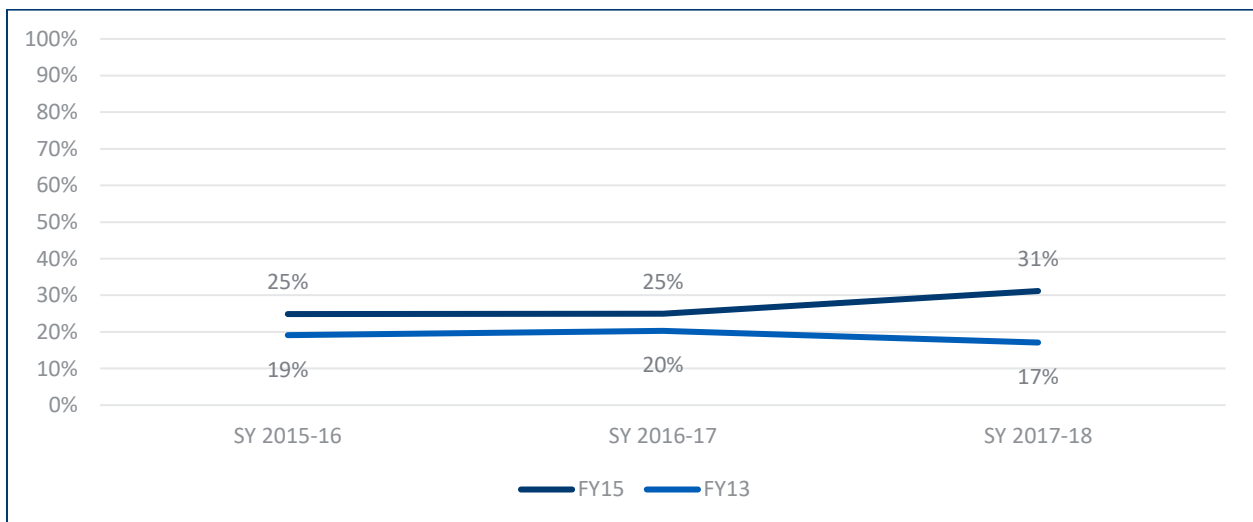
Source. Cityspan.

Schools in the FY15 cohort demonstrated growth in the percentage of youth who attended 60 or more hours of programming between the 2015–16 and 2016–17 school years, and then largely maintained this level of performance during the 2017–18 school year. Thirty-eight percent of youth participating in CSI for 60 days or more in the prior year participated at that level during the 2017–18 school year (Figure 5). After performing at largely an equivalent level in 2015–16, the FY13 schools demonstrated a decline on this metric in the latter two school years, ending the period under consideration at 26%.

Figure 5. Percentage of Youth Attending 60 Hours or More Across Two Years
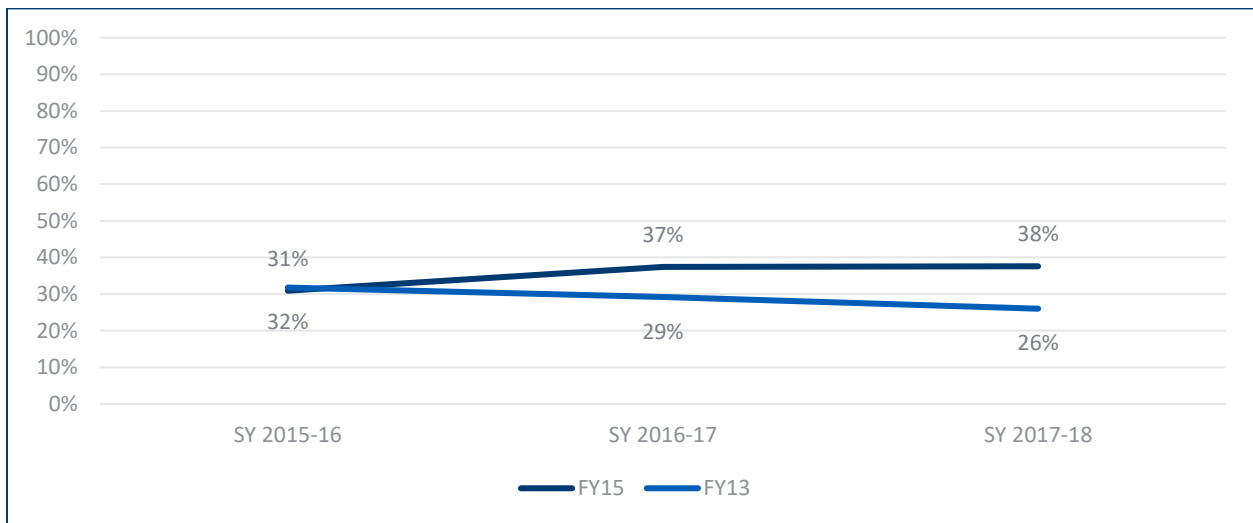
Source. Cityspan.

4.3 Characteristics of the Treatment Population

As mentioned, the impact analyses described in this report focus specifically on students enrolled in FY15 schools who attended programming for 120 hours or more in total across the 2016–17 and 2017–18 school years. In this section of the report, we describe how this group of youth compare with the overall student population at these schools and the full population of students participating in CSI programming during the period in question.[1] The characteristics detailed in this section of the report are based on the baseline year of 2015–16.

Generally, a higher percentage of students in the treatment group were Hispanic, female, English language learners (ELLs), and enrolled in Grades K–3 in 2015–16 than students generally attending CSI programming and the overall student population served by the FY15 schools.

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[1] Each comparison group highlighted in this section of the report is based on students who were also enrolled in the school during the 2015–16 school year. This was done to better ensure comparability with the treatment population, which is predicated on youth with a baseline year of 2015–16 and CSI participation in 2016–17 and 2017–18.

Students in the treatment population were found to perform better on a series of school-related outcomes at baseline relative to the other two groups.

The majority of students who attended FY15 schools, participated in CSI programming during the 2016–17 and 2017–18 school years, and were assigned to the treatment group for the impact analyses summarized in this report were Black (Figure 6). However, while 33% of the students attending FY15 schools were Hispanic, they accounted for 46% of the treatment population. Students identified as Asian, White, and multiracial accounted for less than 5% of the students in each of the three groups considered.

