



**ESTABLISHING A FOUNDATION FOR PROGRESS  
TOWARD HIGH SCHOOL GRADUATION**

**Findings from Phase V of  
the Citizen Schools Evaluation**

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## Executive Summary

Citizen Schools is premised on the expectation that an intensive after-school experience in grades 6, 7, and 8 will help propel students toward long-term academic and social success. To accomplish this mission, Citizen Schools provides after-school programs of educational enrichment, career exposure, and high school and college preparation to students in these grades. Citizen Schools' progress toward advancing the academic success of educationally at-risk middle-school students and supporting positive life trajectories for these youth is being assessed through a multi-phase evaluation. This report presents findings from the fifth phase of the longitudinal evaluation of the middle and high school experiences of Citizen School participants in Boston.

Findings from the first four years of the evaluation indicate that Citizen Schools attracts and retains educationally at-risk students who report a strong sense of connection to the program and positive relationships with adults and peers in the program. Early findings demonstrated gains among Citizen Schools participants relative to a matched comparison group on most academic measures during middle school. In the fourth phase of the evaluation, participation in Citizen Schools during the middle-school years was found to be associated with increased levels of student engagement and achievement in high school. In particular, former 8th Grade Academy participants at all levels of program exposure enrolled in high-quality high schools at about twice the rate of matched nonparticipants.

In the fifth phase, the analysis of the evaluation's "on-track" to graduation indicator, created to predict whether students are likely to graduate from high school on time, found that former 8th Grade Academy participants were more likely than matched nonparticipants to be on-track to graduate from high school on time.

Other indicators of student progress in high school, such as on-time promotion to the tenth grade and ninth- and tenth-grade course grades, were consistent with the positive results of the on-track indicator. Participants with high levels of program exposure were more likely than matched nonparticipants to have been promoted to tenth grade on time. Participants also significantly outperformed matched nonparticipants in ninth-grade English courses and tenth-grade math courses. A higher percentage of ninth-grade participants passed third marking-period English and a higher percentage of tenth-grade participants passed third marking-period math than did matched nonparticipants. In tenth grade, participants were more likely to pass the English/Language Arts MCAS and to score at proficient or advanced levels than were matched nonparticipants.

As in the fourth phase of the evaluation, no significant difference was found between the overall suspension rate of participants and nonparticipants in tenth grade. This pattern appears to continue in eleventh grade, where no difference in suspension rates was found. On the other hand, the attendance rate of former participants continues to be higher than that of matched nonparticipants in tenth and eleventh grades, and

former participants selected high-quality high schools at a higher rate than did matched nonparticipants.

### Former 8th Grade Academy Participants' Performance on Early High School Success Measures, Compared with Matched Nonparticipants

Indicator	Ninth Grade			Tenth Grade		
	All	High Exposure	Low Exposure	All	High Exposure	Low Exposure
Selection of a high-quality high school	✓***	✓***	✓***	N/A	N/A	N/A
Attendance	✓***	✓***	✓*	✓**	✓**	✓*
Suspension	✓	✓**	✓		✓	
Pass English course in third marking period	✓**	✓**	✓			
Pass math course in third marking period	✓	✓	✓	✓*	✓*	✓
Pass English/Language Arts tenth-grade MCAS	N/A	N/A	N/A	✓*	✓*	✓
Pass math tenth-grade MCAS	N/A	N/A	N/A	✓	✓	✓
On-time promotion to tenth grade	✓	✓*	✓	N/A	N/A	N/A
On-track to graduation	✓*	✓**	✓	N/A	N/A	N/A

- ✓ Finding is in the right direction, although not statistically significant
- ✓\* Participants outperformed matched nonparticipants,  $p < .05$
- ✓\*\* Participants outperformed matched nonparticipants,  $p < .01$
- ✓\*\*\* Participants outperformed matched nonparticipants,  $p < .001$
- N/A Measure not appropriate for this grade level

Exhibit reads: In ninth grade, former 8th Grade Academy participants selected high-quality high schools at a significantly higher rate than matched nonparticipants. The difference was statistically significant at the  $p < .001$  level.

In the fifth phase, comparisons of former 8th Grade Academy participants were made to a group of matched nonparticipants, as was done in the first four phases, and to Boston Public Schools (BPS) students as a whole. The additional comparison of former 8th Grade Academy participants to BPS students allows the reader to assess participant outcomes in the larger context of the school system they attend.

In its next phase, the evaluation will track former 8th Grade Academy participants through twelfth grade to confirm whether former participants continue to achieve positive academic and social outcomes and successfully complete high school at a rate similar to the rate predicted in this report.

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# 1. Evaluation Overview

In 2001, Policy Studies Associates launched a multi-phase evaluation that continues to assess Citizen Schools' progress toward advancing the academic success of educationally at-risk middle school students and supporting positive life trajectories for these youth. In addition to data provided by the Citizen Schools headquarters office, the evaluation also relies on data provided by the Boston Public Schools (BPS) and by three Boston-area charter schools measuring students' educational engagement and academic achievement. To assess the program's impact on participants, the evaluation uses a quasi-experimental design that employs a matched-comparison group of similar BPS students not enrolled in Citizen Schools. Information available to evaluators on the comparison group consists of school-related experiences, educational performance, and demographic characteristics but does not include information on comparison-group members' after-school experiences.

## Findings through Phase IV

Findings from the first four years of the evaluation indicate that Citizen Schools attracts and retains educationally at-risk students who report a strong sense of connection to the program and who report that they experience positive relationships with adults and peers (Fabiano, L., Pearson, L.M., & Williams, I.J., 2005). Students also report feeling more confident in public speaking as a result of program participation, and they report fairly frequent opportunities to participate in hands-on learning and take on leadership roles at Citizen Schools. Evaluators found that Citizen Schools had a positive impact on school attendance and promotion rates, suspension rates, and seventh-grade MCAS scores on the English Language Arts test among students in their first year of participation. For students who continued participating in Citizen Schools for a second or third year, analysis also revealed that Citizen Schools had a positive impact on the mathematics grades of returning students in the seventh grade and a positive impact on eighth-grade MCAS Mathematics scores, school attendance, and promotion rates.

Findings from Phase IV of the evaluation demonstrate that Citizen Schools is making progress in advancing the academic success of participating students and supporting positive life trajectories for them. Participation in Citizen Schools during the middle-school years was associated with increased levels of student engagement and achievement in high school (Fabiano, L., Pearson, L.M., Reisner, E.R., & Williams, I.J., 2006). In particular, former 8th Grade Academy participants at all levels of program exposure enrolled in high-quality high schools at about twice the rate of matched nonparticipants. During their ninth-grade year, former participants overall earned higher grades than matched nonparticipants in English courses. Participants with high levels of program exposure were suspended less often than matched nonparticipants and were promoted on time to the tenth grade at higher rates than matched nonparticipants. See Appendix A for a summary of all findings through Phase IV.

## Phase V Overview

Evaluators added a final cohort of 8th Grade Academy participants to the evaluation sample in Phase V. These participants attended 8th Grade Academy during the 2005-06 school year and had parental consent to be included in the evaluation. The new cohort was combined with 8th Grade Academy participants from the 8th Grade Academy classes of 2001-02 through 2004-05 to create an evaluation sample that now includes 448 former 8th Grade Academy participants. This report focuses on these 448 8th Grade Academy participants by tracking their school engagement and academic achievement during their eighth-grade year, through the transition to high school, and during their ninth-, tenth-, and eleventh-grade years as they progress towards graduation. The size of individual analysis samples is governed by the number of 8th Grade Academy classes (and hence participants) that were eligible to be included in the analysis, given the cohorts' grade in school and the number of participant/matched nonparticipant pairs for which data were available for that measure.

Of the former 8th Grade Academy participants included in this report, 201 (or 45 percent) participated in Citizen Schools for two or more years (including 8th Grade Academy) at an attendance rate of 60 percent or more each semester for all semesters. The evaluation considers these students to have experienced high levels of program exposure. Students who did not meet this participation criterion (N=247) are considered to have low levels of program exposure.<sup>1</sup> Findings are reported for the sample of participants overall and separately by program exposure levels, except for the eleventh-grade analyses where sample sizes were too small to reliably report data by exposure levels.

This report presents analyses that compare high school selection, school engagement (i.e., school attendance and suspension), achievement (course grades, standardized test scores), and progress towards graduation (on-time promotion and a composite "on-track indicator") on the part of former 8th Grade Academy participants with the outcomes of a matched comparison group of nonparticipants. See Appendix B for a more complete discussion of the evaluation's matched comparison approach. The specific measures included in the analyses are:

- The *quality of the high school* in which a student enrolled during the ninth-grade year, as determined through a ranking system created by Citizen Schools
- *School attendance rates*

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<sup>1</sup> Because the evaluation's definition of program exposure incorporates both attendance rates and duration of participation, some "low-exposure" students may include participants with attendance rates of 60 percent or more during each semester of the 8th Grade Academy year and lower attendance rates during the sixth or seventh grade.

- ***School suspension rates***, which consist of the percent of students who were suspended during a school year, regardless of the frequency of each student’s suspension
- ***Course grades in English and mathematics***, reflecting whether students passed their course in these subject areas in the third marking period of the school year

The evaluation reports on the percent of students passing their courses based on their schools’ definitions of passing. In schools within the BPS system, a D- or higher is considered passing. At some Boston-area charter schools, students must earn a C- or higher to pass a course.

- ***Proficiency levels earned on the English/Language Arts and Mathematics MCAS tests***

The evaluation reports the *percent of students scoring at the proficient level* or above on the fourth-, eighth-, and tenth-grade MCAS tests. For the tenth-grade MCAS tests, which students are required to pass in order to graduate from high school, evaluators also report the *percent of students passing the test* (i.e., scoring at the “needs improvement” level or above, which is the state standard for passing).

- ***On-time promotion to the tenth grade***, computed as the percent of students who are promoted from eighth to tenth grade within two years
- ***“On-track to graduation” rates***, based on a composite indicator developed by the evaluation

The indicator is based on prior research and incorporates measures of grade promotion and final grades in core courses, as described later in this report.

In addition to analyses comparing former 8th Grade Academy participants to matched nonparticipants, this report compares participants to students throughout BPS on measures for which comparable data are available.<sup>2</sup> The evaluation was able to make such comparisons in the analyses of MCAS proficiency and passing levels, high school selection, and the on-track indicator.

Comparisons of former 8th Grade Academy participants to two distinct groups (i.e., a group of similar, matched nonparticipants and BPS students as a whole) allow the reader to gauge participants’ progress against two equally important backdrops. The first allows the reader to assess participant outcomes in the context of a statistically similar

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<sup>2</sup> Statistics for BPS students include those attending all types of schools within the district, including examination schools and pilot schools, but not charter schools, which are operated independently of BPS.

group of students. The second allows the reader to assess participant outcomes in the larger context of the school system they attend.

## **Organization of Report**

This report is presented in seven chapters. Chapter 2 provides a descriptive overview of the 448 8th Grade Academy participants included in analyses throughout this report. It includes information on their demographic characteristics, Citizen Schools participation patterns, and school engagement and academic achievement during the eighth-grade year. Chapter 3 follows the evaluation sample into the ninth grade and describes the high schools selected by former 8th Grade Academy participants. Chapters 4 and 5 describe the school engagement and academic achievement of former 8th Grade Academy participants while in high school. Chapter 6 describes participants' progress toward high school graduation, through analysis of on-time promotion to the tenth grade and the study's on-track indicator of likely high school completion. Chapter 7 presents evaluators' conclusions.

## **2. 8th Grade Academy Year**

In 2001-02, Citizen Schools launched its 8th Grade Academy program to prepare and support students as they embarked on the crucial transition from the middle grades to high school. The 8th Grade Academy draws students from many schools, especially those in which Citizen Schools has a school-year program serving sixth- and seventh-graders. Like the sixth- and seventh-grade program, 8th Grade Academy offers apprenticeships with adult volunteers and community explorations. It also helps participants apply to and succeed in high-quality high schools and to raise their aspirations for college. 8th Grade Academy holds high school fairs and hosts dinners and other events for parents and students, during which Citizen Schools staff provide families with information and resources about high schools in Boston and the high-school application process. Looking ahead to the transition to college, Citizen Schools takes 8th Grade Academy participants on college visits, including a three-day visit to the University of Vermont, where students visit classes, attend social events, and engage in other activities that provide a concrete familiarity with college life. To help students develop their writing skills for high school and college-level success, 8th Grade Academy assigns each student a writing coach, who is typically a local lawyer volunteering every other week for two hours at a time. 8th Grade Academy participants meet their coaches at their respective law firms and receive coaching and support in improving their writing skills.

In 2004, Citizen Schools launched its alumni program. This program is intended to support 8th Grade Academy graduates and their families during the high school transition period by: helping students keep in touch with their writing coaches and 8th Grade Academy classmates; providing students with additional resources on college, career, and enrichment opportunities; celebrating their achievements; and bringing them together with a supportive network of Citizen Schools alumni.

### **8th Grade Academy Participant Characteristics**

Between the 2001-02 and 2005-06 school years, 448 students participated in Citizen Schools 8th Grade Academy and had parental consent to be included in the evaluation. Exhibit 1 shows the number of Citizen Schools participants included in the evaluation from each 8th Grade Academy class.

An intensive two- to three-year Citizen Schools experience, including participation in 8th Grade Academy, is central to Citizen Schools' theory of change. To assess the extent to which participants achieved the desired level of exposure to Citizen Schools services, the evaluation looked at the attendance patterns of participants. Among the 448 participants included in this evaluation, 21 percent were enrolled in Citizen Schools during a single school year (i.e., their 8th Grade Academy year), just over half (52 percent) participated during two school years, and 27 percent participated across three school years.

**Exhibit 1**  
**Citizen Schools Participants in the Evaluation,**  
**by 8th Grade Academy Class**

<b>8th Grade Academy Class</b>	<b><i>N</i></b>
2001-02 class	48
2002-03 class	85
2003-04 class	118
2004-05 class	103
2005-06 class	94
Total	448

To describe the intensity of participation, the evaluation calculated the number of school years in which students participated in Citizen Schools at a rate of 60 percent or higher<sup>3</sup> in both the fall and spring semesters. Forty-five percent participated in Citizen Schools for two or more years (including 8th Grade Academy) at this attendance threshold. The evaluation considers these students to have experienced high levels of program exposure. Students who did not meet this participation criterion (55 percent) are considered to have low levels of program exposure. The findings throughout this report will be presented for participants overall and separately by level of program exposure.

8th Grade Academy participants displayed many characteristics associated with educational risk. Earlier reports of this evaluation have established that Citizen Schools participants are in fact more educationally at-risk than BPS sixth- through eighth-grade students overall (Fabiano et al., 2005). Ninety-four percent of 8th Grade Academy participants were students of color, with African-Americans comprising 68 percent of the sample (see Exhibit 2). A large percentage of participants (85 percent) qualified for free or reduced-price lunch, almost a quarter were enrolled in special education, and 2 percent were enrolled in bilingual education. In addition, 8th Grade Academy participants had low levels of academic achievement prior to enrolling in Citizen Schools, as measured by the percent of participants who achieved proficiency (i.e., scored at the proficient or advanced level) on the MCAS English/language arts and mathematics tests in the fourth grade (8 and 6 percent, respectively).

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<sup>3</sup> The program exposure rate described here is based on the total number days a student participated in the program as divided by the total number of days the program was open in each semester.

