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When Schools Stay Open Late: The National Evaluation of the 21st Century Community Learning Centers Program

Final Report

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Abstract

Citation:

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Background: The 21st Century Community Learning Centers program has supported after-school programs since 1998. Research on the effects of after-school programs has been inconclusive, leading to an ongoing debate about the effects of after-school programs.

Purpose: To examine the implementation of the 21st Century Community Learning Centers after-school program and assess its impacts on students. Earlier reports from this study presented findings based on two school years of data for middle school students and one school year of data for elementary school students. Key impact findings from the first report include no improvement in homework completion, limited effects on academic outcomes, no reduction in self-care, no improvements in safety and behavior, higher levels of parental involvement for the treatment group relative to the control group, and few effects on developmental outcomes. Key impact findings from the second report include higher levels of supervision by adults for treatment-group students relative to control-group students, lower levels of supervision by siblings for treatment-group students relative to control-group students, no reduction in self-care, few impacts on academic outcomes, improved feelings of safety after school for elementary students in the treatment group relative to students in the control group, mixed evidence on negative behavior for middle school students, some impacts on parents of elementary students, and few impacts on developmental outcomes. The purpose of the current report is to present impact analyses based on two years of follow-up data for elementary students.

Setting: Twenty-six 21st Century centers in 12 school districts.

Subjects: A total of 2,308 elementary students eligible for and interested in attending a 21st Century Community Learning Center. A total of 973 students applied to 18 centers in fall 2000, and 1,335 applied to 8 centers in fall 2001.

Intervention: 21st Century centers typically offered homework sessions, academic activities, enrichment activities, such as art, drama, or music, and recreation activities.

Research Design: Randomized controlled field trial. Students were randomly assigned either to the 21st Century center group (1,258 students) or to a control group (1,050 students).

Control or Comparison Condition: Control students could participate in any other after-school activities and programs to which they were entitled or eligible, but they were not eligible to participate in 21st Century after-school centers for two years.

Data Collection and Analysis: Data on students' supervision after school, academic achievement, behavior, developmental outcomes, and feelings of safety after school were collected from parents, teachers, students, and school records in fall 2000 (baseline), spring 2001 (first followup), and spring 2002 (second followup) for the first cohort of students, and one year later for students who applied to centers in fall 2001. The Stanford Achievement Test in reading was administered at baseline and followup. Regression-adjusted impact estimates that compare the outcomes of treatment and control

students were calculated to assess differences between the 21st Century and control groups. We also collected implementation data from program staff and principals and conducted two visits to each site, once during each of the two years of the study.

Findings: Earlier analyses found few impacts of 21st Century programs. It was hypothesized that an additional year of follow-up data might show positive effects because students had the opportunity to participate for a second school year, and change in some outcomes might require more time than others. Analyses of an additional year of follow-up data do not yield support for this hypothesis. Treatment-group students were less likely than control-group students to be in parent care and more likely to be in the care of other adults, but they were no less likely than control-group students to be in self-care. Treatment-group students did not have higher levels of academic achievement as measured by reading test scores or grades in math, science, social studies, and English relative to control-group students. There was evidence of higher levels of negative behavior among the treatment group relative to the control group on multiple outcomes, including suspensions, teachers calling students' parents about behavior, and students being disciplined by teachers. There were mixed effects on developmental outcomes. Treatment-group students had improved feelings of safety after school relative to control-group students.

Conclusions: This study finds that elementary students who were randomly assigned to attend the 21st Century Community Learning Centers after-school program were more likely to feel safe after school, no more likely to have higher academic achievement, no less likely to be in self-care, more likely to engage in some negative behaviors, and experience mixed effects on developmental outcomes relative to students who were not randomly assigned to attend the centers.

When Schools Stay Open Late: The National Evaluation of the 21st Century Community Learning Centers Program Final Report

Executive Summary

Various studies of after-school programs have reported that programs can increase academic achievement and student safety and reduce negative behaviors, such as drug and alcohol use. However, some studies have reported that after-school programs had no effect on some important outcomes and even worsened others, leading to a debate over whether the research evidence supports increased investment in after-school programs.

In 1994, Congress authorized the 21st Century Community Learning Centers (21st Century) program to open up schools for broader use by their communities. In 1998, the program was refocused on providing academic, enrichment, and recreational activities in public schools during the after-school hours (centers also could be open before school, on weekends, and during the summer). The program grew from an appropriation of \$40 million in 1998 to \$1 billion in 2002, where it has remained.