Figure 6. Ethnicity: School Populations, CSI Participants, and Students in the Treatment Group

	School Populations	CSI Participants	Treatment
Black	57%	51%	50%
Hispanic	33%	41%	46%
Asian	5%	5%	2%
White	4%	3%	2%
Multiracial	1%	1%	1%
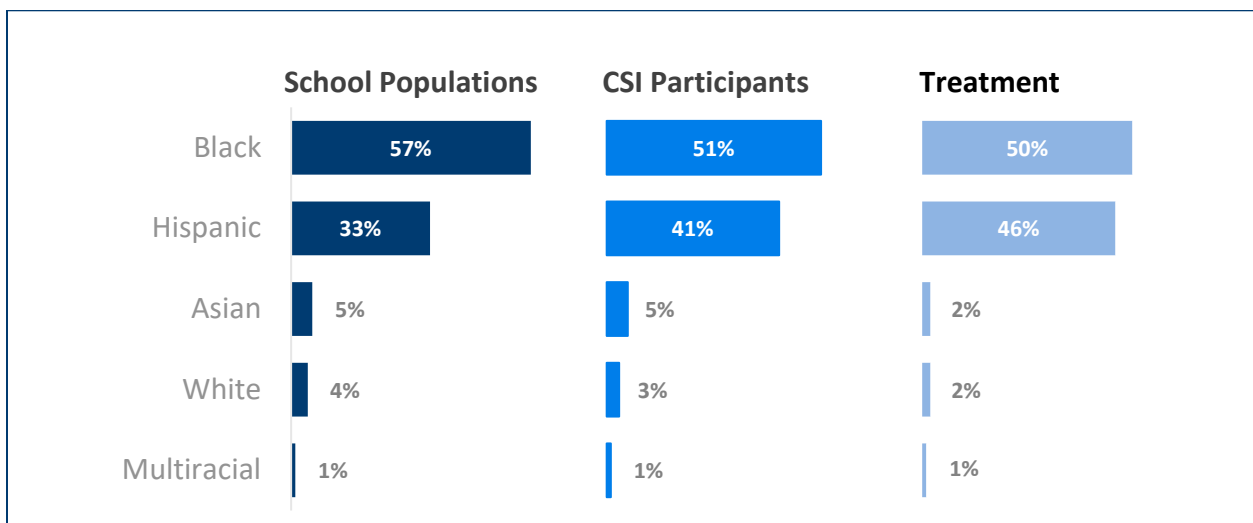
Source. Cityspan and CPS student data warehouses.

According to Figure 7, more students in the treatment group were female (56%) than students in the larger CSI population (52%) and the school populations at the FY15 schools (50%).

Figure 7. Gender: School Populations, CSI Participants, and Students in the Treatment Group

	School Populations	CSI Participants	Treatment
Female	50%	52%	56%
Male	50%	48%	44%

Source. Cityspan and CPS student data warehouses.

Almost all students across the three groups were eligible for free or reduced price lunch (FRPL; see Figure 8). Students represented in the treatment group were slightly more likely to have a status as an ELL (26% compared with 24% of all CSI participants and 20% of students enrolled in FY15 schools). Students in the treatment group also were less likely to have an individualized education program (IEP; 9%) than the broader CSI population (11%) and the overall student population enrolled at FY15 schools (15%).

Figure 8. Program Enrollment: School Populations, CSI Participants, and Students in the Treatment Group

Source. Cityspan and CPS student data warehouses.

Students associated with the treatment population were more likely to be in Grades K–3 in the baseline year (52%) than both the overall CSI population (42%) and schools represented in the FY15 cohort (35%; see Figure 9). Similarly, the percentage of students in the treatment population represented only 13% of the treatment schools, while they represented 32% of the overall CSI population and 24% of the FY15 school population. This difference likely reflects the criteria used to define the treatment population, which required students to be in the same school across the 2015–16 to 2017–18 school years.
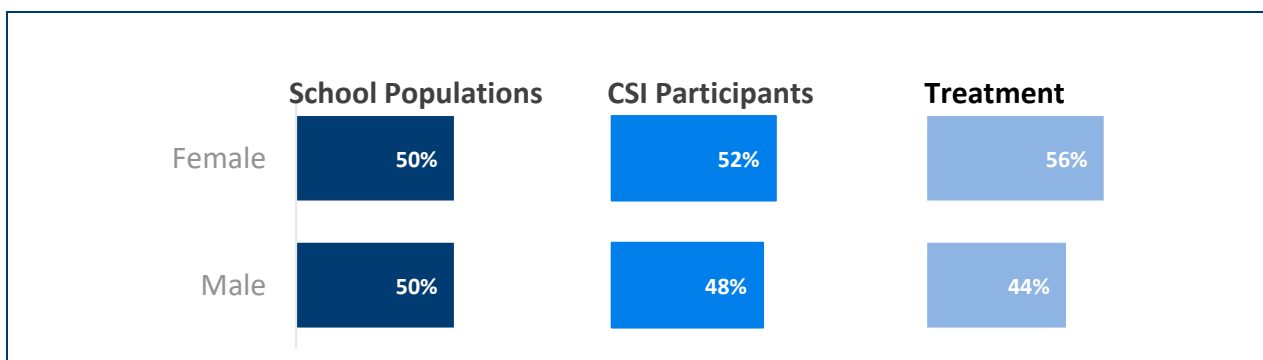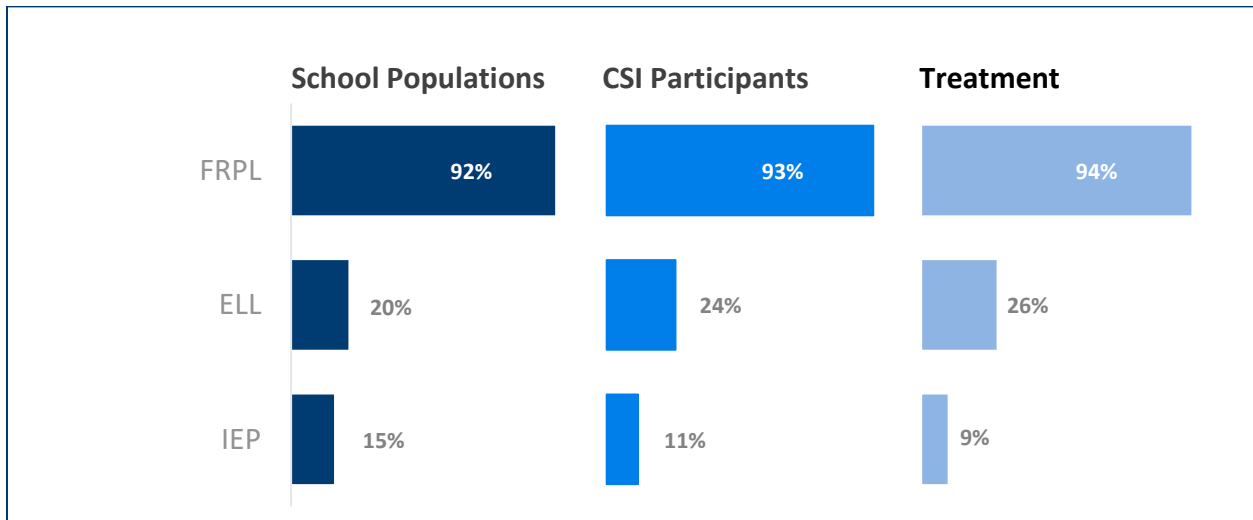
Figure 9. Grade Level: School Populations, CSI Participants, and Students in the Treatment Group