**Exhibit 2**  
**Demographics and Prior Achievement of**  
**8th Grade Academy Participants**

Characteristic	8th Grade Academy Participants
<b>Race/Ethnicity</b>	<i>N=448</i>
African American	68%
Asian	3%
Hispanic	23%
Native American	1%
White	6%
<b>Gender</b>	<i>N=448</i>
Female	50%
Male	51%
<b>Free- or Reduced-Price Lunch Eligibility</b>	<i>N=393</i>
Eligible for FRPL	85%
<b>Special Education Status</b>	<i>N=448</i>
Enrolled in special education	23%
<b>Bilingual Education Program Status</b>	<i>N=448</i>
Enrolled in bilingual education	2%
<b>Fourth-Grade MCAS ELA</b>	<i>N=334</i>
<i>Percent Proficient</i>	8%
<b>Fourth-Grade MCAS Mathematics</b>	<i>N=339</i>
<i>Percent Proficient</i>	6%

## Comparison to Matched Nonparticipants

Despite being similar to a group of matched nonparticipants at baseline (see Appendix B), 8th Grade Academy participants performed significantly better than matched nonparticipants on several of the evaluation’s indicators of school engagement and academic achievement by the end of the eighth-grade year. Citizen Schools participants attended school more and achieved at higher levels in English/Language Arts, compared with matched nonparticipants. In addition, 8th Grade Academy participants with high levels of program exposure were more likely than matched nonparticipants to pass their math course at the third marking period (see Exhibit 3).

### School Engagement

Participation in Citizen Schools’ 8th Grade Academy was associated with higher school attendance rates, as compared with matched nonparticipants. 8th Grade Academy participation was not, however, associated with decreased suspension rates, as compared with matched nonparticipants.

**Exhibit 3**  
**Summary of Percentage-Point Differences Between 8GA Participants and Matched Nonparticipants in Eighth Grade**

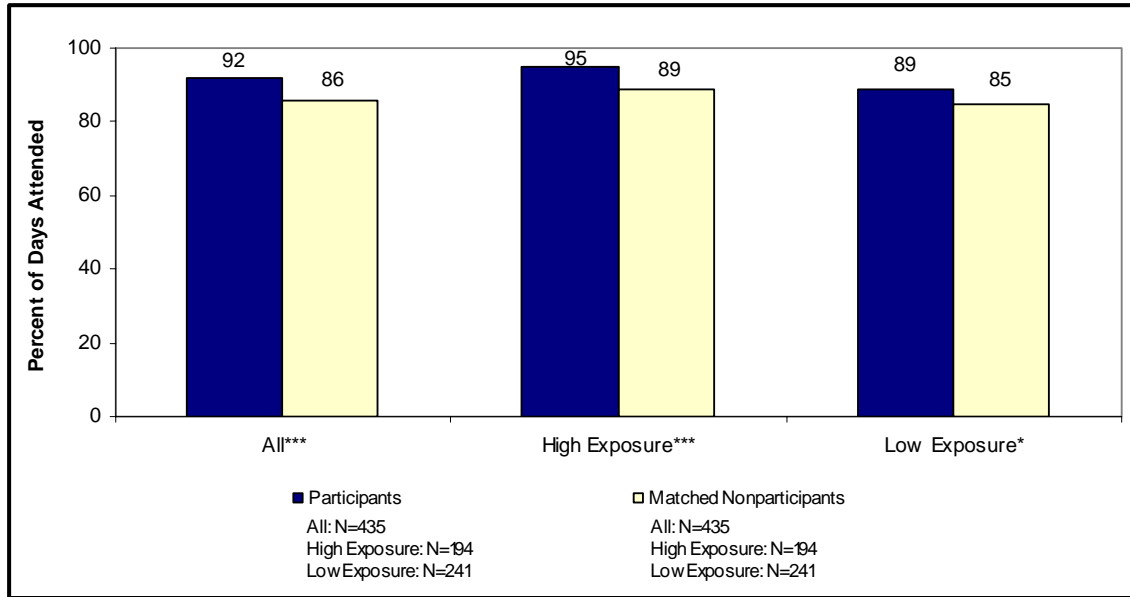
Indicator	All		High Exposure		Low Exposure	
	N	Difference Between Participants and Matched Nonparticipants	N	Difference Between Participants and Matched Nonparticipants	N	Difference Between Participants and Matched Nonparticipants
School attendance rate	435	6***	194	6***	241	4*
School suspension rate	435	-4	194	-2	241	-5
Pass English course in third marking period	315	10***	153	6	162	12**
Pass math course in third marking period	309	4	150	8*	159	0
Mathematics MCAS proficiency	387	2	181	0	206	3

- \* Participants outperformed matched nonparticipants,  $p < .05$
- \*\* Participants outperformed matched nonparticipants,  $p < .01$
- \*\*\* Participants outperformed matched nonparticipants,  $p < .001$

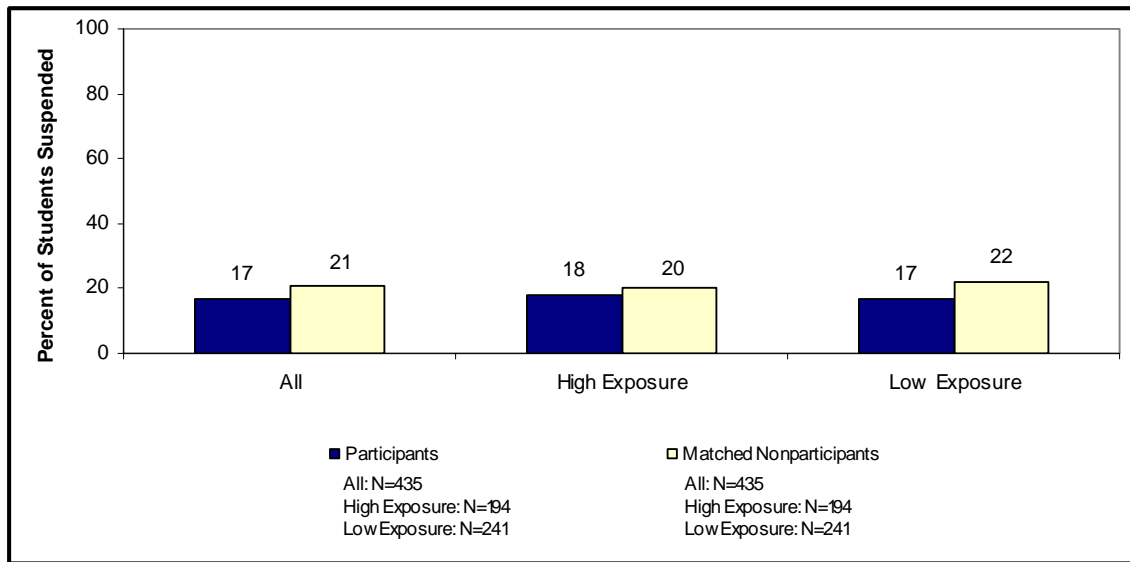
Looking at 8th Grade Academy participants during their eighth-grade year, the evaluation found the following:

- **School attendance.** 8th Grade Academy participants attended school at a rate of 92 percent, compared with 86 percent among matched nonparticipants (see Exhibit 4). This translates into almost eleven extra days of school for the year. Participants with both high and low levels of program exposure attended school at a significantly higher rate than their matched counterparts. Participants with low levels of exposure attended school at a rate of 89 percent, compared with 85 percent among matched nonparticipants, for a difference of four percentage points or about seven school days. Participants in the high-exposure group attended eighth grade at a rate of 95 percent, while matched nonparticipants attended at a rate of 89 percent, for a difference of six percentage points or almost 11 school days.
- **School suspension.** 8th Grade Academy students overall, and those with both high and low levels of exposure had lower suspension rates than matched nonparticipants (see Exhibit 5). However, these differences did not meet tests of statistical significance.

**Exhibit 4**  
**Eighth-Grade Attendance Rate of 8GA Participants,**  
**Compared with Matched Nonparticipants**



**Exhibit 5**  
**Eighth-Grade Suspension Rates of 8GA Participants,**  
**Compared with Matched Nonparticipants**

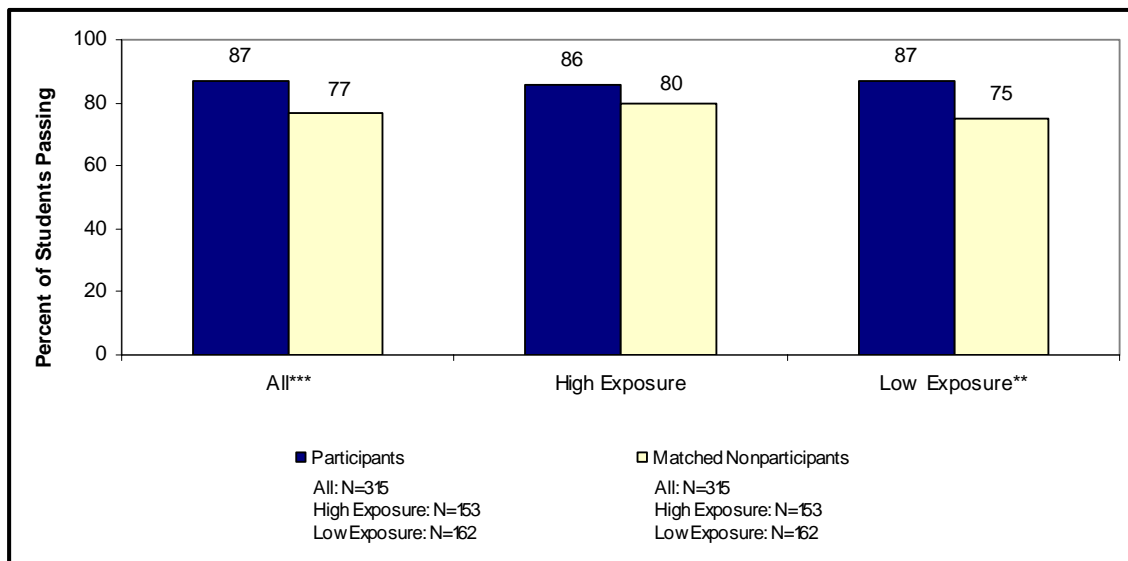


## Academic Achievement

8th Grade Academy participation was associated with higher academic achievement in English courses, as compared with matched nonparticipants. Overall, 8th Grade Academy participants had higher eighth-grade English-course passing rates in the third marking period than did matched nonparticipants. Evaluators found a similar pattern in math courses but only for participants with high levels of program exposure. Overall, 8th Grade Academy participants did not outperform matched nonparticipants on the eighth-grade Mathematics MCAS test. (The ELA MCAS test was not administered to eighth-graders until 2005-06.)

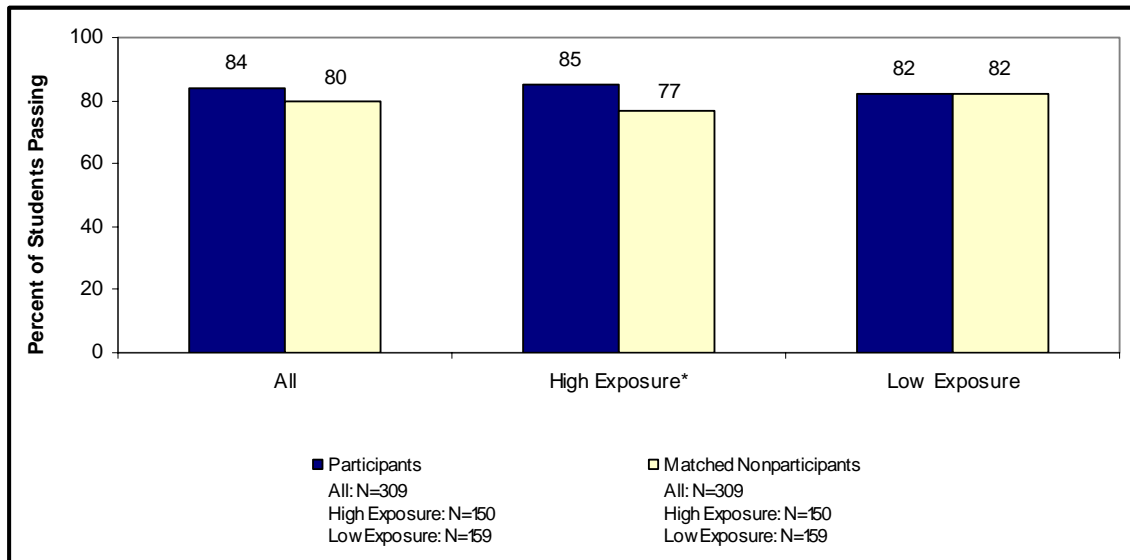
- **English course grades.** A higher percentage of participants in 8th Grade Academy passed their eighth-grade English course in the third marking period, compared with matched nonparticipants (87 percent, compared with 77 percent), as seen in Exhibit 6. Participants with low levels of program exposure also outperformed matched nonparticipants, with 87 percent passing, compared with 75 percent pass of matched nonparticipants. Participants with high levels of program exposure did not outperform their matched nonparticipants at a statistically significant level on this measure.

**Exhibit 6**  
**Percent of 8GA Participants Passing Eighth-Grade English Course in Third Marking Period, Compared with Matched Nonparticipants**



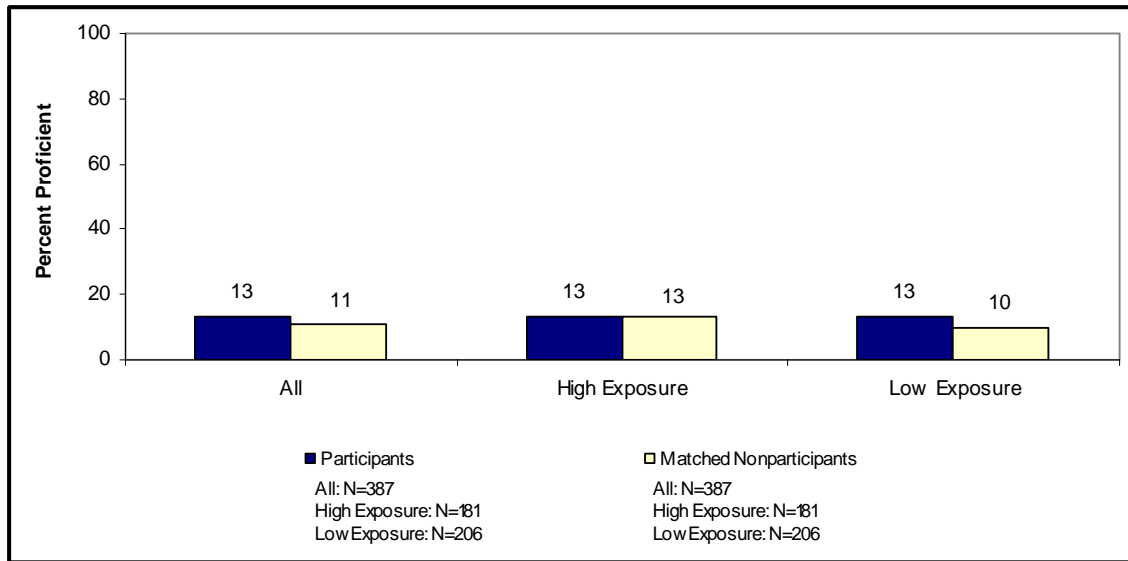
- Math course grades.** Participants with high levels of program exposure were significantly more likely than matched nonparticipants to pass their math course in the third marking period (85 percent, compared with 77 percent), as shown in Exhibit 7. 8th Grade Academy participants overall and those with low levels of program exposure did not outperform their matched nonparticipants on this measure.