In 1999, the U.S. Department of Education (ED) selected Mathematica Policy Research, Inc. (MPR) and Decision Information Resources, Inc. to evaluate the 21st Century program. The challenge facing the national evaluation was to address three key questions about a rapidly growing and popular program at a level of rigor that would support policymakers in their efforts to further develop and enhance the program. The three questions were: (1) Did the program improve student outcomes, such as supervision after school, safety after school, academic achievement, behavior, and social and emotional development? (2) What types of students benefited the most? and (3) What were the features and characteristics of programs? The wide range of outcomes examined in the study was guided by program content and ED's priorities in the 21st Century program grant competitions, which called for programs to include extended learning opportunities, but also allowed them to include enrichment activities, such as recreation, music, and art.

To address these key questions, the evaluation conducted an impact study and an implementation study. Two different designs were used for the elementary and middle school impact studies. The elementary school study was based on random assignment, in which outcomes of students assigned to the centers were compared to outcomes of students not assigned to the centers. The elementary grantees and centers in our study were purposively selected because they could implement random assignment, and the results apply to these grantees and centers. The results should not be interpreted as findings from the universe of 21st Century centers serving elementary school students. The middle school study was based on a nationally representative sample of 21st Century programs serving middle school participants and a matched-comparison design, in which outcomes of students who participated in centers were compared to outcomes of similar students who did not. The results can be interpreted as findings from the universe of 21st Century centers serving middle school students (in the first three cohorts of grantees). Both the elementary and middle school studies followed all students in the treatment and control or comparison groups for two school years, with baseline data collection in

the fall and follow-up data collection in the two subsequent springs. Both studies collected implementation data, mainly through visits to centers in both school years.

In its first year of data collection, the evaluation collected baseline and first follow-up data for roughly 1,000 elementary students in 18 centers in 7 school districts, and 4,300 middle school students in 61 schools in 32 school districts (baseline data were collected in fall 2000, and first follow-up data were collected in spring 2001). The evaluation's first report, released in February 2003, includes findings based on these data (Dynarski et al. 2003).

In its second year of data collection, the evaluation added a second cohort of elementary school students from 8 centers (administering the baseline surveys in fall 2001 and first follow-up surveys in spring 2002 to these new students), and conducted the second and final follow-up data collection for middle school students and the first cohort of elementary school students (second follow-up data for these students were collected in spring 2002). First follow-up data from the first and second cohorts of elementary students also were combined. Findings from these data—the full first follow-up sample for elementary school students and the full second follow-up sample for middle school students—were reported in Dynarski et al. (2004) (hereafter, referred to as the second report).

In spring 2003, during the evaluation's third and final year of data collection, the study collected the second and final year of follow-up data for the second cohort of elementary students. The second follow-up data for the two elementary school cohorts were then combined. This report analyzes these second follow-up data on elementary school students, to explore whether outcomes are affected by a second year of being able to attend 21st Century programs in the evaluation.

The report concludes with a synthesis of the evaluation's findings. The synthesis looks comprehensively at implementation and impact findings for elementary schools and middle schools in the context of the program's objectives and goals.

Context

When the national evaluation got under way in October 1999, relatively little was known about the effectiveness of after-school programs, though some research suggested that the programs held promise. This promise was captured in the title *Safe and Smart*, a report about after-school programs jointly issued in June 1998 by ED and the U.S. Department of Justice, promoting after-school programs as safe places for children to improve their academic skills and enhance other aspects of their development.

At the time of *Safe and Smart's* release, ED was making its initial 21st Century grants, totaling \$40 million to school districts. Within a few months, Congress increased the program's funding to \$200 million; the following year, funding more than doubled, to \$450 million. When the evaluation began in 1999, funding had increased tenfold in three fiscal years. Program funding continued to increase, rising to \$1 billion in 2002, where it has remained. Until the No Child Left Behind Act (NCLB), ED had made grants to seven cohorts of school districts, with funds going to almost 1,600 districts and 6,800 schools.

Design of the National Evaluation

The national evaluation of the 21st Century Community Learning Centers program includes an elementary school study and a middle school study.