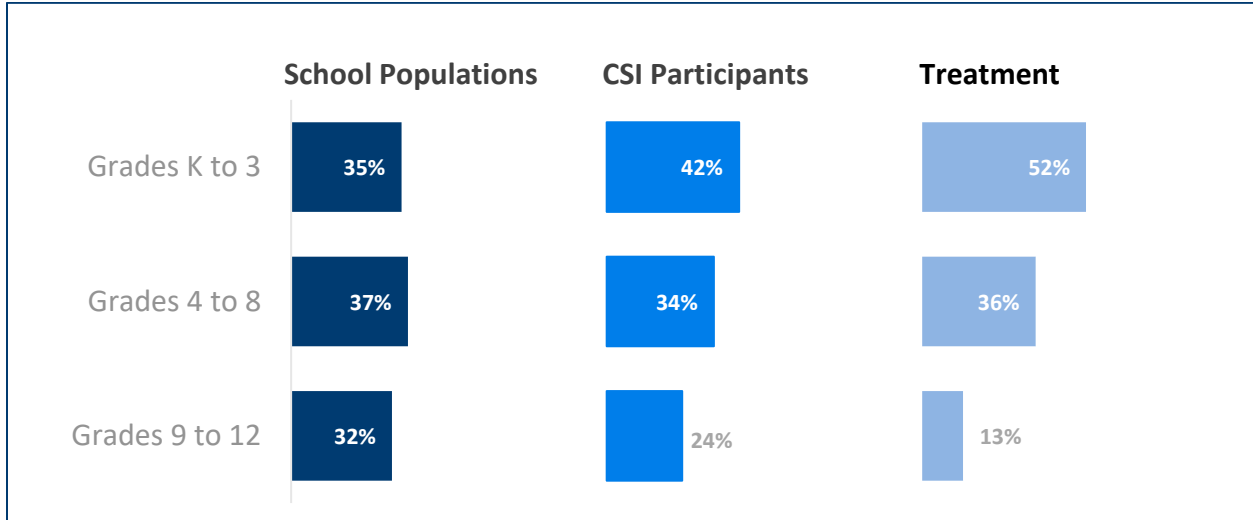*Source.* Cityspan and CPS student data warehouses.

Steps were taken by the evaluation team to explore how students in each of the three groups varied at baseline across a series of school-related outcomes, including the percentage of school days attended, number of misconducts recorded, the grade point average (GPA) for the school year, and the degree to which they met or exceeded standards on the Partnership for Assessment of Readiness for College and Careers (PARCC) English language arts (ELA) and mathematics assessments. Given the differences in grade levels noted in Figure 9 among students in each of the three groups, when exploring differences on these school-related outcomes, only grade levels associated with the treatment group were examined when calculating outcome averages for students representing the population enrolled at FY15 schools in 2015–16 and all students participating in CSI. The results are outlined in Table 4.

Table 4. Average School Outcomes: School Populations, CSI Participants, and Students in the Treatment Group

School-Related Outcome	School Populations	CSI Participants	Treatment
School day attendance percentage	93%	95%	97%
Misconducts	0.35	0.26	0.12
GPA	2.69	2.84	2.92
PARCC results in ELA: Met or Exceeded	22%	25%	27%
PARCC results in math: Met or Exceeded	19%	23%	30%

Source. Cityspan and CPS student data warehouses.

Across each outcome examined, students in the treatment group demonstrated a higher level of performance than both the overall student population at FY15 schools and the full population of students attending CSI programming. This finding was particularly pronounced in relation to PARCC mathematics results, where 30% of students in the treatment group either met or exceeded standards in 2015–16, compared with only 19% of the total student population enrolled at the FY15 schools.

4.4 Activity Participation

The primary manner in which students experience implementation of the community school strategy in a given school is through the activities they participate in, typically afterschool and during the summer. Steps were taken to calculate the average percentage of time students participating in CSI programming spent in different types of activities during the 2016–17 and 2017–18 school years. If students participated in programming in both school years, then participation in CSI activities during both years was considered cumulatively. The percentage of time students have spent in different types of activities is outlined in Figure 10, both for all students participating in CSI programming during this period in FY15 schools and for those youth associated with the treatment population.

Figure 10. Average Percentage of Time Spent in Different CSI Activities
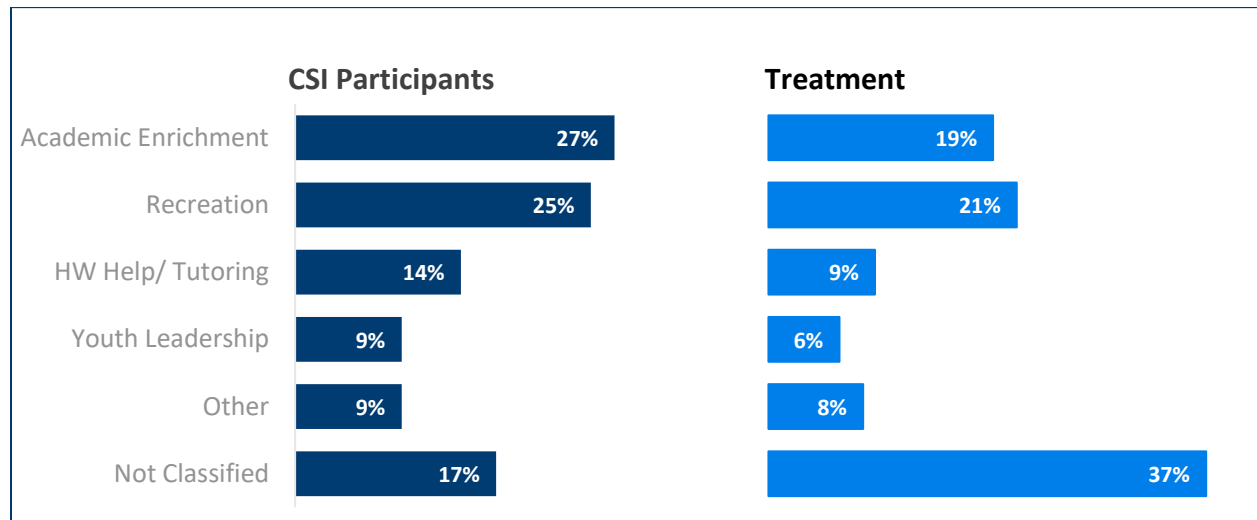
Source. Cityspan and CPS student data warehouses.

On average, students attending CSI programming at FY15 schools spent the majority of their time in academic enrichment (27% of total participation time) and recreation activities (25%), with homework help/tutoring (14%) and youth leadership (9%) comprising the next two most frequently attended activity types. Of some interest was the finding that youth spent an average of 17% of their time in activities that were not classified formally in Cityspan, leaving some question in terms of what these activities consisted of. Unfortunately, this percentage was especially large among the treatment population at 37%. This result seems to be related to three schools in the FY15 cohort with large portions of students in the treatment population who were especially inclined not to classify their activities in Cityspan (collectively, these three schools account for 41% of the students in the treatment population). Aside from this difference, students in the treatment population appeared to follow a similar trend in terms of the relative percentage of time spent in academic enrichment, recreation, homework help/tutoring, and youth leadership activities.

During the course of the 2016–17 and 2017–18 school years, students in treatment group attended an average of 327 hours of CSI programming, while students in the CSI participants group attended 70 hours of programming on average during this period (Figure 11).