**Exhibit 7**  
**Percent of 8GA Participants Passing Eighth-Grade Math Course**  
**in Third Marking Period, Compared with Matched Nonparticipants**



- Mathematics MCAS.** Thirteen percent of 8th Grade Academy participants achieved proficiency on the eighth-grade MCAS in mathematics, compared with 11 percent of matched nonparticipants (see Exhibit 8). The difference was not statistically significant. Likewise, participants with high and low levels of program exposure did not outperform their matched nonparticipants on the eighth-grade mathematics MCAS test.

**Exhibit 8**  
**Percent of 8GA Participants Achieving Proficiency on 8th Grade Mathematics MCAS, Compared with Matched Nonparticipants**



## Comparison to District-Wide MCAS Results

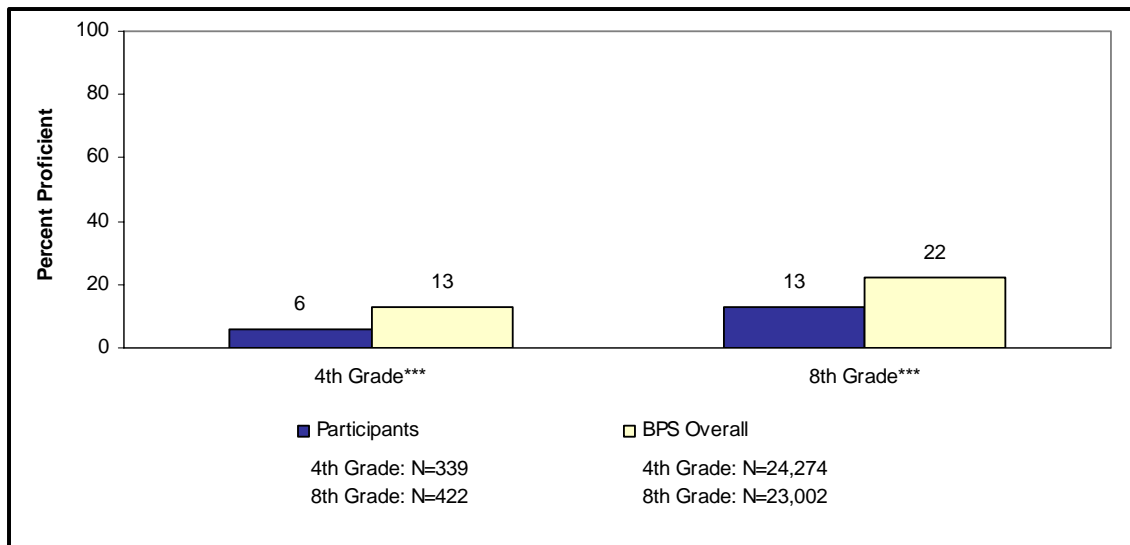
Using aggregate MCAS results for fourth- and eighth-grade students from the Massachusetts Department of Education, the evaluation conducted analyses to complement the findings of the matched comparison analysis. Evaluators calculated the percent of students in the BPS system who achieved proficiency on the fourth- and eighth-grade MCAS Mathematics tests during the years in which participants took these tests.<sup>4</sup> Roughly 5,000 BPS fourth-graders took the fourth-grade MCAS each year between spring 1998 and spring 2002. The evaluation calculated how many of the roughly 25,000 fourth-graders across those years achieved proficiency on the fourth-grade MCAS and compared that statistic with the percent of 8th Grade Academy participants who scored at those levels during their fourth-grade year. Evaluators repeated this process to make comparisons of achievement on the eighth-grade MCAS mathematics test as well.

This analysis should not be interpreted to be longitudinal at the student level because it is not limited to students with *both* fourth- and eighth-grade MCAS scores. Rather, the analysis provides insight on how Citizen Schools participants as a group fared in the fourth grade in comparison to the district's fourth-grade population, and how Citizen Schools participants in the eighth grade fared in comparison to the district's eighth-grade population.

<sup>4</sup> Participants took the fourth-grade MCAS Mathematics test between spring 1998 and spring 2002 and the eighth-grade MCAS Mathematics test between spring 2002 and spring 2006.

As shown in Exhibit 9,<sup>5</sup> prior to Citizen Schools participation, 8th Grade Academy participants achieved proficiency on the fourth-grade Mathematics MCAS test at a significantly lower rate than fourth-graders district-wide (6 percent and 13 percent, respectively). At the eighth grade, Citizen Schools participants also achieved proficiency at a significantly lower rate than students district-wide on the eighth-grade Mathematics MCAS test (13 percent of participants, compared with 22 percent district-wide).

**Exhibit 9**  
**Percent of 8GA Participants Achieving Proficiency**  
**on 8th Grade Mathematics MCAS, Compared with BPS Students**



Considering that Citizen Schools participants were less proficient than BPS students at baseline, as measured by the fourth-grade Mathematics MCAS, it is not surprising that Citizen Schools participants continued to lag behind BPS students on the eighth-grade Mathematics MCAS. Citizen Schools attracts academically at-risk students, who as a group are unlikely to catch up to the average academic performance of the district in only four years. Even so, the academic progress of 8th Grade Academy participants seems promising, based on the eighth-grade Mathematics MCAS results. The gap between participants and BPS students overall seems to be narrowing from fourth to eighth grade—in fourth grade the percent of BPS students achieving proficiency was a little more than twice that of Citizen Schools participants, and in eighth grade the percent of BPS students at these levels was less than twice that of participants. Later, this report examines the performance of participants on the tenth-grade MCAS tests compared with BPS students overall to see if the gap continues to narrow.

<sup>5</sup> This analysis includes all 8th Grade Academy participants for whom the evaluation has MCAS Mathematics scores. The sample size for this analysis is larger than appears in the matched-comparison analysis of MCAS scores above (Exhibit 8), where a participant is only included in analysis if his/her individually matched nonparticipant also has valid MCAS data.

## **Summary of Eighth-Grade Findings**

Participation in 8th Grade Academy seems to exert an overall positive impact on the academic achievement of participants, in comparison to matched nonparticipants. 8th Grade Academy participants performed significantly better in English courses in eighth grade and attended school at a significantly higher rate, compared with matched nonparticipants. Participants with high levels of program exposure were also more likely than their counterparts to pass their math courses in the third marking period.

### 3. High School Selection

All BPS eighth-graders are given the opportunity to choose the high school they will attend in ninth grade. With over 30 schools from which to choose, including exam, pilot, and charter schools, the selection and application process can be intimidating. To assist, Citizen Schools provides 8th Grade Academy participants and their parents with information and resources about Boston high schools. One such resource is Citizen Schools' own *Guide to Boston High Schools*, which presents detailed information on, among other things, the characteristics of each high school's students and teachers, the school's academic track record, and its graduation rates.

Citizen Schools' theory of change hinges on the enrollment of former 8th Grade Academy participants in high-quality high schools. Therefore, a critical piece of this evaluation is the analysis of the high schools selected by former 8th Grade Academy participants.

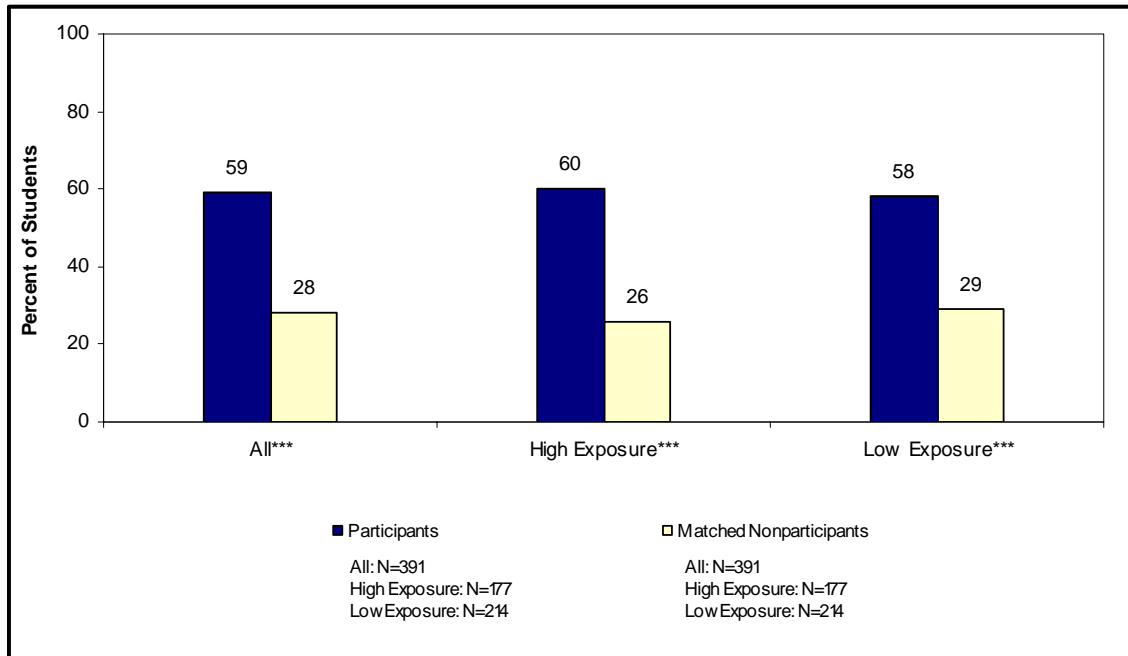
Citizen Schools provided the evaluation with ratings—high, middle, and low—for the high schools attended by participants and matched nonparticipants. According to these ratings, a high-quality high school was a school with a high level of educational culture, support, and achievement, as indicated by the qualitative and quantitative data available to Citizen Schools. Specific measures included MCAS passing rates, attendance rates, suspension rates, student achievement, promotion rates, drop-out rates, graduation rates, and college/career training enrollment. Measures used to determine ratings also included resources available at the school, external partnerships, school themes, and courses offered, especially high-level and college-preparation courses, as contrasted with standard courses.

Of students who attended a rated high school,<sup>6</sup> 8th Grade Academy participants selected high-quality high schools more often than matched nonparticipants. Following their participation in 8th Grade Academy, students enrolled in high-quality high schools at more than twice the rate of their counterparts who did not participate in 8th Grade Academy. Fifty-nine percent of participants chose a high-quality high school, compared with 28 percent of nonparticipants (see Exhibit 10). This relationship held true for participants with both high and low levels of exposure and was statistically significant for all groups.

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<sup>6</sup> Among participants and matched nonparticipants in the evaluation sample, only 3 percent enrolled in a high school in ninth grade that was not rated by Citizen Schools, according to data provided by BPS and Citizen Schools. These students were excluded from the matched-comparison analysis of high school selection.

**Exhibit 10**  
**Percent of Former 8GA Participants Selecting High-Quality High Schools, Compared with Matched Nonparticipants**



Although former participants within each of the five 8th Grade Academy classes were more likely to enroll in high-quality high schools than were nonparticipants, the percent of participants who enrolled in high-quality high schools declined over the five years of the study (see Exhibit 11). Eighty-one percent of 8th Grade Academy participants from the 2001-02 class selected high-quality high schools, compared with 43 percent of 8th Grade Academy participants from the class of 2005-06.

**Exhibit 11**  
**Former 8GA Participants Selecting High-Quality High Schools, Compared with Matched Nonparticipants, by 8GA Class**

8th Grade Academy Class	N	Percent of Participants	Percent of Matched Nonparticipants	Percentage-Point Difference Between Participants and Matched Nonparticipants
2001-2002	41	81	34	47***
2002-2003	82	67	35	32***
2003-2004	106	59	26	33***
2004-2005	90	56	21	35***
2005-2006	72	43	26	17***

The decline in the percent of participants who enrolled in high-quality high schools may be explained, at least in part, by several factors. First, the distribution of rated schools changed over the course of the evaluation. As an example, there were 12 schools in the highest category, 7 schools in the middle category, and 9 schools in the lowest category for students enrolling in ninth grade in 2004-05. For students enrolling in ninth grade in 2005-06 or 2006-07, there were 11, 9, and 12 schools in the three categories, respectively. As a result, the proportion of schools in the highest category decreased and the proportion of schools in the lowest category increased from 2004-05 to 2005-06, making it less likely that students would enroll in a highly-rated school.

In addition, the school rating system used by Citizen Schools was not fully developed until Citizen Schools created school ratings for students enrolling in ninth grade in 2004-05. The rating system for students attending ninth grade in 2002-03 used a different scale than later years. During 2002-03, Citizen Schools rated high schools in three categories: endorsed, pleased with choice, and not endorsed. These were not directly equivalent to the three rating categories used in later years. Based on Citizen Schools' definitions of endorsed, pleased with choice,<sup>7</sup> and not endorsed, evaluators combined the top two categories into the equivalent of the highest category in the current rating system. The not endorsed category was deemed to be equivalent to the lowest category in the current rating system.

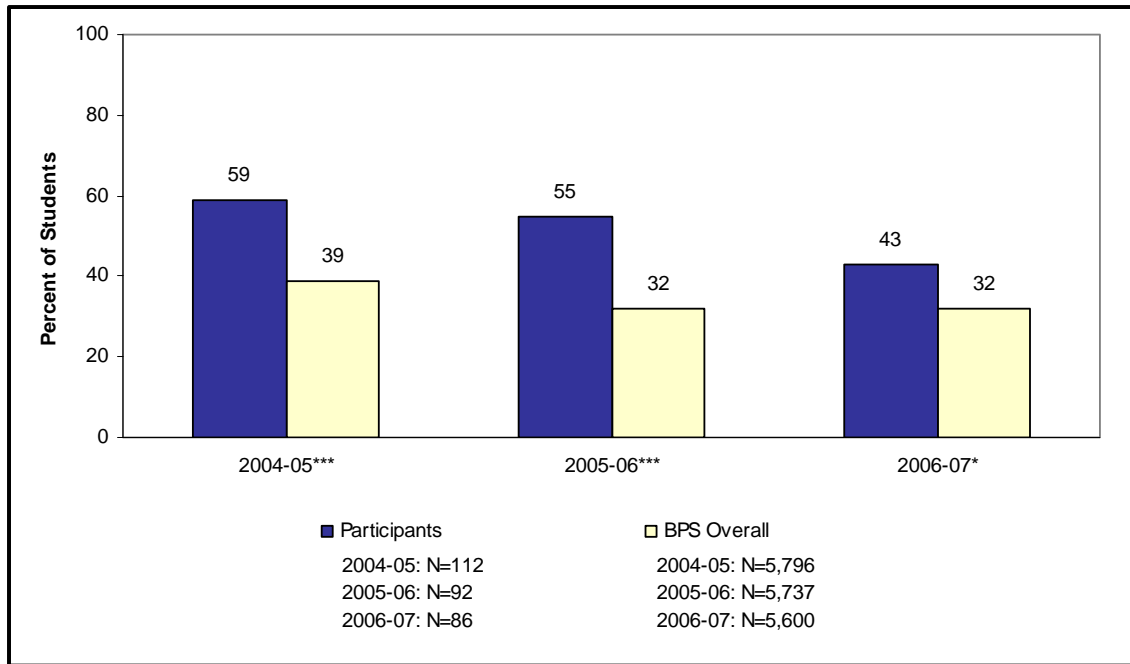
Exhibit 12 shows the percent of participants who enrolled in high-quality high schools in 2004-05, 2005-06, and 2006-07, compared with BPS students overall.<sup>8</sup> Because of inconsistencies in the rating systems prior to 2004-05, this analysis is limited to the high-school selection of ninth-graders in the last three years of the evaluation. Former 8th Grade Academy participants enrolled in high-quality high schools at a significantly higher rate than students in Boston, at 59 percent vs. 39 percent in 2004-05, 55 percent vs. 32 percent in 2005-06, and 43 percent vs. 32 percent in 2006-07.