The elementary school study used random assignment of students to treatment and control groups. Random assignment was conducted separately for each center. The study included 12 school districts and 26 centers, which were able to participate in the evaluation because the centers had more students interested in attending than the centers could serve, a precondition for random assignment. The findings are based on data collected from students, parents, teachers, principals, program staff members, and school records. The evaluation selected students in the fall of the school year and followed those students for two school years. Baseline and first follow-up data were collected for 589 treatment-group students and 384 control-group students in seven school districts in the 2000-2001 school year (the first cohort), and for 693 treatment-group students and 666 control-group students in five school districts in the 2001-2002 school year (the second cohort). Second follow-up data were collected in the 2001-2002 school year for the first cohort, and in the 2002-2003 school year for the second cohort. The total elementary school sample was 2,308 students.

The middle school study is based on a nationally representative sample of 21st Century programs serving middle school participants and a matched-comparison group of students who are similar to participants. Similar students were identified in host schools or in other schools in the participating districts. Student data were collected from 32 school districts and 61 centers in those districts. The sample includes 1,782 participants who were matched to 2,482 comparison students. As with the elementary school study, the evaluation selected students in the fall of the school year and followed those students for two school years. Baseline and first follow-up data were collected in the 2000-2001 school year, and second follow-up data were collected in the 2001-2002 school year.

ED funded seven cohorts of 21st Century discretionary grants. The elementary school study includes grantees from the first five cohorts (4 of the 12 districts also received grants in the sixth and seventh cohorts). The middle school study includes grantees from the first three cohorts. When the study began, all grantees were in their second or third year of a three-year grant. In 2001, NCLB changed the program from discretionary grants to state-administered grants. As of October 2004, 6 of the 12 school districts in the study had received grants from their state.

The implementation analysis was based on site visits that were conducted to all grantees, with visits lasting two to four days. Each center was visited twice, once during each of the two years of the study. The study also conducted surveys of program directors, program staff, and school principals in its first two years. These surveys were not conducted for the second year of the second elementary school cohort.

In 2002, NCLB changed the program's structure by allocating its funds to states in proportion to the state allocation of Title I funds. States operate their own grant competitions to select school districts to receive funding.

Even though the 21st Century program made its first grants in 1998, school districts receiving funding were not necessarily operating after-school programs for the first time. Most districts in the study had experience in running some type of after-school program, though the programs may have been smaller or included fewer services and activities than those offered

with the 21st Century grants. When data collection for the evaluation began, the programs were in the second or third year of their 21st Century grant.

The legislation authorizing the 21st Century program did not require programs to focus on academic activities, but ED's priorities in its grant competitions were clear: to be funded, programs needed to provide these types of activities. In the initial grant competition announced in the *Federal Register* on December 2, 1997, ED indicated it would fund only those applicants that propose "an array of inclusive and supervised services that include extended learning opportunities (such as instructional enrichment programs, tutoring, or homework assistance) but may also include recreational, musical and artistic activities." ED also awarded additional points to applicants (school districts) that proposed activities that assisted students in meeting state and federal standards in core academic subjects.