Figure 11. Average CSI Hours Attended: CSI Participants and Students in the Treatment Group

Average hours attended: Treatment

327

Average hours attended: CSI Participants

70
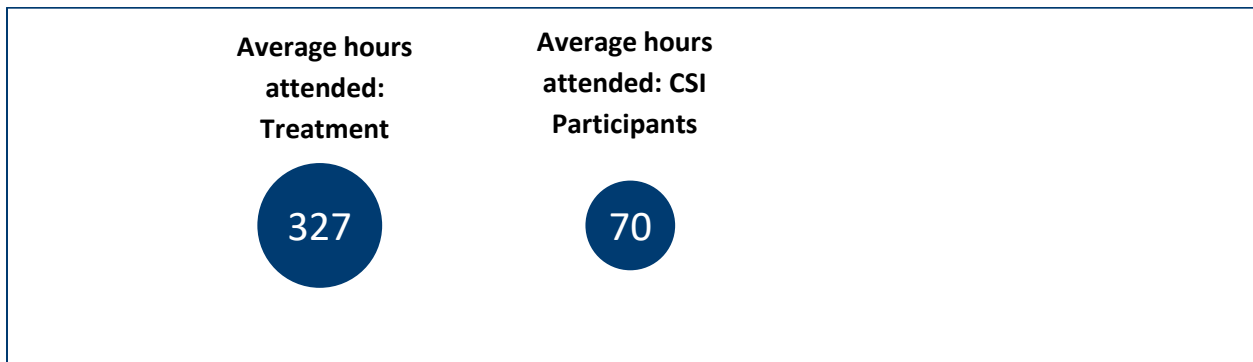
Source. Cityspan.

While it appears that youth in the treatment group largely participated in the same types of activities as the broader population of CSI participants, it is clear that their level of participation was much more intensive during the two school years under consideration. It would be helpful to study the experiences of high-attending youth and their families to better understand what experiences this set of youth is specifically having in programming and how this potentially relates to their inclination to continue participating in CSI activities and services. Such information may be especially helpful to schools in thinking further about what features of programming attract and retain youth in programming over time. A similar examination can be pursued at the school level given the concentration of students in the treatment group in a

select number of schools. Information gleaned from studying the experiences of high-attending youth and the approach to service design and delivery undertaken by schools with a high proportion of high attenders could be useful to enhancing strategy implementation more broadly across the CSI.

5. Results From the Impact Analysis

5.1 Impact Analysis Approach

As mentioned, the core question we attempted to answer in carrying out the impact analysis was as follows:

What impact did participation in CSI programming for 120 hours or more during the 2016–17 and 2017–18 school years have on a series of school-related outcomes compared with similar students enrolled in CSI schools not participating in programming?

In carrying out an analysis like this, a key concern is ensuring the treatment group of interest (in this case, students attending CSI programming for 120 hours or more during the two school years in question) and the comparison group are equivalent on key characteristics at baseline that could influence the outcomes being examined. In this sense, if the treatment and comparison groups are not equivalent on key characteristics, then the differences found to exist between the two groups may be driven by preexisting differences as opposed to an actual effect associated with program participation.

For this analysis, we relied on student data provided by CPS to help ensure the treatment and comparison groups were equivalent on key observable characteristics, including student demographics and performance on the student outcomes examined. These data were analyzed using a method called propensity score matching (PSM) to build comparison groups in our impact analyses. In brief, PSM works first by analyzing the treatment group in terms of demographics and baseline assessment scores as important predictors of student inclusion in the treatment group. Based on this analysis, we can create a comparison group of nonparticipants that replicates the participant group on key characteristics found to be important to predicting the likelihood that a student will end up in the treatment group. Note that the comparison group students were taken from the full domain of FY13 and FY15 schools enrolled in CSI. Hierarchical linear modeling was then used to assess how enrollment in the treatment group impacted the domain of school-related outcomes examined.

Separate matching and impact analyses were run for each outcome considered across three grade-level bands: Grades K–3, Grades 4–8, and Grades 9–12. Additional technical information

concerning our use of PSM, including covariates employed in each matching process and the number of students included in each analysis, is provided in Appendix A.

Outcomes Examined

Three types of school-related outcomes were examined when undertaking the impact analyses:

1. Outcomes related to academic achievement;

2. Outcomes related to school-related behaviors; and

3. Outcomes related to school connectedness, experiences, and other areas assessed via the 5Essentials student survey.

Outcomes were assessed based on performance demonstrated by students in the treatment and comparison groups during the 2017–18 school year. As outlined in Table 5, the outcomes examined differed slightly by grade level.

- Grade K–3 outcomes included annual GPA, percentage of school days attended, and number of misconducts.

- Grade 4–8 outcomes included annual GPA, Northwest Evaluation Association (NWEA) scores in reading and math, percentage of school days attended, number of misconducts, and a series of scales on the 5Essentials youth survey.

- Grade 9–12 outcomes included annual GPA, percentage of school days attended, number of misconducts, and a series of scales on the 5Essentials youth survey.

Table 5. Summary of Outcomes Examined by Grade-Level Band

Outcomes	Grade Levels		
	K–3	4–8	9–12
Academic Performance			
Annual GPA[a]	X	X	X
NWEA MAP reading RIT scores		X	
NWEA MAP math RIT scores		X	
School-Related Behaviors			
Percentage of school days attended	X	X	X
Number of misconducts	X	X	X
5Essential Survey Scales			
Peer support for academic work		X	X
Student–teacher trust		X	X
Academic engagement		X	X

	Grade Levels		
Outcomes	**K–3**	**4–8**	**9–12**
Emotional health		X	X
Human and social resources in the community		X	X
Rigorous study habits		X	X
Psychological sense of school membership		X	X

Note. MAP = Measures of Academic Progress.

[a] Annual GPA is calculated on a 4-point scale: 0 = F; 1 = D; 2 = C; 3 = B; and 4 = A.

5.2 Impact Analysis Results

Annual Grade Point Average

Annual GPA was the only academic-related outcome that was available for all grade levels. Participation in CSI programming is hypothesized to support growth in academic outcomes in a couple of ways. First, students participating in academic enrichment, homework help, and tutoring activities are provided the opportunity to develop new content knowledge, apply that knowledge in new ways, and practice skills reflective of their school-day curriculum.

In addition, for older students, by early adolescence, social, interest, and autonomy considerations play a substantial role in whether youth will attend, participate, and experience engagement in afterschool activities akin to those offered under the auspices of CSI implementation (Kiefer, Alley, & Ellerbrock, 2015; Larson & Angus, 2011). Here, we believe that academic effects are more likely to be driven by youth connectedness to school, feelings of social acceptance and belonging, interest in specific content areas, and improvement on the perceived relevance of school content and performance to their long-term educational and career goals. As result, we expect to observe more movement on motivation-related metrics concerning academic performance, such as grades.

The outcome examined in relation to grades was the annual, unweighted cumulative GPA for the 2017–18 school year. The results are outlined in Table 6. Participation in CSI programming for 120 hours or more across the 2016–17 and 2017–18 school years was found to have a positive and significant impact on annual GPA for all grade levels, although the impact on students in Grades K–3 was only moderately significant. Students in the treatment group had an annual GPA that was 0.12 to 0.26 grade points higher than similar students attending CSI schools that did not participate in programming.

Table 6. Impact Estimates for Annual GPA

Grade Level	Treatment Group		Comparison Group		Impact Estimates		
	Mean[a] (SD)	*N*	Mean	*N*	Effect	Standard Error	*p* Value
K–3	2.97 (0.69)	127	2.88 (0.87)	183	0.12	0.07	.070[+]
4–8	2.96 (0.70)	525	2.82 (0.73)	525	0.15	0.04	.000***
9–12	2.69 (0.79)	114	2.33 (1.00)	114	0.26	0.09	.003**

Note. SD = standard deviation.