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<sup>7</sup> Citizen Schools defined "pleased with choice" as its rating for high schools that otherwise would have been endorsed but were not open to all students in Boston. This category included private and parochial schools and suburban high schools.

<sup>8</sup> Evaluators calculated the total number of ninth-grade students enrolled in high schools rated by Citizen Schools in these years, including charter schools. The percentages reported are based on this population only. Ninth-grade students enrolled in high schools not rated by Citizen Schools are not included in analysis.

**Exhibit 12**  
**Percent of Former 8GA Participants Selecting**  
**High-Quality High Schools, Compared with BPS Students**



## 4. High School Engagement

This chapter presents findings from the analysis of school attendance and suspension rates of former 8th Grade Academy participants in high school (see Exhibit 13). Participation in 8th Grade Academy was associated with higher school attendance rates, compared with matched nonparticipants, for ninth-, tenth-, and eleventh-grade former Citizen School participants. A significantly lower percent of participants with high levels of program exposure were suspended during their ninth-grade year, compared with matched nonparticipants. However, the evaluation did not find that participants outperformed matched nonparticipants at a statistically significant level on this measure in the tenth and eleventh grades.

**Exhibit 13**  
**Summary of Percentage-Point Differences Between 8GA Participants and Matched Nonparticipants in Ninth, Tenth, and Eleventh Grades**

Indicator	All		High Exposure		Low Exposure	
	N	Difference Between Participants and Matched Nonparticipants	N	Difference Between Participants and Matched Nonparticipants	N	Difference Between Participants and Matched Nonparticipants
Ninth-grade school attendance rate	259	8***	123	10***	136	5*
Tenth-grade school attendance rate	148	5**	63	7*	85	5
Eleventh-grade school attendance rate	64	9**		N/A		N/A
Ninth-grade school suspension rate	258	-4	122	-7*	136	1
Tenth-grade school suspension rate	148	2	63	-5	85	6
Eleventh-grade school suspension rate	64	0		N/A		N/A

N/A: Not applicable; sample sizes were too small to report eleventh-grade findings by levels of program exposure.

### School Attendance

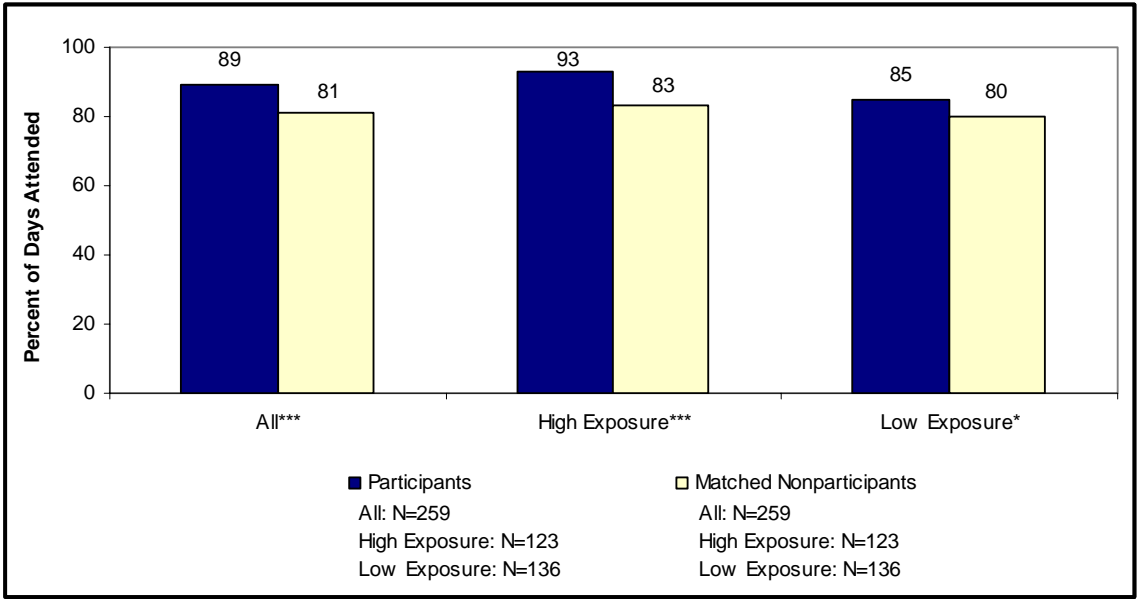
Participants consistently attended school more often than matched nonparticipants during the ninth, tenth, and eleventh grades. This was true for participants overall and among those with high and low levels of program exposure.

School attendance patterns include the following:

- **Ninth grade.** During the ninth grade, participants attended school 89 percent of the time, while nonparticipants attended 81 percent of the time, for a difference of eight percentage points or about 14 days of school (see Exhibit 14). When disaggregated by level of program exposure, the data still show that participants attended school at a significantly higher rate

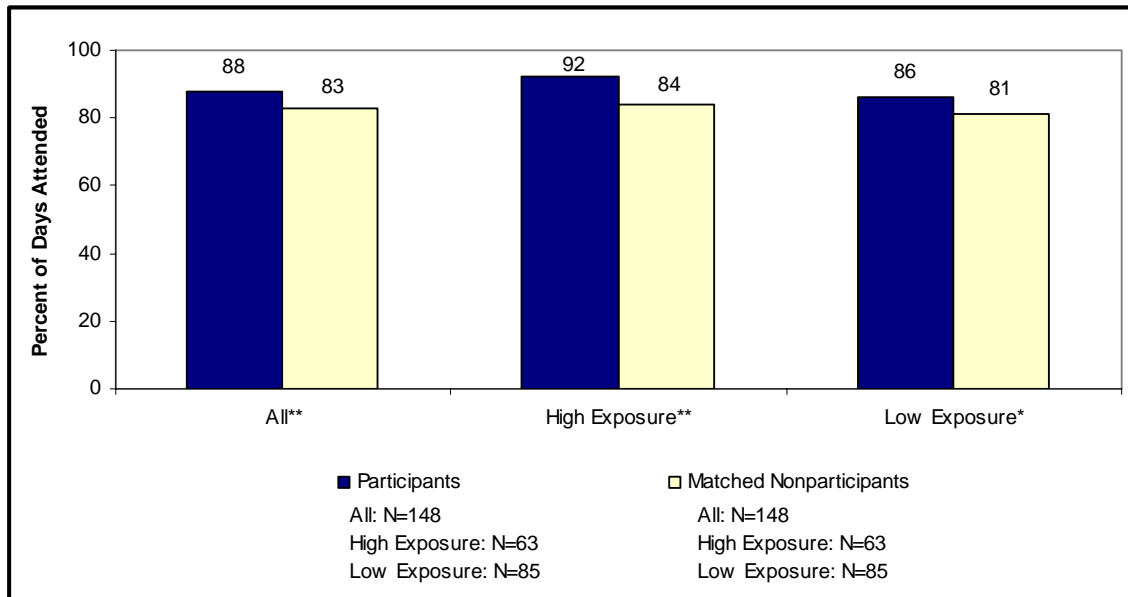
than matched nonparticipants. Students with high levels of program exposure attended ninth grade at a rate of 93 percent, compared with 83 percent among matched nonparticipants. This difference translates to about 18 days of school. Participants with low levels of program exposure also demonstrated significantly higher levels of ninth-grade attendance than nonparticipants (85 percent, compared with 80 percent among matched nonparticipants).

**Exhibit 14**  
**Ninth-Grade Attendance Rates of Former 8GA Participants,**  
**Compared with Matched Nonparticipants**



- Tenth grade.** Former 8th Grade Academy participants attended tenth grade at a higher rate than their matched nonparticipants. Overall participants attended school 88 percent of the time, compared with 83 percent among matched nonparticipants, yielding a difference of five percentage points or about 9 days of school (see Exhibit 15). Participants with both high and low levels of exposure attended significantly more school than their nonparticipant counterparts, with the larger difference seen among students with high program exposure. Participants with low levels of exposure attended tenth grade at a rate of 86 percent, compared with a rate of 81 percent among nonparticipants. Students with high levels of exposure had a 92 percent attendance rate, compared with 84 percent among matched nonparticipants, for a difference of 8 percentage points or 14 days of school.

**Exhibit 15**  
**Tenth-Grade Attendance Rates of Former 8GA Participants,**  
**Compared with Matched Nonparticipants**



- ***Eleventh grade.*** In the eleventh grade, former 8th Grade Academy participants attended school at a significantly higher rate than matched nonparticipants. Overall participants attended school 92 percent of the time, compared 83 percent among matched nonparticipants. The eleventh-grade sample was too small to reliably report data separately by program exposure level.

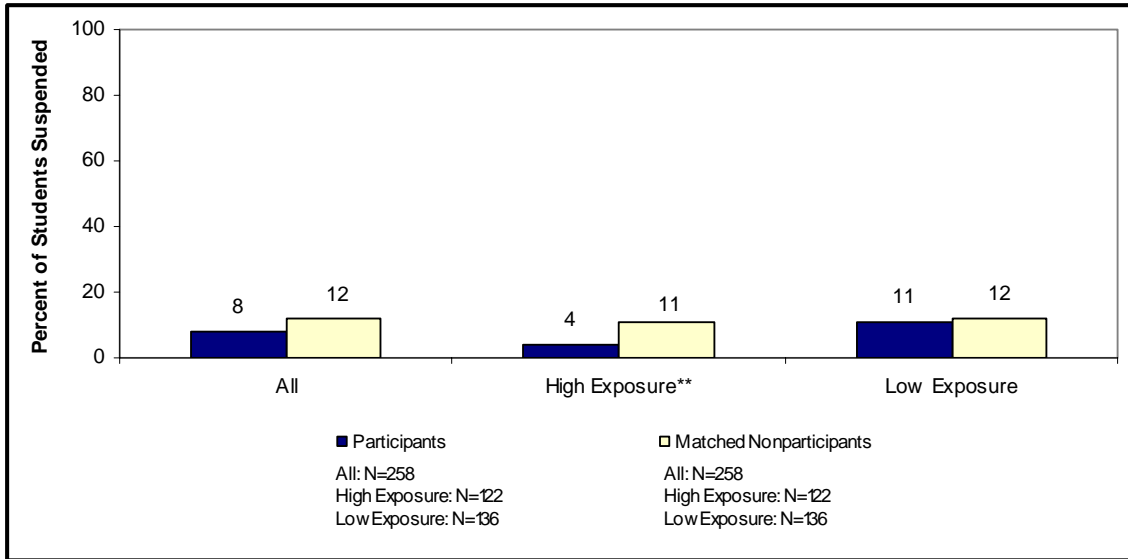
## Suspensions

Consistent with earlier phases of this evaluation, evaluators found different patterns of suspension rates in the ninth and tenth grades among former 8th Grade Academy participants and matched nonparticipants. The only subgroup in which fewer participants were suspended, compared with matched nonparticipants, was ninth graders with high levels of program exposure.

Suspension patterns found when analyzing former 8th Grade Academy participants and matched nonparticipants include the following:

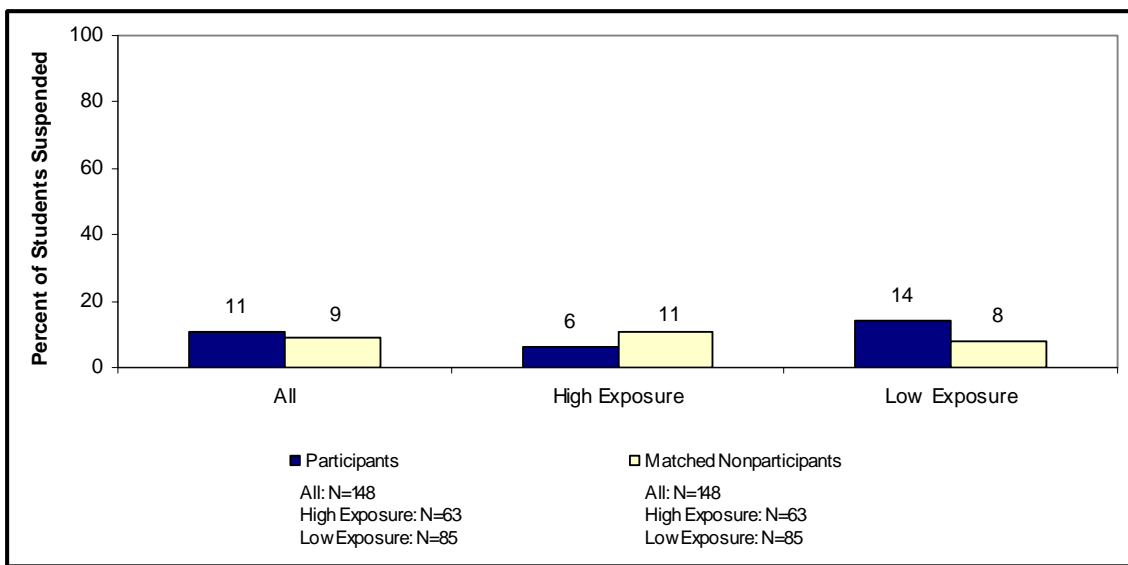
- ***Ninth grade.*** Among ninth-graders, participants who had high levels of program exposure were suspended at a rate that was seven percentage points less than matched nonparticipants (4 percent, compared with 11 percent), as seen in Exhibit 16. No statistically significant differences were found for the group of former 8th Grade Academy participants overall or for the group of former participants with low levels of exposure.

**Exhibit 16**  
**Ninth-Grade Suspension Rates of Former 8GA Participants,**  
**Compared with Matched Nonparticipants**



- **Tenth grade.** In the tenth-grade analysis, evaluators found that participants did not significantly outperform matched nonparticipants in terms of suspension rates (see Exhibit 17).

**Exhibit 17**  
**Tenth-Grade Suspension Rates of Former 8GA Participants,**  
**Compared with Matched Nonparticipants**



- ***Eleventh grade.*** Former 8th Grade Academy participants were suspended at approximately the same rate as matched nonparticipants in eleventh grade. Both groups had a suspension rate of 8 percent.

## 5. High School Academic Achievement

This chapter focuses on the academic achievement of former 8th Grade Academy participants, as measured by performance in English and mathematics courses and pass rates on the tenth-grade English/Language Arts and Mathematics MCAS tests. Exhibit 18 presents an overview of the analyses in this chapter.

**Exhibit 18**  
**Summary of Percentage-Point Differences Between 8GA Participants and Matched Nonparticipants in Ninth, Tenth, and Eleventh Grades**

Indicator	All		High Exposure		Low Exposure	
	<i>N</i>	Difference Between Participants and Matched Nonparticipants	<i>N</i>	Difference Between Participants and Matched Nonparticipants	<i>N</i>	Difference Between Participants and Matched Nonparticipants
Pass ninth-grade English course in third marking period	178	13**	86	20**	92	7
Pass tenth-grade English course in third marking period	87	-3	35	-3	52	-4
Pass eleventh-grade English course in third marking period	36	-11		N/A		N/A
Pass ninth-grade math course in third marking period	166	4	81	6	85	1
Pass tenth-grade math course in third marking period	94	12*	41	17*	53	8
Pass eleventh-grade math course in third marking period	48	12		N/A		N/A
Pass tenth-grade English/Language Arts MCAS	120	8*	54	12*	66	6
Pass tenth-grade Mathematics MCAS	119	5	55	6	64	5
On-time promotion to tenth grade	324	4	151	9*	173	1

### Achievement in English and Mathematics Courses

Participation in 8th Grade Academy was associated with higher English course passing rates in ninth grade, compared with matched nonparticipants.<sup>9</sup> 8th Grade Academy participation was not significantly related to English course passing rates in tenth or eleventh grades. Evaluators found a different pattern for mathematics courses, in which there were no statistically significant differences in mathematics course passing

<sup>9</sup> Slightly less than 20 percent of Citizen Schools participants enrolled in the ninth grade in either of two charter high schools that define any course grade below a C- as failing. Other high schools included in the analysis of course grades define any course grade below a D- as failing. Evaluators do not know how different grading schemes may have affected the designation of students as passing or failing particular courses.