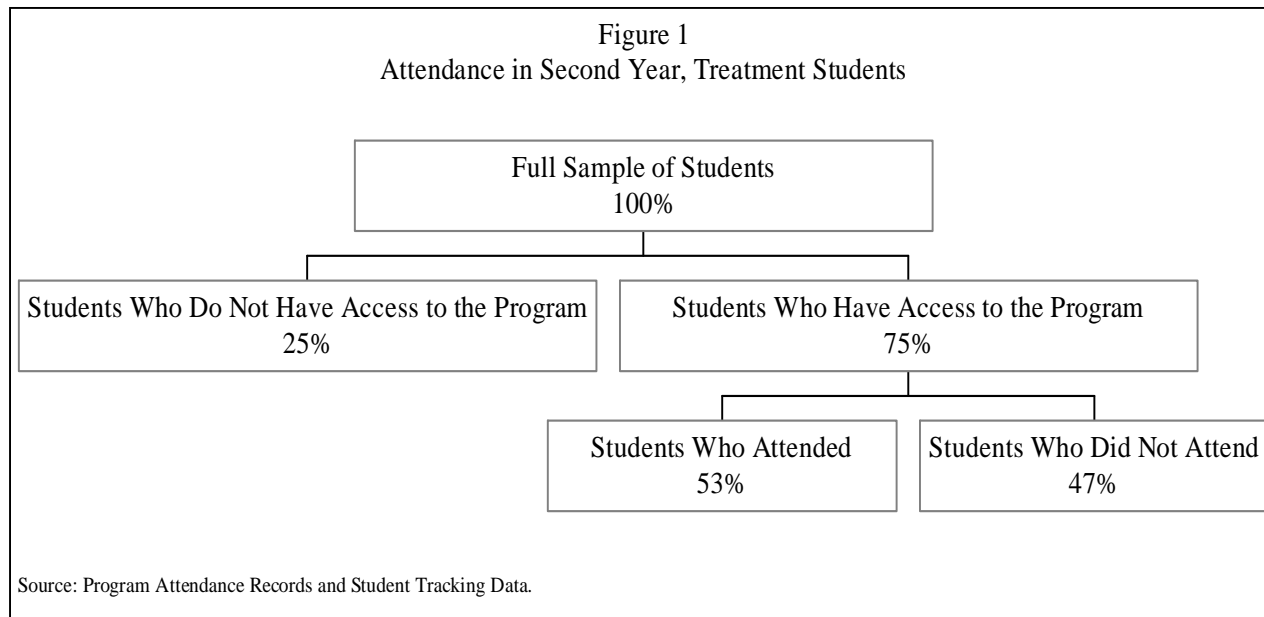
A Typical Elementary School Center

The center is open five days a week for two and a half to three hours a day. About 85 students come to the center on an average day. The first hour is a snack and a homework session. Certified teachers and aides oversee the homework session. After homework ends, students are grouped by grade level and rotate through various activities, depending on the day of the week. Some students work in the computer lab on their reading and math skills or meet with certified teachers for instruction that complements instruction in the regular school day. Other students participate in enrichment activities, such as martial arts, fitness and dance, art, and music. A mix of teachers, instructional aides, and outside organizations lead the enrichment activities. On Fridays, students participate in special activities or spend time playing board games or basketball.

Characteristics of Elementary School Centers in the Second Year

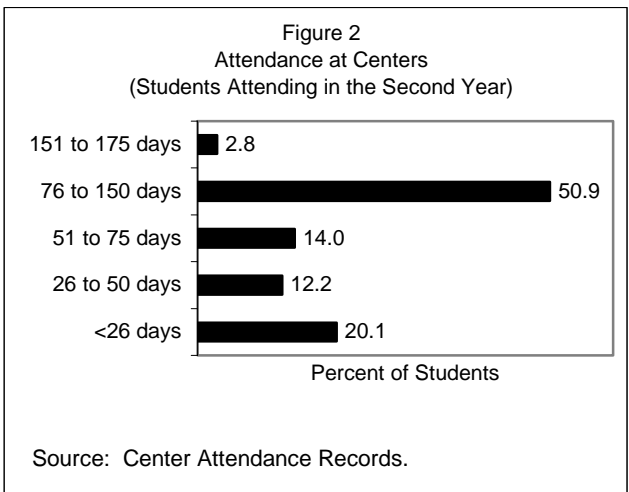
Combining the information from both cohorts of centers in the study, the two most common objectives of administrators of elementary school centers were to (1) provide students with a safe place after school, and (2) help students improve academically. These goals were similar to those of parents, who said they enrolled their children in the centers to help them do better in school (80 percent of parents) or to provide "a safe place for my child after school" (69 percent of parents).

Generally, centers were open for three hours after school four or five days a week. A typical day included one hour for homework and a snack, one hour for another academic activity, such as a lesson or working in a computer lab, and one hour for recreational or cultural activities. All centers provided academic assistance, mostly as homework sessions (100 percent of centers), instruction in reading and writing (86 percent), and instruction in math (77 percent).



Centers also provided recreational, cultural, and interpersonal development activities. Nearly all centers offered recreational activities, ranging from unstructured free time to organized sports. Centers also offered dance, drama, music, and workshops on development topics, such as developing leadership skills and resolving conflicts with peers.

Students in the treatment group attended an average of 81 days during the two-year follow-up period—49 days in the first year and 32 in the second. An important reason for the decline in measured attendance in the second year compared with the first year is that one-fourth of the treatment group did not have access to the program in the second year, because they changed schools and their new school did not operate a 21st Century center (see Figure 1). Focusing on the second year, about 40 percent of the treatment-group students attended the program in the second year for at least one day (Figure 2 shows the distribution of attendance for students who attended in the second year). Attendance for these students (those who continued to attend in the second year) averaged about 81 days, which translates into roughly 2.7 days a week (centers were open for 30 weeks on average) or 63 percent of days centers were open (on average, centers were open for 129 days). The study observed large variations in average attendance across districts and students but additional analysis did not reveal district or student characteristics that explained the variations.