[a] The mean in this impact analysis table represents the unadjusted mean associated with the 2017–18 school year.

[+] $p < .10$. ** $p < .01$. *** $p < .001$.

NWEA MAP Scores

NWEA MAP scores in reading and mathematics were available only for students in Grades 4–8. The outcomes of interest used on the impact analyses were the scores obtained from the final administration of MAP testing during the 2017–18 school year.

Traditionally, the impacts derived from implementation of 21st CCLC-funded afterschool programs on assessment outcomes has been small and limited to mathematics. For example, a series of statewide evaluations of the 21st CCLC program using similar quasi-experimental designs to compare state assessment outcomes between regular program attendees and similar students attending the same schools but not participating in programming generally point toward the program having a small, positive impact on mathematics achievement specifically (Naftzger et al., 2018). Effects generally ranged between 0.03 and 0.07 standard deviation (student-level deviation), which is generally considered small but consistent with what would be expected given the amount of time youth typically spend in these programs (Kane, 2004) and considering what others have estimated regarding how mathematics and reading assessments are impacted by total learning time (in school and out of school) during a school year (Hill, Bloom, Black, & Lipsey, 2008).

Participation in CSI programming for 120 hours or more across the 2016–17 and 2017–18 school years was found to have a positive and significant impact on both reading and mathematics MAP scores (shown in Table 7). Given that scores were standardized before including them in the analysis, the effect estimate can be interpreted as an effect size. For reading, the effect of participating in CSI programming for 120 hours or more was 0.11 standard deviations. For math, the effect was 0.20 standard deviations. These impacts are notably larger

than what is typically observed in 21st CCLC funded programs, an include reading, which is not commonly observed as being impacted through 21st CCLC participation (Naftzger et al., 2018).

Table 7. Impact Estimates for NWEA MAP Scores

Grades 4–8 Subject	Treatment Group		Comparison Group		Impact Estimates		
	Mean[a] (SD)	N	Mean	N	Effect	Standard Error	p Value
Reading	0.16 (0.98)	510	0.02 (1.08)	510	0.11	0.05	.031*
Math	0.23 (1.09)	510	0.01 (1.04)	510	0.20	0.05	.000***

Note. SD = standard deviation.

[a] The mean in this impact analysis table represents the unadjusted mean associated with the 2017–18 school year.

p < .05. ***p* < .001.

School-Day Attendance

School-day attendance data were available across all grade levels. The outcome assessed was the percentage of days youth attended school during the 2017–18 school year.

Improving school-day attendance is one of the most consistently documented impacts associated with 21st CCLC participation (Naftzger et al., 2018). From a theoretical perspective, this observation makes sense. Attendance in a well-run 21st CCLC program may help youth in terms of school attachment or academic interest. For example, students who build strong relationships in afterschool programming, gain new interest in academic subjects, and gain a vision for what sort of work they might do in the future could thereby begin to have more interest in attending school and be more motivated to show up regularly.

Participation in CSI programming for 120 hours or more across the 2016–17 and 2017–18 school years was found to have a positive and significant impact on school-day attendance for both students in Grades K–3 and 4–8 (Table 8). We did not find a significant impact in relation to students in Grades 9–12; however, the *N* sizes associated with this analysis were quite small, raising concerns about the power to detect effects and the stability in impact estimates. Program impacts resulted in a 1.22 to 0.87 percentage point increase in the number of days attended, respectively, for students in Grades K–3 and 4–8.

Table 8. Impact Estimates for School-Day Attendance

Grade Level	Treatment Group		Comparison Group		Impact Estimates		
	Mean (SD)	*N*	Mean	*N*	Effect	Standard Error	*p* Value
K–3	96.69 (4.69)	376	95.30 (6.02)	548	1.22	0.86	.001**
4–8	96.79 (4.20)	1027	95.81 (5.04)	719	.87	0.73	.003**
9–12	87.60 (11.42)	94	82.11 (17.08)	94	5.95	0.63	.604

Note. SD = standard deviation.

ᵃ The mean in this impact analysis table represents the unadjusted mean associated with the 2017–18 school year.

**p < .001.

School-Day Misconducts

Like GPA and school-day attendance, data on school-day misconducts was available across all grade levels. The outcome being assessed was the total number of misconducts recorded during the course of the 2017–18 school year.

Reducing school-day misconducts is another commonly found impact of 21st CCLC-funded programs. This measure shows how these programs cultivate the social and emotional learning of participating youth by supporting an approach to learning that seeks to develop a broad set of skills, knowledge, and competencies needed to become a lifelong learner, productive worker, and engaged citizen (Hurd & Deutsch, 2017; Naftzger et al., 2018). However, there can be widespread variability in how disciplinary policies are constructed and how they are carried out, with particular concern about the ways in which discipline actions are applied to racial and ethnic minorities (Losen, 2015). Some caution is encouraged when interpreting outcome results in this area.

Participation in CSI programming for 120 hours or more across the 2016–17 and 2017–18 school years was found to be associated with significantly fewer school-day misconducts for both students in Grades K–3 and 4–8 (see Table 9). We did not find a significant impact for students in Grades 9–12; however, the *n* sizes associated with this analysis were again small, raising concerns about the power to detect effects and the stability in impact estimates. Program impacts resulted in 0.34 to 0.95 fewer misconducts, respectively, for students in Grades K–3 and 4–8.

Table 9. Impact Estimates for School-Day Misconducts

Grade Level	Treatment Group		Comparison Group		Impact Estimates		
	Mean[a] (SD)	*N*	Mean	*N*	Effect	Standard Error	*p* Value
K–3	0.06 (0.43)	376	0.15 (0.64)	548	−0.95	0.27	.000***
4–8	0.16 (0.84)	1027	0.20 (0.87)	719	−0.34	0.15	.021*
9–12	0.62 (1.63)	94	0.63 (1.76)	94	−0.23	0.20	.250

Note. SD = standard deviation.

[a] The mean in this impact analysis table represents the unadjusted mean associated with the 2017–18 school year.

**p < .05. ***p < .001.

5Essentials Survey Scales

Responses to select scales from the 5Essentials student survey were only available for a subset of students in Grades 6–12. The number of students included in these analyses was noticeably lower than the previous set of impact analyses. This is due to the fact that fewer students were found to have taken the survey both in the 2015–16 and 2017–18 school years. Given the small *n* sizes, some caution needs to be taken when interpreting these results.

The scales examined from the 5Esentials survey cover a variety of areas, including the extent to which students engage in positive academic-related behaviors, find their school climate to be a positive one characterized by good relationships with teachers and peers, and have knowledge about aspects of their school and community.

For CSI, the most pertinent scale on the survey related to strategy implementation refers to youth expressing a psychological sense of school membership given the steps CSI schools take to create a welcoming and nurturing school environment for students and their families. This is often reflected in the formal vision statements described by CSI schools relative to what they want to accomplish through implementation of the strategy (Naftzger et al., in press).