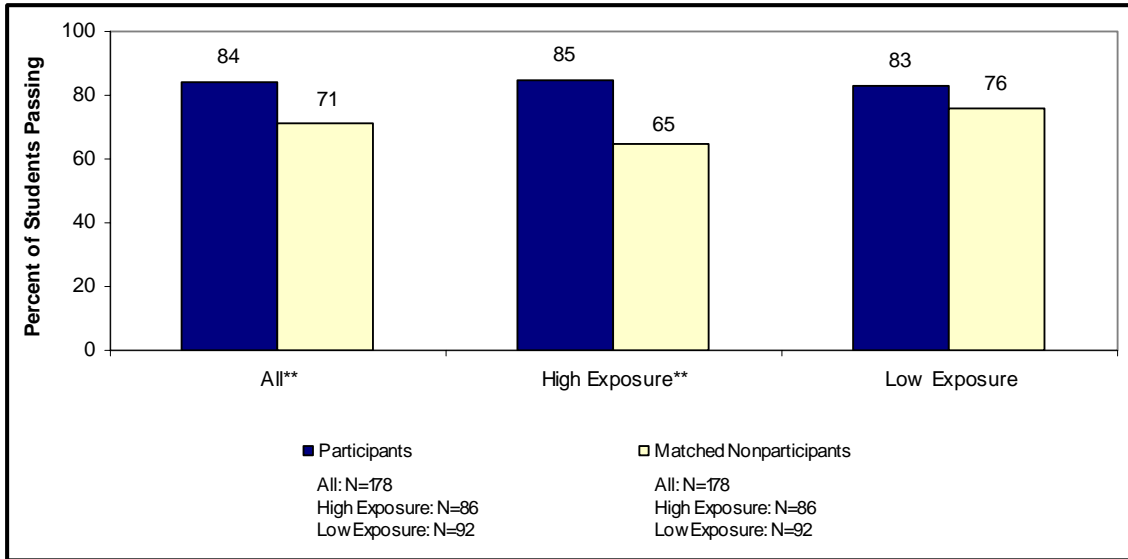
rates between former participants and matched nonparticipants in ninth grade and eleventh grade. However, in tenth grade, participation in 8th Grade Academy was associated with a higher math course passing rate, as compared with matched nonparticipants.

To report additional detail on the distribution of course grades, evaluators also compared the percentage of participants and matched nonparticipants who earned As and Bs in their English and mathematics courses in the ninth and tenth grades. Samples sizes were too small to allow such a comparison for students in eleventh grade. Analyses found that 8th Grade Academy participants outperformed their matched comparisons on this measure in English courses in the tenth grade but not the ninth grade. Matched nonparticipants outperformed participants in earning As or Bs in ninth-grade math.

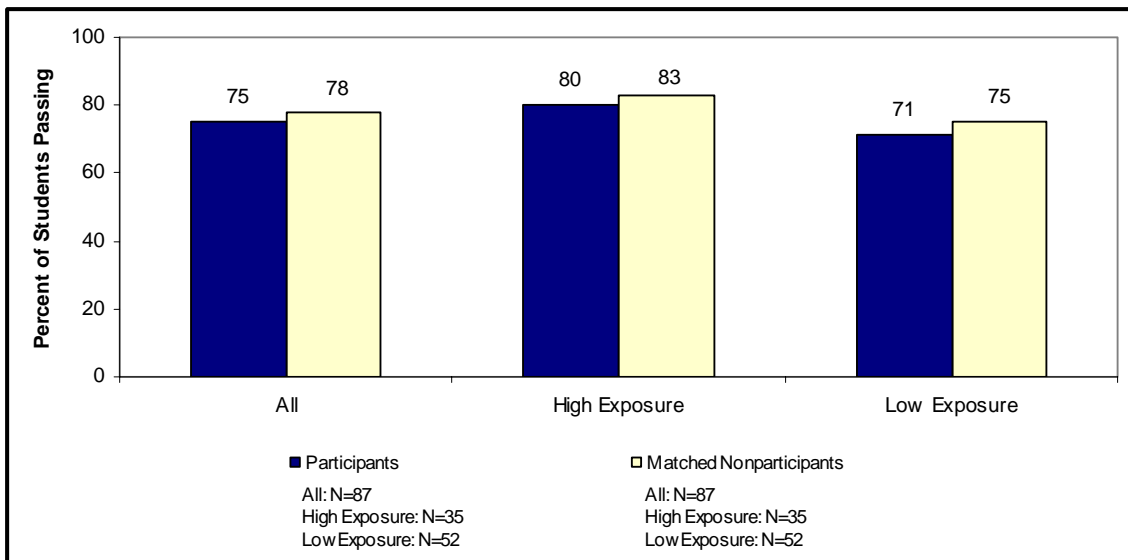
## English Courses

- ***Ninth grade.*** Eighty-four percent of former 8th Grade Academy participants passed their ninth-grade English course, compared with 71 percent of matched nonparticipants (see Exhibit 19). Participants with high levels of program exposure passed their ninth-grade English courses at a significantly higher rate than matched nonparticipants (85 percent, compared with 65 percent, respectively). The evaluation did not find that participants with low levels of program exposure outperformed matched nonparticipants at a statistically significant level on this measure. Similar percentages of participants and matched nonparticipants earned As or Bs in English during the ninth-grade (39 percent, compared with 38 percent, respectively).
- ***Tenth grade.*** During tenth grade, former 8th Grade Academy participants did not outperform their matched nonparticipants on English course pass rates (see Exhibit 20). However, participants were significantly more likely than matched nonparticipants to earn As or Bs (46 percent, compared with 26 percent, respectively).

**Exhibit 19**  
**Percent of Former 8GA Participants Passing Ninth-Grade English Course**  
**in Third Marking Period, Compared with Matched Nonparticipants**



**Exhibit 20**  
**Percent of Former 8GA Participants Passing Tenth-Grade English Course**  
**in Third Marking Period, Compared with Matched Nonparticipants**

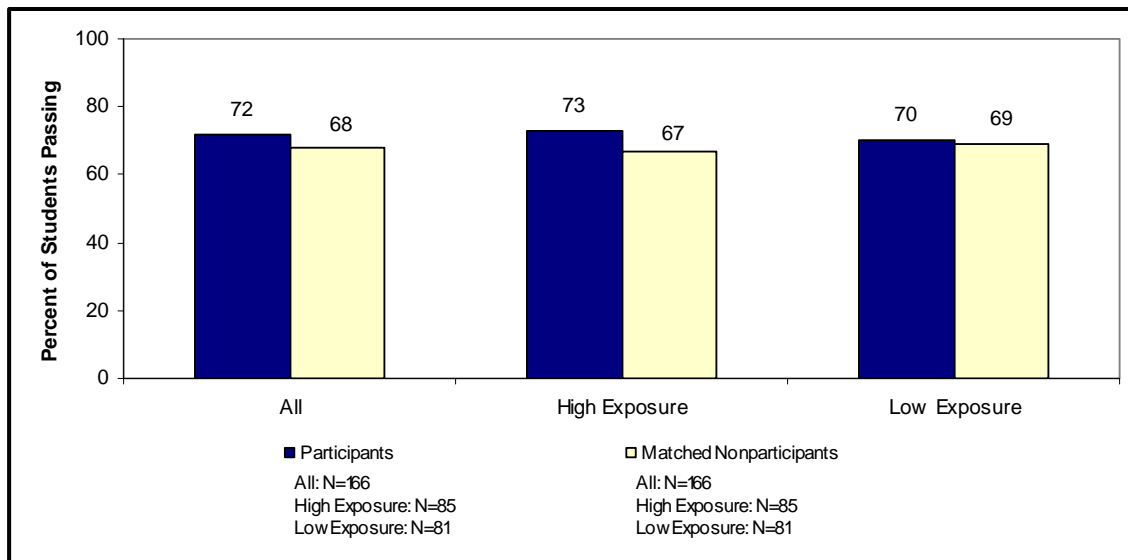


- Eleventh grade.** Among eleventh-graders, former 8th Grade Academy participants did not outperform their matched nonparticipants on English course pass rates. Seventy-eight percent of participants passed English in the third period, compared with 89 percent of matched nonparticipants. As noted in the previous chapter, the eleventh-grade sample was too small to reliably report data separately by program exposure level.

## Mathematics Courses

- Ninth grade.** Among former 8th Grade Academy participants, 72 percent passed their ninth-grade math course, compared with 68 percent of nonparticipants (see Exhibit 21). However, this difference was not statistically significant. There were no significant differences by exposure level. A larger proportion of matched nonparticipants earned As and Bs in mathematics in the ninth grade, compared with former 8th Grade Academy participants (34 percent, compared with 24 percent, respectively).

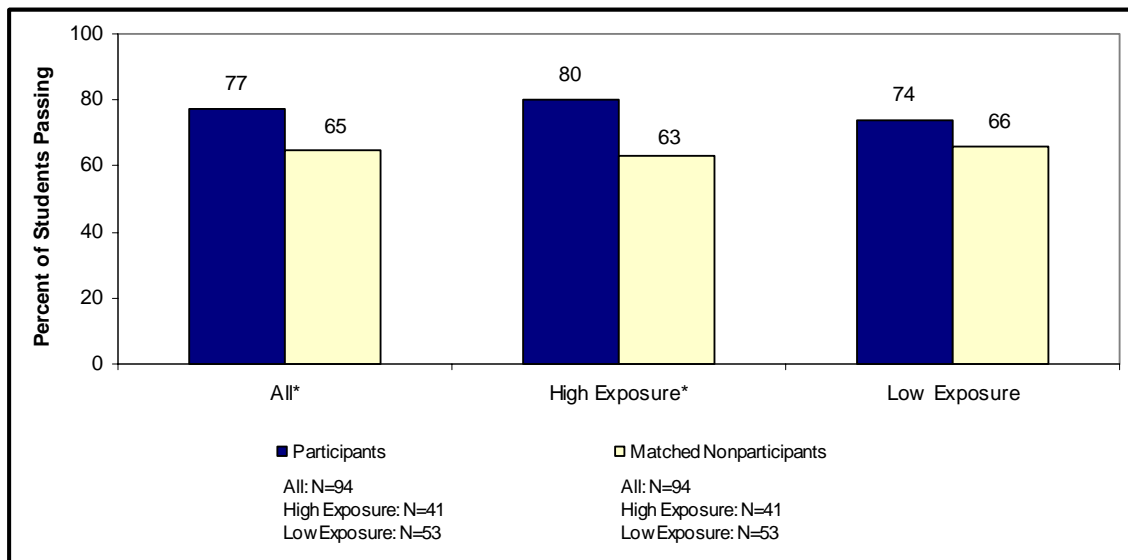
**Exhibit 21**  
**Percent of Former 8GA Participants Passing Ninth-Grade Mathematics Course in Third Marking Period, Compared with Matched Nonparticipants**



- Tenth grade.** When former 8th Grade Academy participants reached tenth grade, they demonstrated a significantly higher passing rate in tenth-grade math courses. Seventy-seven percent of participants passed their math class in the third marking period, compared with 65 percent of nonparticipants (see Exhibit 22). Students with high levels of program exposure had higher passing rates than matched nonparticipants, at a

statistically significant level. Eighty percent of participants with high levels of program exposure passed their math course in the third marking period, compared with 63 percent of nonparticipants. Participants with low levels of program exposure did not outperform their matched nonparticipants on this measure at a statistically significant level. A slightly higher percentage of participants earned As or Bs in their math courses in the tenth grade, compared with matched nonparticipants, although the difference was not statistically significant (36 percent of participants, compared with 28 percent of matched nonparticipants).

**Exhibit 22**  
**Percent of Former 8GA Participants Passing Tenth-Grade Mathematics Course in Third Marking Period, Compared with Matched Nonparticipants**



- Eleventh grade.** Former 8th Grade Academy participants passed eleventh-grade math courses at a higher rate than matched nonparticipants, although the difference was not statistically significant. Overall, 85 percent of participants passed math in the third period, compared with 73 percent of matched nonparticipants.

## Achievement on the Tenth-Grade MCAS

In order to graduate from high school, Massachusetts students must pass the tenth-grade English/Language Arts MCAS and Mathematics MCAS tests by scoring at the needs improvement, proficient, or advanced level on both tests. As indicated by the state definition of “passing,” a student may pass the exam without achieving a “proficient” level of content mastery. If a student does not pass on the first try, he or she

may retake the test during the eleventh- or twelfth-grade year. This section reports passing rates based on the highest proficiency level earned by participants and matched nonparticipants on these tests during high school.<sup>10</sup> In addition to reporting on passing rates, this section also reports the proportion of students scoring at the proficient level or above.

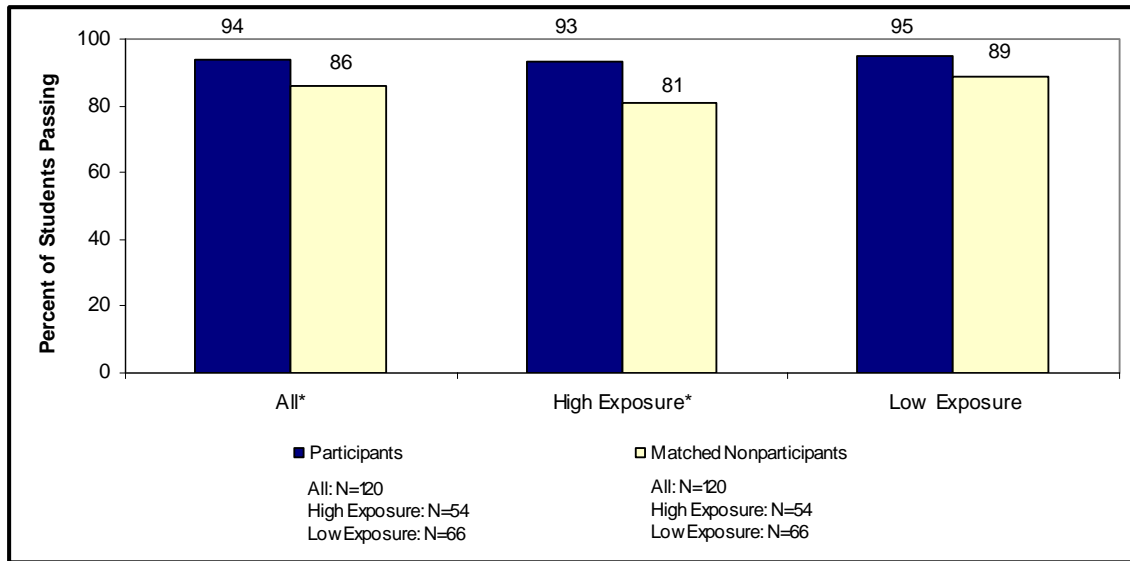
Former 8th Grade Academy participants passed the tenth-grade English/Language Arts MCAS at a significantly higher rate than did matched nonparticipants. They were also more likely to achieve proficiency than matched nonparticipants on the English/Language Arts MCAS. However, these patterns were not evident for the tenth-grade Mathematics MCAS.