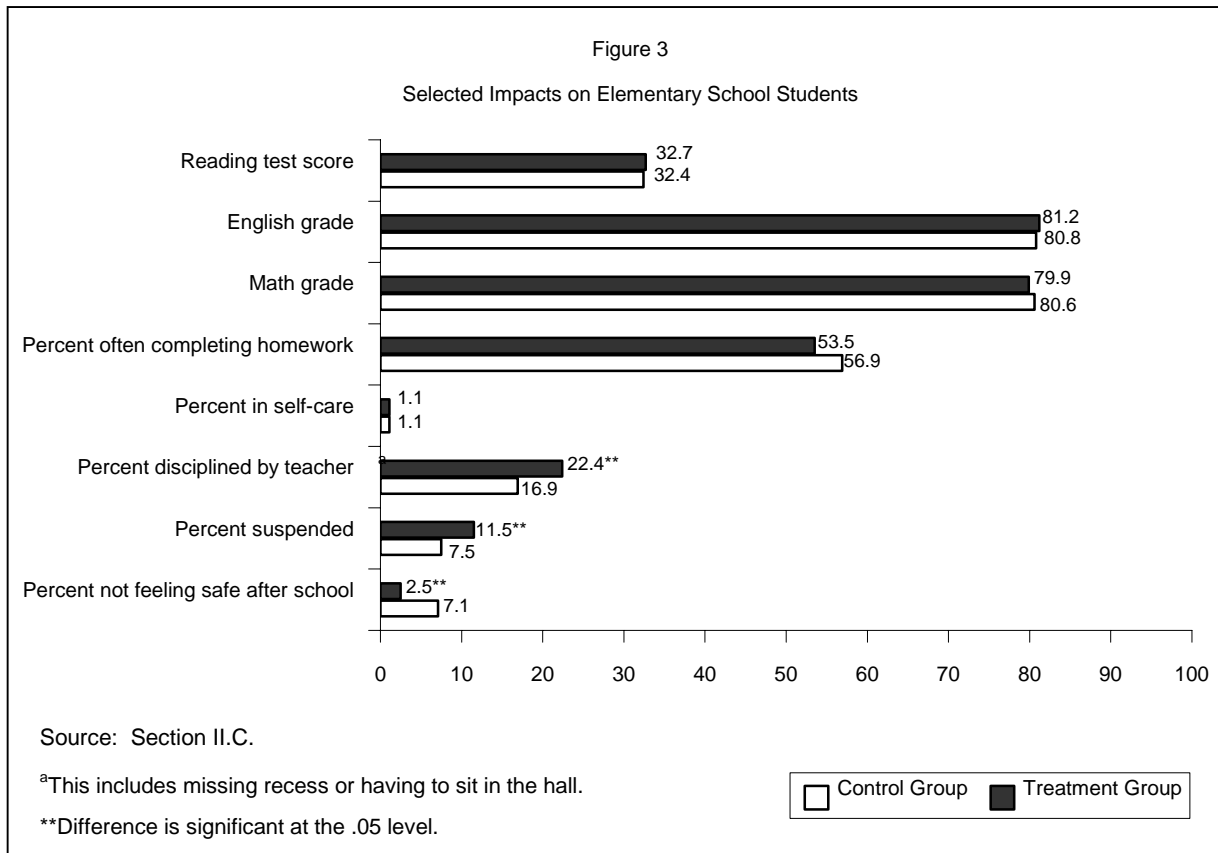


Impacts of Elementary School Centers in the Second Year

The experiences and outcomes of control-group students in the evaluation provide a benchmark for measuring impacts. Control-group students may have gone home after school or attended some other after-school program, been supervised by a parent, sibling, or some other adult, worked on their homework in their own home or in an after-school program, and so on. Because the evaluation used an experimental design, these experiences accurately measure what treatment-group students would have experienced in the absence of the 21st Century center in their school. The experimental design ensures that outcome differences between the treatment and control groups are attributable to the program.