While participation in CSI programming for 120 hours or more across the 2016–17 and 2017–18 school years was largely not found to be significantly related to most of the 5Essentials survey scores examined, significant and positive effects were found in relation to the psychological sense of school membership scale for students in Grades 4–8 and 9–12, although in the latter case, the finding was only moderately significant (see Table 10). In addition, participation in CSI programming for 120 hours was also found to have a positive impact on scores associated with

the academic engagement scale of the 5Essentials student survey for Grades 9–12. Again, the *N* sizes associated with these analyses were very small, raising concerns about the power to detect effects and the stability in impact estimates. As a consequence, some caution should be exercised when interpreting results.

Table 10. Impact Estimates for 5Essentials Survey Scores

Grade Level	Treatment Group Mean[a] (SD)	*N*	Comparison Group Mean	*N*	Impact Estimates Effect	Standard Error	*p* Value
Peer Support for Academic Work							
4–8	4.05 (0.66)	83	3.90 (0.69)	83	0.06	0.10	.524
9–12	3.99 (0.85)	65	3.95 (0.98)	65	0.16	0.17	.338
Student–Teacher Trust							
4–8	3.72 (0.82)	83	3.75 (0.91)	83	−0.13	0.17	.431
9–12	3.57 (0.79)	65	3.55 (0.82)	65	0.13	0.13	.334
Academic Engagement							
4–8	3.62 (0.78)	83	3.52 (0.74)	83	0.07	0.14	.617
9–12	3.78 (1.06)	65	3.54 (0.99)	65	0.38	0.18	.029*
Emotional Health							
4–8	3.57 (0.82)	83	3.42 (0.72)	83	0.21	0.13	.117
9–12	3.60 (0.82)	65	3.52 (0.93)	65	0.18	0.15	.249
Human and Social Resources in the Community							
4–8	3.14 (0.72)	83	3.01 (0.54)	83	0.15	0.13	.258
9–12	2.93 (0.87)	65	3.03 (0.86)	65	-0.05	0.16	.755

Grade Level	Treatment Group Mean[a] (SD)	*N*	Comparison Group Mean	*N*	Impact Estimates Effect	Standard Error	*p* Value
Rigorous study habits							
4–8	3.52 (0.81)	83	3.48 (0.73)	83	0.04	0.12	.744
9–12	3.20 (0.77)	65	3.40 (0.92)	65	-0.20	0.13	.133
Psychological sense of school membership							
4–8	3.46 (0.69)	83	3.15 (0.70)	83	0.29	0.14	.034*
9–12	3.47 (0.90)	65	3.35 (0.98)	65	0.24	0.14	.096[†]

Note. SD = standard deviation.

[a] The mean in this impact analysis table represents the unadjusted mean associated with the 2017–18 school year.

[†]$p < .10$. *$p < .05$.

Limitations

The reader should keep in mind several important limitations when reviewing the findings of this report. The most significant limitations are as follows:

1. **Propensity score matching is not as strong as random assignment.** The ideal way to compare CSI participants with nonparticipants is to randomly assign youth either to participate or not participate in CSI programming. However, youth enrolled in the FY15 schools were not selected at random to participate; instead, parents and families could self-select to enroll (or not) their children into CSI programming or youth could elect to participate on their own.

   In any evaluation of a program where participants are not randomly assigned to participate in the program, the issue of selection is paramount. It is likely that youth who participate in CSI are different from those who do not attend (e.g., differences in terms of exposure to trauma, aspirations, interests, level of parent involvement), particularly in ways that may not be directly measurable or observable based on the data we have access to. These differences can bias estimates of program effectiveness because they make it difficult to disentangle preexisting differences between youth who attended the program and those who did not from the effect of attending the program.

   We used PSM as a method for mitigating this bias. However, any differences found could potentially be attributed to some of these other unobservable characteristics and attributes. As a result, the findings should be interpreted with caution.

2. **Nonparticipants in the comparison group could have participated in non-CSI programming**. Similar to the preceding limitation, one significant unknown in this evaluation is the extent to which nonparticipants used to create the comparison groups participated in CSI program alternatives. That is, a youth who is demographically similar to a participant (and attending the same school) might be included in the comparison group as a nonparticipant; but if that particular youth in fact participated in other non-CSI afterschool programming, then the effects of CSI programming may be more difficult to discern (i.e., the comparison in that case would not actually be "treatment vs. nontreatment," but more akin to "treatment A vs. treatment B"). Because we do not possess exhaustive information concerning nonparticipants' non-CSI afterschool activities, this is simply an unknown, but it must be kept in mind while reviewing the impact results.

6. Conclusions and Recommendations

The primary purpose of this report was to assess what impact student participation in CSI programming for 120 hours or more provided at schools represented in the FY 15 cohort had on a series of academic achievement outcomes, school-related behaviors, and outcomes related to school connectedness, experiences, and other areas assessed via the 5Essentials student survey. Key findings included the following:

- Participation in CSI programming for 120 hours or more across the two school years examined was found to have a positive impact on both annual GPA and NWEA scores in reading and mathematics. The latter impacts were especially noteworthy because they were found to be larger than what has typically been found when conducting statewide evaluations of the 21st CCLC program.

- Positive impacts were also found for students in Grades K–3 and 4–8 in relation to improving school-day attendance and reducing misconducts. These impacts were not observed in relation to students in Grades 9–12, although the sample for these analyses was quite small, raising concerns about the power to detect effects and the stability in impact estimates.

- Similar issues of small sizes also plagued analyses related to assessing the impact of 120 hours of CSI participation on 5Essentials survey scores, and very few significant effects were found in relation to these survey scores. One exception to this general trend is that participation in CSI programming led to higher scores on the psychological sense of school membership scale of the 5Essentials survey. This finding is especially noteworthy because an impact in this area seems to be especially well aligned with the vision for strategy implementation associated with most schools enrolled in CSI.

In this report, we did not spend much time examining how issues related to implementation may be connected to the impacts found to be associated with CSI participation. However, a review of program attendance-related, key performance measures demonstrated improvement on the part of the FY15 cohort across the three years examined in terms getting youth into CSI programming and retaining them in CSI activities and services over time. In addition, FY15 schools demonstrated a higher level of performance on average than schools represented in the FY13 cohort on these attendance-related metrics. We also found some exploratory evidence that greater fidelity to the CQIP was associated with greater improvement on these metrics over time as well. In this sense, it may be worthwhile to examine what strategies especially high performing schools are using to get and keep youth engaged in CSI programming over time that may warrant replication and emulation more broadly across the Initiative.

Finally, some schools were overrepresented in the sample of students attending CSI programming for 120 hours or more across the two school years under consideration. We believe there would be value in studying these schools more closely to better understand how they implement the strategy and what key experiences youth may have while participating in programming that might support the outcomes demonstrated through these analyses. This information could be useful in further refining the CSI implementation framework and tools like the CQIP that are meant to help new community schools implement the strategy more effectively.

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Appendix A. Propensity Score Matching Process

Propensity score matching (PSM) is designed to occur in two stages. In the first stage, the probability that each student participates in CSI programming for 120 hours during the two school years in question was modeled on available observable characteristics such as student test scores and their demographic information (e.g., gender, race, FRPL status, etc.) provided by CPS. Students in the treatment group were matched to similar sets of students who did not participate in any CSI programming during the 2016–17 and 2017–18 school years. By modeling selection into the program (or not), this approach allowed the evaluation team to compare participating and non-participating students who would have otherwise had a similar propensity to select into CSI programming. In the second stage, the predicted probability of participation was used to model student outcomes while accounting for selection bias.