- ***Tenth-grade ELA MCAS.*** Ninety-four percent of former 8th Grade Academy participants passed the English/Language Arts MCAS, compared with 86 percent of matched nonparticipants (see Exhibit 23). Participants also achieved proficiency at a higher rate than nonparticipants. Forty-five percent of former 8th Grade Academy participants achieved proficiency on the English/Language Arts MCAS, compared with 32 percent of matched nonparticipants (see Exhibit 24). These differences were statistically significant. Among participants with high levels of program exposure, 93 percent passed the English/Language Arts MCAS, compared with 81 percent of matched nonparticipants. The difference was statistically significant. Participants with low levels of program exposure achieved proficiency at a significantly higher rate than matched nonparticipants (50 percent, compared with 29 percent, respectively).
- ***Tenth-grade Mathematics MCAS.*** Although nonparticipants passed and achieved proficiency on the tenth-grade Mathematics MCAS at slightly higher rates than matched nonparticipants, the differences were not statistically significant (see Exhibits 25 and 26).

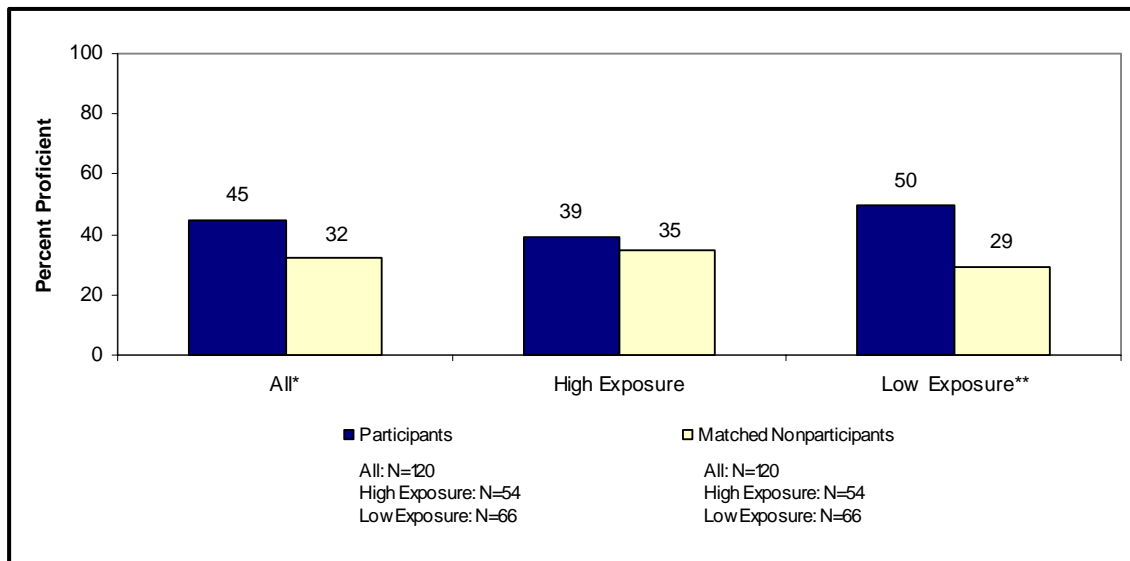
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<sup>10</sup> Ninety-eight percent of participants and 97 percent of matched nonparticipants who passed the tenth-grade Mathematics MCAS did so on the first attempt (i.e., in tenth grade). For the tenth-grade English/Language Arts MCAS, 97 percent of both groups who passed the test did so on the first attempt.

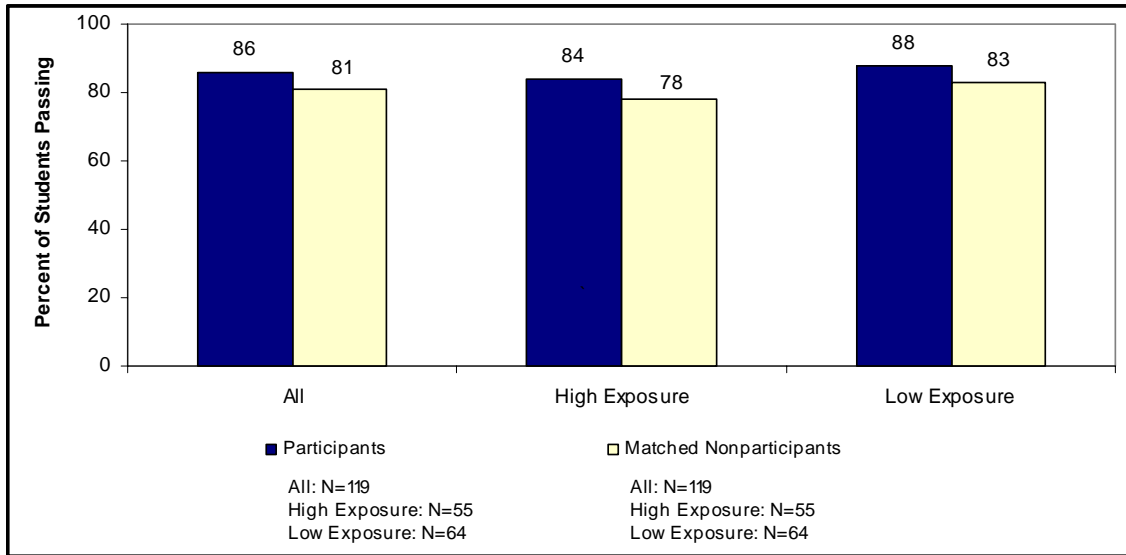
**Exhibit 23**  
**Percent of Former 8GA Participants Passing Tenth-Grade ELA MCAS, Compared with Matched Nonparticipants**



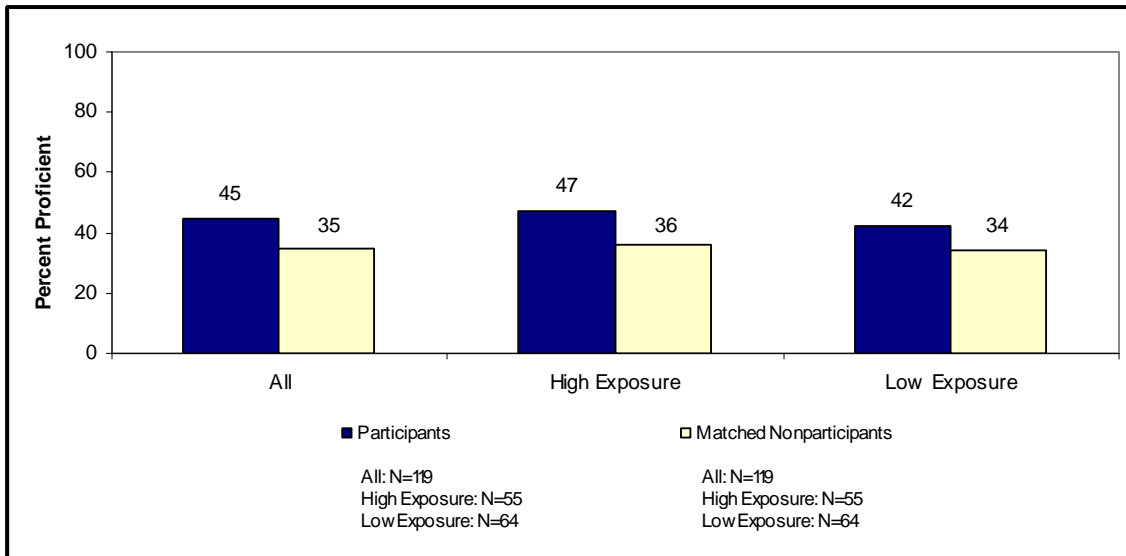
**Exhibit 24**  
**Percent of Former 8GA Participants Achieving Proficiency on Tenth-Grade ELA MCAS, Compared with Matched Nonparticipants**



**Exhibit 25**  
**Percent of Former 8GA Participants Passing Tenth-Grade Math MCAS,**  
**Compared with Matched Nonparticipants**



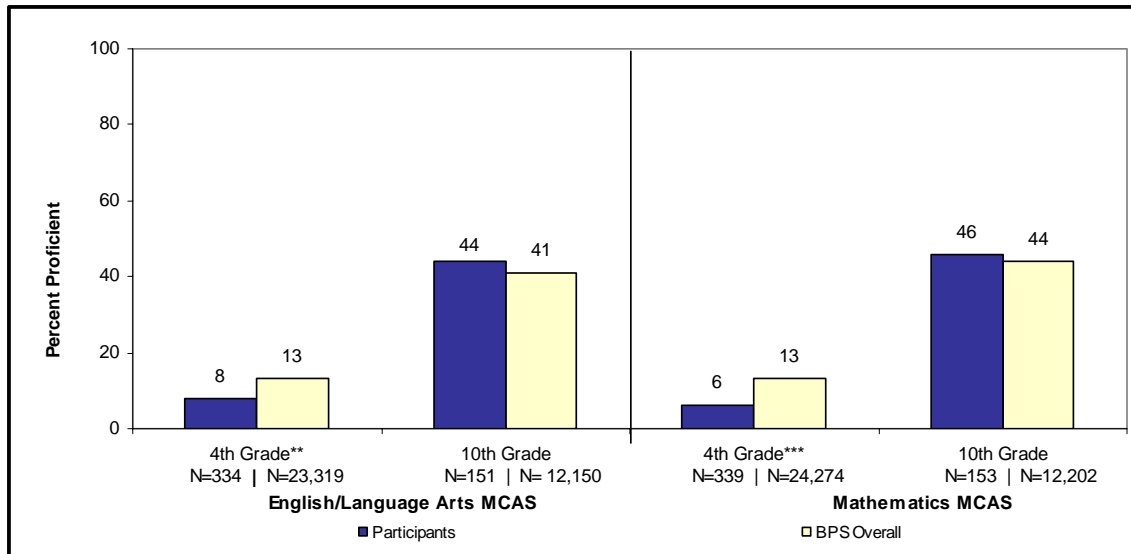
**Exhibit 26**  
**Percent of Former 8GA Participants Achieving Proficiency**  
**on Tenth-Grade Math MCAS, Compared with Matched Nonparticipants**



Using the same approach as in Chapter 2 of this report, the evaluation calculated the percent of BPS students who achieved proficiency on the tenth-grade English/Language Arts MCAS and Mathematics MCAS (i.e., scored at the proficient or advanced levels) during the years in which participants took these tests<sup>11</sup> and compared it to the percent of 8th Grade Academy former participants who scored at these levels in the fourth grade, prior to Citizen Schools participation. The analysis also compared the performance of Citizen Schools participants to all BPS students in the relevant years. As described earlier in this report, this analysis provides insight on how Citizen Schools participants as a group fared in fourth grade in comparison to the district’s fourth-grade population, and how 8th Grade Academy participants in the tenth grade fared in comparison to the district’s tenth-grade population.

During their fourth-grade year, 8th Grade Academy participants were significantly less likely than BPS students overall to achieve proficiency on the fourth-grade English/Language Arts and Mathematics MCAS tests (see Exhibit 27). Eight percent of participants achieved proficiency on the English/Language Arts MCAS, compared with 13 percent of BPS students overall. On the fourth-grade Mathematics MCAS, 6 percent of participants scored at the proficient level or above, compared with 13 percent of BPS students. By tenth grade, there were no statistically significant differences between participants and students in BPS in terms of proficiency, indicating that similar percentages of students in these groups scored at the proficient or advanced levels.

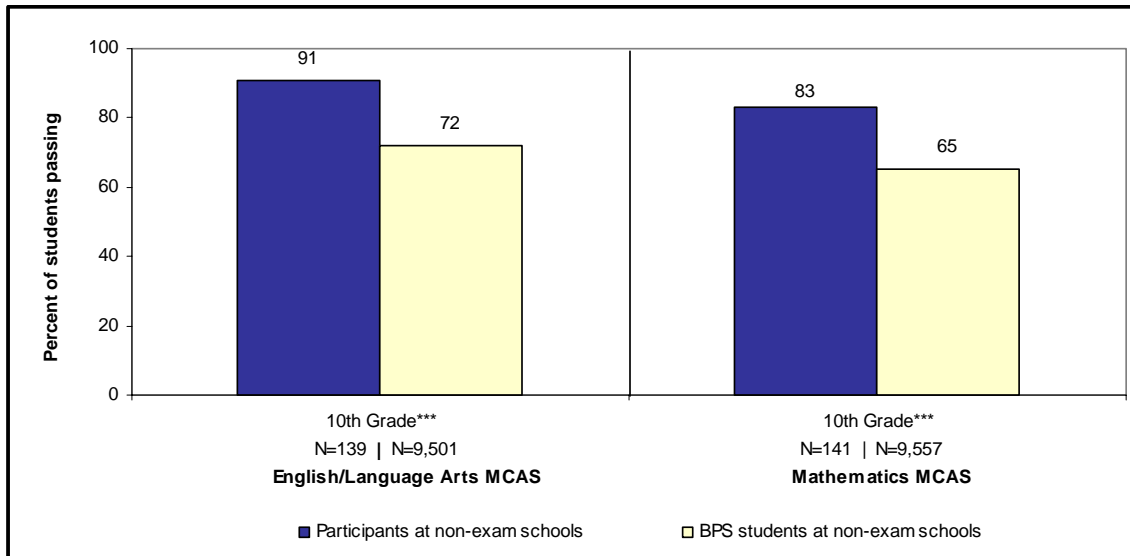
**Exhibit 27**  
**Percent of Former 8GA Participants Achieving Proficiency**  
**on Fourth- and Tenth-Grade MCAS, Compared with BPS Students**



<sup>11</sup> Participants took the fourth-grade MCAS Mathematics test at some point between spring 1998 and spring 2000 and the tenth-grade MCAS Mathematics test at some between spring 2003 and spring 2006.

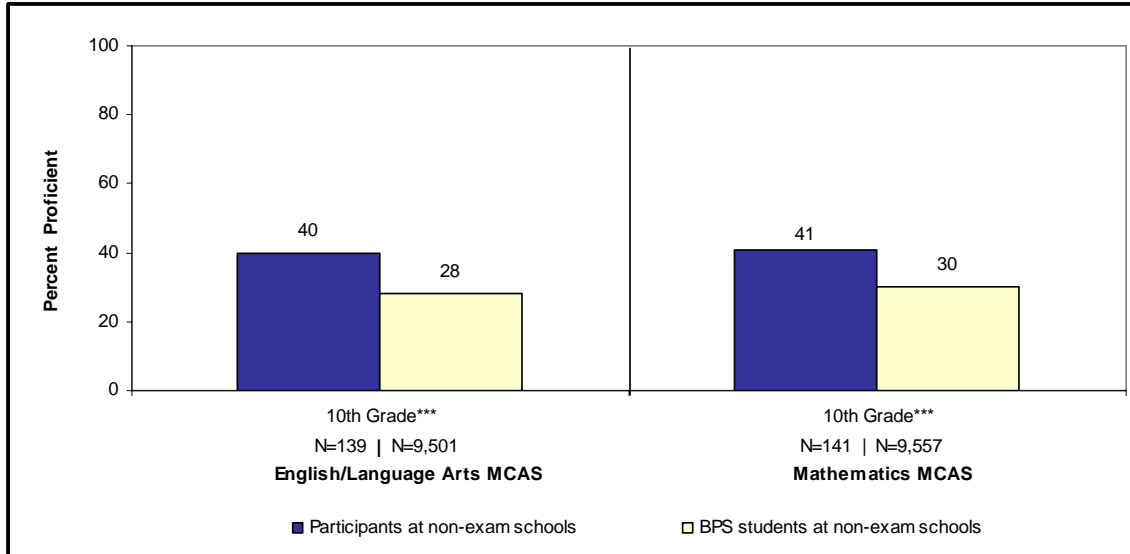
About 22 percent of the students represented in the tenth-grade BPS comparison group in Exhibit 27 attended BPS examination schools, which are schools that grant admission to higher-achieving students based on entrance exams and grade point average requirements. Students in these schools typically score well above the district average on the tenth-grade MCAS exams.<sup>12</sup> In contrast, less than 10 percent of former 8th Grade Academy participants represented in the MCAS analysis attended these schools. In order to control for this discrepancy and make comparisons to the more “typical” BPS student, evaluators removed students attending BPS examination schools and reanalyzed the MCAS data. As expected, the tenth-grade MCAS proficiency rates for both groups decreased. When compared with BPS students who attended non-examination schools, a significantly higher percentage of former 8th Grade Academy participants at non-examination schools passed and achieved proficiency on the English/Language Arts and Mathematics MCAS in tenth grade (see Exhibits 28 and 29).