Supervision After School. Treatment-group students were more likely than control-group students to be with adults who were not their parents (40 vs. 33 percent) and less likely to be with their parents after school (68 vs. 75 percent). There was no impact of the program on the frequency of self-care (defined as not being with a parent, another adult, or older sibling after school). Just over one percent of students were in self-care three or more days in a typical week (Figure 3).

Academic Achievement. There were no differences between treatment-group students and control-group students on most academic outcomes. Treatment-group students scored no better on reading tests than control-group students and had similar grades in English, mathematics, science, and social studies. There also were no differences in time spent on homework, preparation for class, and absenteeism. However, teachers reported lower levels of effort and



achievement for treatment-group students relative to control-group students. (According to teachers, 47 percent of treatment students tried hard in reading vs. 52 percent of control students, and 22 percent of treatment students achieved at an above-average or high level vs. 28 percent of control students.)

Safety After School. Treatment-group students reported feeling safer after school than control-group students; 2.5 percent of treatment-group students, compared with 7.1 percent of control-group students, reported feeling “not at all safe” after school.

Negative Behaviors. Treatment-group students were more likely than control-group students to engage in negative behaviors during the school day. Treatment-group students were more likely than control-group students to have schools contact their parents about behavior problems (28 vs. 23 percent), be suspended (12 vs. 8 percent), miss recess or sit in the hall (22 vs. 17 percent), and have their parents come to school about a problem (22 vs. 17 percent). The outcomes were gathered from different data sources, and higher levels of negative behaviors for the treatment group relative to the control group were evident in most of the 12 school districts. On other measures, such as teacher reports of sending the student to the office for misbehaving or giving the student detention, there were no impacts.

Developmental Outcomes. Teachers were less likely to report that program students got along well with others relative to control-group students (70 vs. 76 percent), and program students were less likely to rate themselves highly in working with others on a team relative to control-group students (78 vs. 85 percent). Program students reported that they were equally likely to get along with others their age, which differs from teacher reports. The difference may be attributable to differences in the samples underlying the two measures (student surveys were administered only to third- through sixth-grade students) or to differences in perspectives between teachers and students.

Parent Outcomes. There was no impact of the program on parental involvement in school, as measured by attendance at events held after school, parent-teacher organization meetings, or open houses or by the extent to which parents volunteered at school.

Subgroup Impacts. Generally, few subgroups had impacts that differed significantly. However, boys and students who had higher levels of disciplinary problems at baseline appeared to have significantly different impacts on negative behaviors relative to girls and students with low levels of disciplinary problems. In addition, students with lower test scores at baseline had significantly different impacts on grades than did students with higher test scores at baseline.

Comparison of Elementary School Findings in the First and Second Years

Some findings are the same in both years. In both years, the findings indicate that elementary students in centers were less likely than control-group students to be supervised by parents and more likely to be supervised by other adults after school, and more likely to be at school during after-school hours and less likely to be at home. In both years, there was no impact of the program on academic outcomes, such as grades, test scores, or homework

completion, and treatment-group students reported feeling safer after school than control-group students.

Other findings were found in one year but not the other. In the first year, the study found that elementary school students in the treatment group were more likely than students in the control group to help other students after school, but this impact was not found in the second year. In the second year, treatment-group students were less likely than control-group students to rate themselves highly at working with others on a team, and, according to teachers, were less likely than control-group students to get along with others. A higher percentage of treatment-group students than control-group students had behavior problems in the second year, but the findings were not statistically significant in the first year. In the first year, parents of treatment-group students were more likely than parents of control-group students to attend after-school events, help their child with homework, and ask their child about school, but none of these impacts was found in the second year. Boys and students with higher levels of discipline problems at baseline experienced larger impacts on negative behavior, and students with low test scores at baseline had significantly different impacts on grades than students with high baseline test scores. Neither pattern was evident in the first year.

Synthesis of National Evaluation Findings

The national evaluation is the largest and most rigorous examination to date of school-based after-school programs. Given the large amount of data that have been collected, analyzed, and reported, it is helpful to synthesize the findings presented in the evaluation's three major reports. We first highlight key implementation findings, then turn to impact findings.

The synthesis necessarily focuses on particular findings from the many findings reported by the evaluation. In highlighting the particular findings, the synthesis relied on the three main evaluation questions: (1) What were the features and characteristics of programs? (2) Did programs improve student outcomes? and (3) What types of students benefited the most? It also considered the second impact question in five student domains: supervision and location after school, academic performance, personal and social development, behavior, and safety. In addition, the synthesis touches on several parent outcomes. Generally, impact findings are discussed only if the estimated impact is statistically significant in one or both years. Some findings relate to an absence of impact when it was hypothesized that an impact would be observed.