Treatment status (1 for students participating in the program, 0 for the comparison group) was the outcome of interest in our PSM model. To account for this binary outcome, logistic regression was used to model the logit (or log-odds) of student group assignment status. We used the following student-level variables in the regression model:

- Performance level on the outcome of interest recorded from the 2015–16 school year, including GPA, NWEA MAP scores in reading and mathematics, school day attendance percentage, total number of misconducts, and scale scores associated with the 5Essentials student survey scales

- Student demographic and other academic performance information, including gender, race, ELL status, eligibility for FRPL, IEP status, and PARCC scores in ELA and mathematics

In addition to these student-level variables, the model also included school-level variables which added information about the school each CSI participating student attended. Examples of school-level variables used in the PSM model included:

- School enrollment numbers,

- The percentage of students by gender and race and ethnicity,

- The percentage of students eligible for FRPL,

- The percentage of students with an IEP, and

- The percentage of students with ELL status.

The PSM model was fit separately for each grade band (i.e., K–3, 4–8, and 9–12) and outcome. The final PSM models were checked to ensure that the analysis sample was balanced across relevant covariates. Consistent with What Works Clearinghouse standards (IES, 2017), we

considered treatment and matched comparison groups to be balanced if the standardized mean difference (SMD) in baseline measures between the two groups of students was less than or equal to 0.25 standard deviation. The results in Tables A1 to A9 indicate that overall, the treatment and comparison groups of students were balanced on the list of characteristics mentioned above.

Table A1. Before and After Matching: School-Day Attendance and Misconducts, Grades K–3

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 441)	Comparison (*n* = 2,278)	SMD	Treatment (*n* = 376)	Comparison (*n* = 548)	SMD
Student Level						
Attendance percentage	95.97	93.46	0.39	95.80	95.23	0.11
Total misconducts	0.03	0.02	0.02	0.02	0.03	−0.03
Male	0.42	0.56	−0.33	0.45	0.47	−0.05
Hispanic	0.52	0.69	−0.45	0.49	0.46	0.08
FRPL	0.96	0.91	0.49	0.95	0.96	−0.01
IEP	0.07	0.11	−0.32	0.07	0.08	−0.01
ELL	0.43	0.50	−0.17	0.40	0.44	−0.08
School Level						
School enrollment	332	265	0.44	312	282	0.14
Percentage male	0.49	0.55	−0.92	0.49	0.50	−0.22
Percentage Hispanic	0.53	0.70	−0.47	0.51	0.46	0.10
Percentage FRPL	0.96	0.92	0.46	0.95	0.94	0.22
Percentage IEP	0.12	0.15	−0.37	0.12	0.13	−0.12
Percentage ELL	0.32	0.41	−0.37	0.32	0.32	−0.02

Table A2. Before and After Matching: GPA, Grades K–3

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 203)	Comparison (*n* = 700)	SMD	Treatment (*n* = 127)	Comparison (*n* = 183)	SMD
Student Level						
GPA	3.16	2.92	0.29	3.06	3.01	0.06
Male	0.39	0.61	−0.54	0.42	0.51	−0.19
Hispanic	0.45	0.68	−0.56	−0.06	0.00	−0.19
FRPL	0.96	0.93	0.38	−0.01	0.00	−0.01
IEP	0.06	0.11	−0.44	0.33	0.36	−0.06
ELL	0.35	0.42	−0.16	0.95	0.96	−0.02
School Level						
PARCC ELA	-0.03	−0.01	−0.07	0.09	0.08	0.05
PARCC math	0.14	−0.04	0.47	0.20	0.27	−0.14
School enrollment	333	293	0.24	266	231	0.16
Percentage male	0.50	0.55	−1.00	0.50	0.50	−0.19
Percentage Hispanic	0.48	0.68	−0.57	0.37	0.38	−0.03
Percentage FRPL	0.96	0.91	0.53	0.95	0.94	0.18
Percentage IEP	0.12	0.16	−0.39	0.14	0.15	−0.23
Percentage ELL	0.29	0.38	−0.41	0.23	0.27	−0.12

Table A3. Before and After Matching: School-Day Attendance and Misconducts, Grades 4–8

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 893)	Comparison (*n* = 2,881)	SMD	Treatment (*n* = 719)	Comparison (*n* = 1,027)	SMD
Student Level						
Attendance percentage	97.26	95.07	0.37	97.06	96.64	0.13
Total misconducts	0.10	0.11	−0.02	0.12	0.12	−0.01
Male	0.46	0.56	−0.24	0.47	0.48	−0.01
Hispanic	0.50	0.68	−0.46	0.49	0.48	0.02
FRPL	0.95	0.92	0.36	0.95	0.94	0.05
IEP	0.09	0.23	−0.68	0.11	0.15	−0.16
ELL	0.22	0.31	−0.27	0.21	0.26	−0.12

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 893)	Comparison (*n* = 2,881)	SMD	Treatment (*n* = 719)	Comparison (*n* = 1,027)	SMD
School Level						
School enrollment	338	274	0.38	323	289	0.15
Percentage male	0.49	0.55	−1.06	0.50	0.51	−0.16
Percentage Hispanic	0.51	0.68	−0.47	0.49	0.48	0.02
Percentage FRPL	0.96	0.91	0.52	0.96	0.94	0.22
Percentage IEP	0.13	0.19	−0.42	0.13	0.15	−0.22
Percentage ELL	0.33	0.36	−0.10	0.32	0.34	−0.08

Table A4. Before and After Matching: GPA, Grades 4–8

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 880)	Comparison (*n* = 2,789)	SMD	Treatment (*n* = 525)	Comparison (*n* = 525)	SMD
Student Level						
GPA	2.89	2.86	0.05	2.88	2.86	0.03
Male	0.47	0.56	−0.22	0.45	0.46	−0.03
Hispanic	0.50	0.68	−0.47	0.33	0.34	−0.02
FRPL	0.95	0.92	0.36	0.93	0.94	−0.07
IEP	0.09	0.23	−0.64	0.15	0.14	0.04
ELL	0.21	0.30	−0.27	0.14	0.23	−0.21
School Level						
PARCC ELA	0.02	−0.01	0.12	−0.01	0.01	−0.06
PARCC math	0.19	−0.06	0.70	−0.01	−0.01	0.00
School enrollment	340	276	0.37	245	231	0.06
Percentage male	0.49	0.55	−1.06	0.49	0.50	−0.16
Percentage Hispanic	0.50	0.68	−0.49	0.34	0.36	−0.05
Percentage FRPL	0.96	0.91	0.52	0.94	0.94	0.00
Percentage IEP	0.13	0.19	−0.42	0.15	0.16	−0.15
Percentage ELL	0.33	0.35	−0.12	0.26	0.28	−0.07