**Exhibit 28**  
**Percent of Former 8GA Participants Passing**  
**Tenth-Grade MCAS, Compared with BPS Students,**  
**with Students in BPS Exam Schools Excluded from Both Groups**



<sup>12</sup> Massachusetts Department of Education (2007, October). MCAS Report (SCHOOL). Retrieved December 19, 2007, from <http://profiles.doc.mass.edu/MCAS.aspx>.

**Exhibit 29**  
**Percent of Former 8GA Participants Achieving Proficiency**  
**on Tenth-Grade MCAS, Compared with BPS Students,**  
**with Students in BPS Exam Schools Excluded from Both Groups**



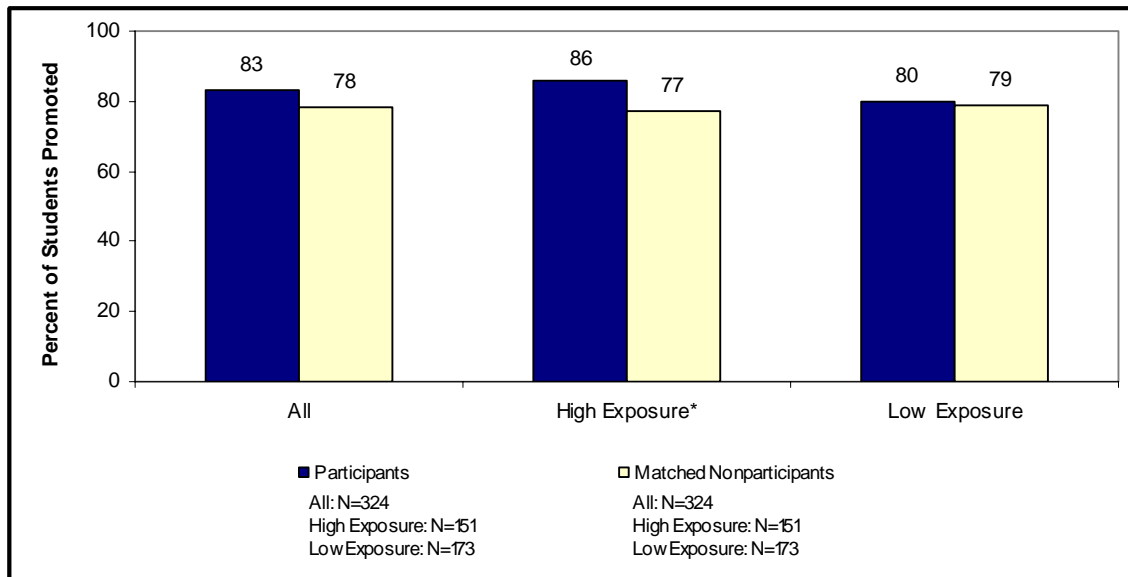
## 6. Progress Toward Graduation

Former 8th Grade Academy participants made positive progress towards graduation in their early high school years. This chapter presents the rate of on-time promotion to tenth grade and an “on-track” indicator of whether students are likely to graduate from high school on time. Overall, a higher percentage of participants were on-track to graduate, compared with matched nonparticipants.

### On-time Promotion to Tenth Grade

Former 8th Grade Academy participants with high levels of program exposure were promoted to tenth grade on time at a significantly higher rate than were matched nonparticipants (86 percent, compared with 77 percent), as shown in Exhibit 30. Participants overall and those with low levels of program exposure did not outperform matched nonparticipants at a statistically significant level on this measure.

**Exhibit 30**  
**Percent of Former 8GA Participants Promoted On Time to Tenth Grade, Compared with Matched Nonparticipants**



## Analysis Using the On-track Indicator

Numerous researchers have studied the antecedent student behaviors associated with high school graduation. Some of these researchers—including Roderick (1993), Allensworth and Easton (2005, 2007), and Balfanz, Herzog, and MacIver (2007)—have created indicators that measure whether students are on track to complete high school on time. This chapter presents the analysis of the evaluation’s indicator of likely high school graduation.

The work of Allensworth and Easton (2005, 2007) is especially relevant to analyses of Citizen Schools former participants’ progress toward graduation. Allensworth and Easton found student characteristics in the transition year of ninth grade to be especially important in predicting graduation status. Based on their study of students in the Chicago Public Schools, Allensworth and Easton created an on-track indicator that considered students’ promotion from ninth to tenth grade and their failures in core subjects in ninth grade. The resulting on-track indicator correctly identified graduates and non-graduates 80 percent of the time, based on their analyses in Chicago. The indicator created for this evaluation and based on Allensworth and Easton’s research incorporates measures of grade promotion and final core-course grades. In this evaluation, former 8th Grade Academy participants and matched nonparticipants were considered to be on track for high school graduation if they were promoted to tenth grade on time and did not fail either math or English in ninth grade.

Using this on-track definition, evaluators found that former 8th Grade Academy participants were more likely to be on track to high school graduation than were matched nonparticipants. Sixty-two percent of former participants were on track to graduation, compared with 52 percent of matched nonparticipants (see Exhibit 31). This difference of ten percentage points was statistically significant. The greatest effect was seen among participants with high levels of program exposure. Seventy-one percent of these students were on track to high school graduation, compared with 52 percent of nonparticipants.

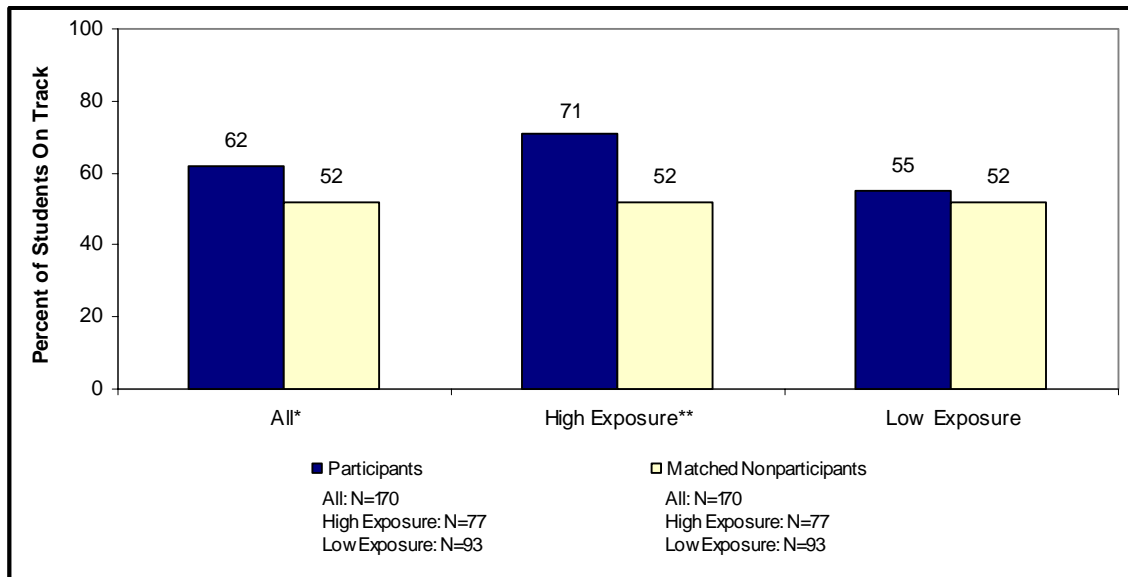
Sufficient data on 8th Grade Academy participants’ actual high school graduation status are not available at this point in the evaluation to test the accuracy of this predictive indicator, preventing evaluators from comparing predicted graduation rates based on the on-track indicator to actual high school graduation rates of students in the evaluation sample. However, evaluators did examine how the predicted graduation rates of Citizen Schools participants compared with actual graduation rates among BPS students as a whole. BPS describes a four-year graduation rate of the BPS class of 2006 at 59 percent (when transfers in and out are included).<sup>13</sup> Exhibit 32 plots the “on-track” to graduation

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<sup>13</sup> BPS Communications Office (2007, September). Boston Public Schools at a Glance 2007-2008. BPS FACTS, No. 11. Retrieved October 22, 2007, from <http://boston.k12.ma.us/bps/BPSglance.pdf>.

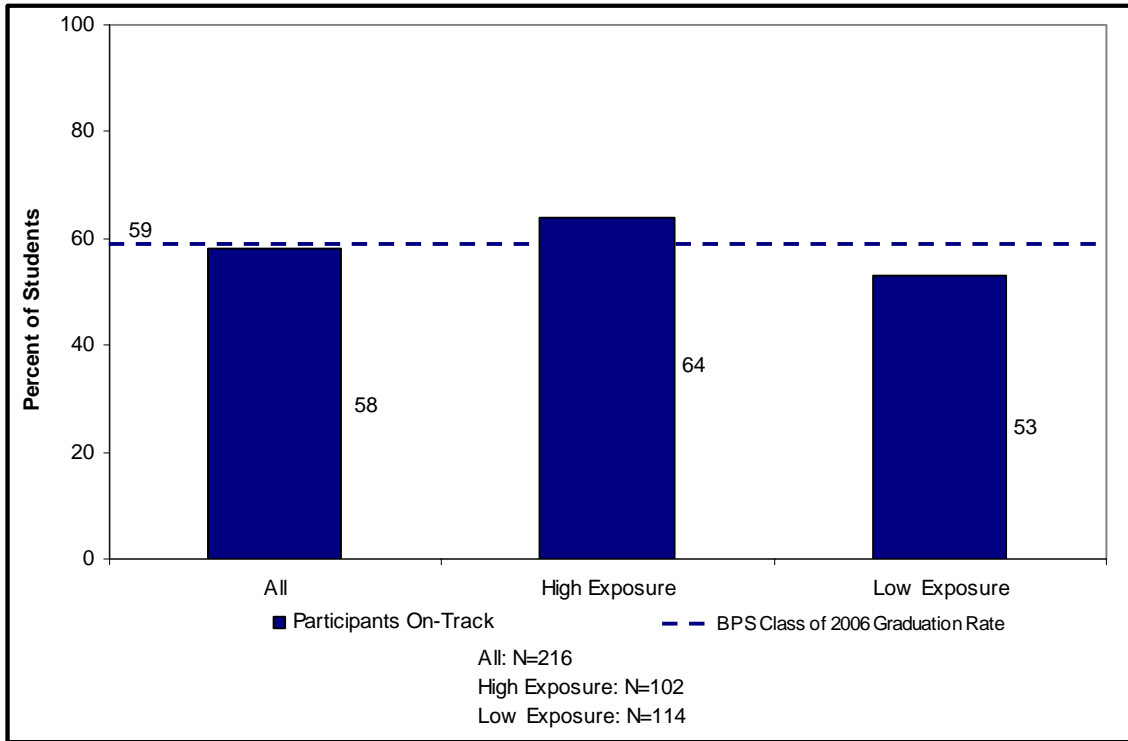
rates for Citizen Schools participants against the 2006 BPS graduation rate.<sup>14</sup> Participants with high levels of program exposure are predicted to graduate at a similar rate as the BPS Class of 2006. This finding suggests that the very disadvantaged population of Citizen Schools participants has made good progress in achieving expected rates of high school graduation that approximate the actual graduation rate of the BPS Class of 2006.

**Exhibit 31  
Percent of Participants on Track to Graduation,  
Compared with Matched Nonparticipants**



<sup>14</sup> This analysis includes all 8th Grade Academy participants for whom the evaluation had sufficient data to calculate the on-track indicator. The sample size for this analysis is larger than for the matched-comparison analysis of the on-track indicator (Exhibit 31). In that exhibit, a participant is only included in analysis if his/her individually matched nonparticipant has valid on-track data.

**Exhibit 32**  
**Percent of Former 8GA Participants on Track to Graduation,**  
**Compared with the 2006 Boston Public Schools Graduation Rate**



## 7. Conclusion

Evidence from Phase V of the evaluation suggests that Citizen Schools is continuing to boost the academic engagement and achievement of educationally at-risk students. As seen in Exhibit 33, participation in Citizen Schools' 8th Grade Academy was associated with positive outcomes on many ninth- and tenth-grade academic success measures.

Former 8th Grade Academy participants enrolled in high-quality high schools at a significantly higher rate than matched nonparticipants. Even though many former participants attended high-quality high schools with noteworthy academic demands, former participants continued to be academically engaged and successful in ninth and tenth grade. Former 8th Grade Academy participants also attended school at a higher rate than matched nonparticipants in ninth and tenth grade. Participants were more likely than matched nonparticipants to pass their third-period English course in ninth grade and third-period mathematics course in tenth grade. In tenth grade, former 8th Grade Academy participants' academic success was reflected in MCAS performance. Participants outperformed matched nonparticipants on the English/Language Arts MCAS assessment.

Findings from Phase V also show that Citizen Schools is making progress in supporting grade promotion and high school graduation. Former 8th Grade Academy participants with high levels of program exposure had a significantly higher rate of on-time promotion to tenth grade than did matched nonparticipants. Participants' progress toward on-time graduation looks promising. Participants overall and those with high levels of program exposure were significantly more likely to be "on-track" to graduation than matched nonparticipants.

In addition to outperforming a group of matched nonparticipants on several of the evaluation's indicators of high school success, former Citizen School participants were more likely to pass the tenth-grade Mathematics and English/Language Arts MCAS tests than were students district-wide. This finding is particularly noteworthy considering that participants as a group were more academically at-risk than the general BPS population at baseline. Participants were also more likely than students district-wide to enroll in high-quality high schools in ninth grade.

Evaluators will continue to collect data through the 2007-08 school year on the 448 former Citizen Schools participants and matched nonparticipants included in the current sample and will report yearly on their progress through high school. Subsequent reports will present findings on participants in the larger context of district- and state-wide academic engagement and achievement where available. The evaluation will culminate with a final summary report in summer 2010 that presents the full set of findings from the longitudinal evaluation.