Table A5. Before and After Matching: NWEA MAP Scores, Grades 4–8

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 826)	Comparison (*n* = 2,127)	SMD	Treatment (*n* = 510)	Comparison (*n* = 510)	SMD
Student Level						
NWEA MAP reading	0.18	0.03	0.15	0.14	0.08	0.07
NWEA MAP math	0.34	−0.04	0.40	0.14	0.02	0.12
Male	0.47	0.55	−0.19	0.44	0.47	−0.07
Hispanic	0.48	0.67	−0.46	0.31	0.35	−0.09
FRPL	0.95	0.92	0.35	0.93	0.94	−0.06
IEP	0.08	0.14	−0.40	0.12	0.14	−0.04
ELL	0.18	0.20	−0.08	0.12	0.15	−0.08
School Level						
PARCC ELA	0.02	0.00	0.08	−0.02	−0.03	0.03
PARCC math	0.18	−0.06	0.65	−0.02	−0.05	0.06
School enrollment	335	276	0.34	239	222	0.08
Percentage male	0.49	0.56	−1.13	0.49	0.50	−0.19
Percentage Hispanic	0.49	0.67	−0.48	0.32	0.36	−0.09
Percentage FRPL	0.96	0.91	0.50	0.94	0.94	−0.04
Percentage IEP	0.13	0.16	−0.38	0.15	0.17	−0.23
Percentage ELL	0.32	0.34	−0.10	0.25	0.27	−0.06

Table A6. Before and After Matching: 5Essentials Survey Scores, Grades 4–8

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 177)	Comparison (*n* = 486)	SMD	Treatment (*n* = 83)	Comparison (*n* = 83)	SMD
Student Level						
Peer support for …	3.94	4.02	−0.11	4.03	3.89	0.19
Student-teacher trust	3.81	3.82	−0.02	3.85	3.71	0.18
Academic engagement	3.94	3.72	0.28	3.85	3.74	0.14
Emotional health	3.61	3.52	0.11	3.60	3.53	0.08
Human & social …	3.15	3.12	0.04	3.18	3.02	0.21
Rigorous study habits	3.65	3.51	0.18	3.62	3.60	0.02

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 177)	Comparison (*n* = 486)	SMD	Treatment (*n* = 83)	Comparison (*n* = 83)	SMD
Psychological sense …	3.50	3.34	0.23	3.45	3.39	0.09
Male	0.46	0.58	−0.28	0.47	0.49	−0.05
Hispanic	0.51	0.79	−0.78	0.48	0.53	−0.10
FRPL	0.97	0.93	0.42	0.94	0.98	−0.20
IEP	0.07	0.15	−0.49	0.13	0.14	−0.05
ELL	0.09	0.15	−0.34	0.14	0.10	0.17
School Level						
School enrollment	358	256	0.60	312	299	0.06
Percentage male	0.49	0.57	−1.58	0.50	0.51	−0.20
Percentage Hispanic	0.51	0.75	−0.70	0.48	0.51	−0.06
Percentage FRPL	0.95	0.93	0.26	0.95	0.94	0.08
Percentage IEP	0.12	0.17	−0.56	0.13	0.14	−0.17
Percentage ELL	0.37	0.33	0.18	0.34	0.33	0.04

Table A7. Before and After Matching: School-Day Attendance and Misconducts, Grades 9–12

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 197)	Comparison (*n* = 1,373)	SMD	Treatment (*n* = 94)	Comparison (*n* = 94)	SMD
Student Level						
Attendance percentage	94.63	91.46	0.38	93.44	93.53	−0.02
Total misconducts	0.42	0.44	−0.01	0.47	0.40	0.07
Male	0.40	0.56	−0.39	0.49	0.51	−0.04
Hispanic	0.12	0.60	−1.44	0.16	0.09	0.23
FRPL	0.87	0.90	−0.19	0.91	0.89	0.06
IEP	0.12	0.23	−0.50	0.24	0.26	−0.03
ELL	0.06	0.09	−0.22	0.07	0.07	0.00
School Level						
School enrollment	102	362	−1.88	120	135	−0.19
Percentage male	0.45	0.56	−1.58	0.53	0.53	−0.01
Percentage Hispanic	0.20	0.59	−1.10	0.24	0.19	0.19

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 197)	Comparison (*n* = 1,373)	SMD	Treatment (*n* = 94)	Comparison (*n* = 94)	SMD
Percentage FRPL	0.89	0.90	−0.12	0.93	0.92	0.02
Percentage IEP	0.29	0.21	0.60	0.13	0.15	−0.22
Percentage ELL	0.33	0.36	−0.10	0.32	0.34	−0.08

Table A8. Before and After Matching: GPA, Grades 9–12

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 184)	Comparison (*n* = 1,318)	SMD	Treatment (*n* = 114)	Comparison (*n* = 114)	SMD
Student Level						
GPA	2.74	2.46	0.33	2.73	2.63	0.15
Male	0.39	0.56	−0.42	0.43	0.54	−0.22
Hispanic	0.13	0.61	−1.45	0.07	0.10	−0.08
FRPL	0.87	0.90	−0.21	0.82	0.93	−0.34
IEP	0.10	0.22	−0.55	0.14	0.29	−0.49
ELL	0.07	0.09	−0.19	0.05	0.06	−0.04
School Level						
PARCC ELA	0.07	−0.03	0.29	−0.10	−0.21	0.21
PARCC math	0.00	0.01	−0.05	−0.08	−0.15	0.25
School enrollment	106	372	−2.04	123	163	−0.51
Percentage male	0.43	0.55	−1.93	0.48	0.51	−0.24
Percentage Hispanic	0.19	0.60	−1.14	0.15	0.15	0.02
Percentage FRPL	0.89	0.90	−0.16	0.90	0.91	−0.16
Percentage IEP	0.27	0.20	0.59	0.30	0.27	0.16
Percentage ELL	0.08	0.09	−0.11	0.06	0.06	−0.02

Table A9. Before and After Matching: 5Essentials Survey Scores, Grades 9–12

Covariates Used in Matching	Before Matching			After Matching		
	Treatment (*n* = 102)	Comparison (*n* = 786)	SMD	Treatment (*n* = 65)	Comparison (*n* = 65)	SMD
Student Level						
Peer support for …	3.77	3.74	0.05	3.74	3.73	0.02
Student-teacher trust	3.72	3.45	0.36	3.69	3.55	0.19
Academic engagement	3.54	3.28	0.34	3.51	3.49	0.02
Emotional health	3.41	3.28	0.16	3.37	3.45	−0.10
Human & social …	2.90	2.95	−0.08	2.99	2.93	0.08
Rigorous study habits	3.42	3.13	0.37	3.33	3.27	0.08
Psychological sense …	3.37	3.08	0.42	3.32	3.28	0.05
Male	0.40	0.53	−0.31	0.42	0.43	−0.03
Hispanic	0.19	0.67	−1.32	0.14	0.14	0.00
FRPL	0.89	0.89	0.03	0.86	0.88	−0.05
IEP	0.15	0.13	0.07	0.17	0.20	−0.09
ELL	0.11	0.07	0.30	0.09	0.08	0.05
School Level						
School enrollment	94	396	−2.60	108	116	−0.11
Percentage male	0.49	0.56	−1.33	0.54	0.56	−0.15
Percentage Hispanic	0.28	0.67	−1.16	0.23	0.17	0.18
Percentage FRPL	0.91	0.90	0.20	0.93	0.94	−0.07
Percentage IEP	0.33	0.18	1.37	0.37	0.32	0.25
Percentage ELL	0.11	0.09	0.30	0.09	0.07	0.13

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