**Exhibit 33**  
**Former 8GA Participants' Performance on Early High School Success Measures, Compared with Matched Nonparticipants**

Indicator	Ninth Grade			Tenth Grade		
	All	High Exposure	Low Exposure	All	High Exposure	Low Exposure
Selection of a high-quality high school	✓***	✓***	✓***	N/A	N/A	N/A
Attendance	✓***	✓***	✓*	✓**	✓**	✓*
Suspension	✓	✓**	✓		✓	
Pass English course in third marking period	✓**	✓**	✓			
Pass math course in third marking period	✓	✓	✓	✓*	✓*	✓
Pass English/Language Arts tenth-grade MCAS	N/A	N/A	N/A	✓*	✓*	✓
Pass math tenth-grade MCAS	N/A	N/A	N/A	✓	✓	✓
On-time promotion to tenth grade	✓	✓*	✓	N/A	N/A	N/A
On-track to graduation	✓*	✓**	✓	N/A	N/A	N/A

- ✓ Finding is in the right direction, although not statistically significant
- ✓\* Participants outperformed matched nonparticipants,  $p < .05$
- ✓\*\* Participants outperformed matched nonparticipants,  $p < .01$
- ✓\*\*\* Participants outperformed matched nonparticipants,  $p < .001$
- N/A Measure not appropriate for this grade level

Exhibit reads: In ninth grade, former 8th Grade Academy participants selected high-quality high schools at a significantly higher rate than matched nonparticipants. The difference was statistically significant at the  $p < .001$  level.

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**Appendix A**  
**Summary of Findings Through Phase IV**

Evidence from the first four years of the evaluation showed that Citizen Schools has been successful in attracting and retaining educationally at-risk students and in putting these students on a path toward academic and social success. In the first three years, evaluators collected survey data about students' experiences with Citizen Schools. Participants reported they felt a strong sense of connection to the program, experienced positive relationships with adults and peers, and had opportunities to take on leadership roles. In developing these relationships, they learned valuable skills for navigating their way through high school, in terms of both the social and educational settings they would face.

Additionally, in the early phases of the evaluation, evaluators found that participants' performance on educational indicators suggested students were on track to achieve the short-term outcomes that Citizen Schools desired for them during their middle school years (see Exhibit A-1). For most short-term indicators of academic success, Citizen Schools had a positive impact on middle school students. In particular, based on data from three cohorts of first-year participants, Citizen Schools had a positive impact on school attendance and promotion rates, reduction of suspension rates, and seventh-grade MCAS scores on the English Language Arts test.

**Exhibit A-1**  
**Participants' Performance on Middle-School Success Measures,**  
**Compared with Matched Nonparticipants, as Reported in Phase III**

		School Attendance	School Suspension	Promotion to Next Grade	English Course Grade	Math Course Grade	MCAS ELA	MCAS Mathematics
<b>Sixth- and Seventh-Grade Participants During First Year</b>	All	✓***	✓***	✓*	✓		✓*	
	High Exposure	✓***	✓***	✓**	✓***	✓*	✓**	
	Low Exposure						✓	
<b>Seventh-Grade Participants in Their Second Year</b>	All	✓	✓	✓		✓**		N/A
	High Exposure	✓*	✓			✓*		N/A
	Low Exposure	✓	✓	✓	✓	✓	✓	N/A
<b>8th Grade Academy Participants</b>	All	✓**	✓	✓**	✓	✓	N/A	✓**
	High Exposure	✓**		✓**	✓	✓	N/A	✓*
	Low Exposure	✓	✓	✓	✓		N/A	✓*

- ✓ Finding is in the right direction, although not statistically significant
- ✓\* Participants outperformed matched nonparticipants,  $p < .05$
- ✓\*\* Participants outperformed matched nonparticipants,  $p < .01$
- ✓\*\*\* Participants outperformed matched nonparticipants,  $p < .001$

Among the majority of first-year students who attended regularly for one year, Citizen Schools also had a positive impact on mathematics and English grades. For students who continued participating in Citizen Schools for a second or third year in the seventh or eighth grades,

analysis also revealed positive impacts. Citizen Schools had a positive impact on the mathematics grades of returning students in the seventh grade and on eighth-grade MCAS Mathematics scores, school attendance, and promotion rates.

Phase IV of the evaluation, which focused on students’ transition to and progress in high school, revealed that participation in Citizen Schools was associated with increased levels of student engagement and achievement in high school (see Exhibit A-2). In particular, former 8th Grade Academy participants at all levels of program exposure enrolled in high-quality high schools at about twice the rate of matched nonparticipants. During their ninth-grade year, former participants overall earned higher grades than matched nonparticipants in English courses. Participants with high levels of program exposure were suspended less often than matched nonparticipants and were promoted on time to the tenth grade at higher rates than matched nonparticipants. On most of the measures where the evaluation did not find statistically significant differences between participants and matched nonparticipants in the ninth grade, findings favored participants.

**Exhibit A-2**  
**Participants’ Performance on Ninth-Grade Success Measures,**  
**Compared with Matched Nonparticipants, as Reported in Phase IV**

Indicator	Former 8th Grade Academy Participants		
	All	High Exposure	Low Exposure
Selection of a high-quality high school	✓***	✓***	✓***
Ninth-grade attendance	✓*	✓	✓
Ninth-grade suspension	✓	✓**	
Ninth-grade third-marking period English course grade	✓*	✓*	✓
Ninth-grade third-marking period math course grade	✓	✓	✓
On-time promotion to tenth grade	✓	✓*	✓

- ✓ Finding is in the right direction, although not statistically significant
- ✓\* Participants outperformed matched nonparticipants, p<.05
- ✓\*\* Participants outperformed matched nonparticipants, p<.01
- ✓\*\*\* Participants outperformed matched nonparticipants, p<.001

## **Appendix B**

### **Analytic Approach**

## Measuring Impact

To analyze program impact over time, the evaluation employs a quasi-experimental design that compares the school engagement and academic achievement of Citizen Schools participants to a group of similar students who do not participate in the after-school program. Given the benefits of individual matching, the evaluation employs a one-to-one matching technique whereby matched nonparticipants are selected based on their similarity to an individual Citizen Schools participant. The records that the evaluators receive on matched nonparticipants are stripped of individual identifiers but include a scrambled identification number to permit linkage of nonparticipant records from year to year.

To analyze the impact of Citizen Schools participation on school engagement and academic achievement, participants are compared with matched nonparticipants using paired samples t-tests with a one-tailed test of significance (i.e., the evaluation tests whether participants outperform matched nonparticipants and not vice versa). Both the participant and his/her individually matched nonparticipant must have valid data on a measure to be included in the analysis for that measure. Analyses comparing participants to students district-wide are based on two-tailed tests of significance (i.e., the evaluation tests whether participants perform differently than BPS students overall).

## Identifying a Pool of Potential Comparison Students

Many factors are statistically associated with students' school engagement and academic achievement, including family income, gender, race, and eligibility for specialized educational services, such as special education and bilingual education. Therefore, to measure the impact of Citizen Schools participation, analyses must compare participants and nonparticipants who are similar in terms of these and other characteristics. To select such matches, PSA and Citizen Schools identified and ranked a set of characteristics to serve as the matching criteria. In consultation with PSA, a programmer in the BPS Office of Information Services selected the matched nonparticipants based on these matching criteria and prepared the data files of participants and nonparticipants that the evaluators analyzed and present in this report. Given the high rate of student mobility in the BPS system and the fact that the evaluation would not be able to follow-up with nonparticipants, the programmer was asked to identify three matched nonparticipants for every one participant.

The matching criteria included the following characteristics: gender, race, grade in school, eligibility for free or reduced-price lunch, student test scores on the fourth-grade MCAS tests in mathematics and English Language Arts, school attended, bilingual education status, and special education status. With the exception of constants like gender, race, and students' scores on the fourth-grade MCAS tests, these data were to be based on the year prior to a student's participation in the evaluation. Five of the characteristics—gender, race, grade in school, free or reduced-price lunch eligibility, and MCAS test scores—were to serve as the core matching variables. Ideally, a

nonparticipant would match a participant exactly on each of these variables. The remaining characteristics were then to be considered in the following order of priority: school and then bilingual status and special education status.

## **Comparing Participants with Matched Nonparticipants Over Time**

The availability of three matched participants mitigates the effect of attrition and allows the evaluation to continue to compare participants against a statistically similar comparison group of the same size. The evaluation ranks each participant's three nonparticipant matches based on how similar they are to the participant on the matching criteria detailed above.<sup>15</sup> Whenever possible, participants are compared to their most similar nonparticipant match. Over the course of the evaluation, as students progress through the BPS system, it sometimes becomes necessary to compare a participant to his/her second or third most similar nonparticipant. This replacement occurs if a matched nonparticipant leaves the BPS system. This means that a participant's matched nonparticipant may change from year to year (i.e., they are compared to a different nonparticipant in the ninth-grade and tenth-grade analyses) but not within a year (i.e., a participant is assigned the same match for the analysis of ninth-grade suspension and ninth-grade course grades). Exhibit B-1 shows the percent of participants in each analysis section of the report that were paired with their first, second, or third most similar matched nonparticipant.<sup>16</sup>

The evaluation is unable to track nonparticipants once they leave the BPS system and does not obtain accurate information on these students' reasons for leaving BPS. Therefore, it is unknown whether a participant's original matched nonparticipant fares worse (e.g., because he or she dropped out of school) or better (e.g., because he or she transferred to a high-quality private school), compared with the replacement matched nonparticipant. The evaluation may be under- or over-estimating the impact of Citizen Schools on academic performance and engagement as a result of this aspect of the evaluation design. Citizen Schools reviewers believe that matched nonparticipants who leave the BPS system are more likely to experience negative outcomes than are Citizen Schools participants who remain in the evaluation. They believe that the replacement of matches over the course of the evaluation often masks negative outcomes on the part of original matches and therefore results in an underestimate of Citizen Schools' impact.

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<sup>15</sup> In addition to the matching criteria, students without fourth-grade MCAS scores were ranked using course grades from the first marking period in the year prior to participation in the evaluation.

<sup>16</sup> The eighth-grade analysis section consists of analyses of eighth-grade school attendance, suspension, course grades, and the eighth-grade MCAS. The ninth-grade section includes analyses of high school selection, ninth-grade school attendance, suspension, course grades, and on-time promotion. The tenth-grade section includes analyses of tenth-grade school attendance, suspension, course grades, and the tenth-grade MCAS. The eleventh-grade section includes analyses of eleventh-grade school attendance, suspension, and course grades.

**Exhibit B-1**  
**Percent of Participants in Analysis Pool Matched to**  
**First, Second, and Third Most Similar Matched Nonparticipant**

<b>Grade Level</b>	<b><i>N</i></b>	<b><i>First Match</i></b>	<b><i>Second Match</i></b>	<b><i>Third Match</i></b>
Eighth-grade analysis	447	86%	12%	2%
Ninth-grade analysis	422	82%	15%	3%
Tenth-grade analysis	166	70%	24%	7%
Eleventh-grade analysis	74	74%	14%	12%

We made an important change to the matching process in Phase V in order to minimize the need to replace matches and increase the sample size. In Phase V, unlike earlier phases, students are included in analysis regardless of on-time promotion.<sup>17</sup> For example, the analyses of tenth-grade indicators in this report may include tenth-graders who were promoted on time to the tenth grade as well as tenth-graders who repeated the eighth or ninth grade. In cases where students repeated the tenth grade, we analyzed data from their first tenth-grade year only. As a result of this change, the analysis sample size increased as participant/matched-nonparticipant pairs that were excluded in previous phases because one or both of them were not promoted on time were included in Phase V analyses.

As shown in Exhibit B-2, the groups of matched nonparticipants and participants included in each analysis section are similar on all matching and ranking criteria. Among both groups within each section, about three-quarters are African American, between 16 and 18 percent are Hispanic, and the remaining students are either Asian, Native American, or white. About half of participants and matched nonparticipants are female, except for the eleventh-grade analysis sample, where 62 percent of both participants and matched nonparticipants are female. Nearly equal percentages of participants and matched nonparticipants were eligible for free- or reduced-price lunch (between 85 and 90 percent), enrolled in special education (about 20 percent), and enrolled in bilingual education (less than 3 percent) at baseline within each section. Participants and matched nonparticipants scored at proficiency on their fourth-grade MCAS English Language Arts and mathematics exams at similar rates. No statistically significant differences between participants and matched nonparticipants were found within any of the four analysis groups.

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<sup>17</sup> Among the 422 participants and matched nonparticipants included in analysis of at least one of the ninth-grade indicators in this report, 2 percent of participants and 8 percent of matched nonparticipants were not promoted on time prior to the ninth grade. For the 166 participants and matched nonparticipants included in analysis of at least one tenth-grade indicator, 4 percent of participants and 6 percent of matched nonparticipants were not promoted on time prior to the tenth grade.

**Exhibit B-2**  
**Demographics and Prior Achievement of Participants and Matched Nonparticipants**

Characteristic	Eighth-Grade Analysis		Ninth-Grade Analysis		Tenth-Grade Analysis		Eleventh-Grade Analysis	
	Citizen Schools Participants	Matched Non-participants	Citizen Schools Participants	Matched Non-participants	Citizen Schools Participants	Matched Non-participants	Citizen Schools Participants	Matched Non-participants
<b>Race/Ethnicity</b>	<i>N=447</i>	<i>N=447</i>	<i>N=422</i>	<i>N=422</i>	<i>N=166</i>	<i>N=166</i>	<i>N=74</i>	<i>N=74</i>
African American	77%	77%	77%	77%	75%	75%	77%	77%
Asian	2%	2%	2%	2%	2%	2%	1%	1%
Hispanic	17%	17%	17%	17%	18%	18%	16%	16%
Native American	1%	1%	1%	1%	1%	1%	0%	0%
White	4%	4%	4%	4%	4%	4%	5%	5%
<b>Gender</b>	<i>N=447</i>	<i>N=447</i>	<i>N=422</i>	<i>N=422</i>	<i>N=166</i>	<i>N=166</i>	<i>N=74</i>	<i>N=74</i>
Female	50%	50%	51%	51%	51%	51%	62%	62%
Male	50%	50%	49%	49%	49%	49%	38%	38%
<b>Free- or Reduced-Price Lunch Eligibility</b>	<i>N=392</i>	<i>N=385</i>	<i>N=371</i>	<i>N=363</i>	<i>N=139</i>	<i>N=136</i>	<i>N=61</i>	<i>N=60</i>
Eligible for FRPL	85%	90%	85%	91%	85%	90%	87%	88%
<b>Special Education Status</b>	<i>N=447</i>	<i>N=447</i>	<i>N=422</i>	<i>N=422</i>	<i>N=166</i>	<i>N=166</i>	<i>N=74</i>	<i>N=74</i>
Enrolled in special education	23%	20%	23%	20%	22%	21%	22%	20%
<b>Bilingual Education Program Status</b>	<i>N=447</i>	<i>N=447</i>	<i>N=422</i>	<i>N=422</i>	<i>N=166</i>	<i>N=166</i>	<i>N=74</i>	<i>N=74</i>
Enrolled in bilingual education	3%	2%	3%	2%	1%	1%	3%	1%
<b>Fourth-Grade MCAS ELA</b>	<i>N=333</i>	<i>N=366</i>	<i>N=314</i>	<i>N=345</i>	<i>N=134</i>	<i>N=145</i>	<i>N=64</i>	<i>N=71</i>
Percent proficient	8%	10%	8%	9%	1%	2%	2%	3%
<b>Fourth-Grade MCAS Math</b>	<i>N=338</i>	<i>N=369</i>	<i>N=319</i>	<i>N=348</i>	<i>N=134</i>	<i>N=145</i>	<i>N=64</i>	<i>N=71</i>
Percent proficient	6%	5%	6%	5%	9%	8%	14%	11%