The synthesis combines both elementary and middle school findings. Middle school centers in the study were nationally representative, but elementary school centers had higher levels of low-income and minority students than the national average for elementary school centers, and the impact estimates are based on different measurement designs. The synthesis focuses on the overall consistency of findings, for which these differences play less of a role.

Implementation Findings

The study team collected data from program directors, staff, and school principals, and it observed centers to analyze program objectives, activities, staffing, and changes in centers during the two-year follow-up period. The data were the basis for several useful findings about implementation.

National data from program performance reports provide a description of an average 21st Century center. An average center serves about 200 students during a school year (though the number served each day is lower and varies widely across centers) and is open 10 or more hours a week (many are open 20 or more hours a week and on Saturdays). The center employs 12 or 13 staff, many of whom are teachers during the regular school day, to work with students. The center's budget enables it to spend about \$1,000 a year per enrolled student, with most of its funds coming from the 21st Century grant.

Most schools hosting centers are elementary and middle schools that enroll a large number of low-income and minority students. Whereas 17 percent of middle schools nationwide are classified as high poverty (based on the proportion of students participating in the free lunch program), 66 percent of middle schools operating 21st Century centers are classified as high poverty. Similarly, 37 percent of students in middle schools nationwide are minorities; in middle schools operating 21st Century centers, 57 percent are minorities.

In both middle and elementary centers, program directors' most important objectives were (1) providing a safe environment after school, and (2) helping students improve academically. These objectives coincide with ED's *Safe and Smart* theme for the 21st Century program. Nearly all centers provided academic activities in reading, math, and science. Enrichment activities, such as art, music, and technology, also were common.

Program directors of elementary school centers in the study reported that they designed activities mostly to increase academic achievement and to provide opportunities for enrichment and recreation. Directors of middle school centers reported that they designed activities to improve academic achievement but also to appeal to students (most of whom said they attended voluntarily) and to accommodate staff, parent, and teacher views about what students needed to develop and improve. In interviews, program directors noted that they needed to provide interesting and fun activities that attracted students, while also providing academic activities that they viewed as being less attractive to students. Finding the right balance was a continual concern.

The study found wide variability in activities and services delivered across programs. Homework help was the most consistent activity that programs provided, but nearly all other activities and services varied widely across districts (and across centers within districts, to a lesser degree). The variability is consistent with the "model" underlying the program, which is that school districts and community partners should work together and combine local resources and skills to create a menu of services and activities that appeal to students. The authorizing legislation and ED's funding criteria both left program design primarily to the local programs. The variation in activities and services observed by the study is a logical consequence of this feature.

Academic activities, which programs had to provide to be funded, also varied according to local skills and resources. Middle school programs commonly provided homework help, and the evaluation observed that, typically, the help was passive and more like a study hall than a tutoring session. Other academic activities generally focused on smaller numbers of students who needed to work on particular skills or practice for state assessment tests. Coordination with the school-day curriculum was uncommon. Elementary school programs provided a range of academic activities beyond homework, and most were attentive to coordinating the activities with curriculum in the regular school day. Program staff and school-day teachers generally were aware of the need to have information flow between teachers in classrooms and staff in programs, but they had varying degrees of success in facilitating the flow. Coordination was smoother when regular schoolteachers were also program staff and had the same students, which was uncommon. Coordination appeared weak or nonexistent in centers that relied on outside staff, focused on noncognitive activities, or used processes that created a paperwork burden, such as having teachers send homework assignments to programs or share lesson plans with them.

During the study's two-year period when it observed implementation, program leadership was stable. Eighty-two percent of program directors were still working for the programs in the study's second year. However, two-thirds of the center staff and one-third of center coordinators from the first year had left the centers in the second year, suggesting high turnover. Centers did not pay high wages, which may have contributed to turnover, but the most common reason staff gave for departing was the demands of working after school.

Key Implementation Findings from the National Evaluation

- The 21st Century program is serving mostly low-income schools that enroll large proportions of minority students.
- The most important program objectives are providing a safe setting and offering activities to help students improve academically.
- Many center staff are teachers.
- Program leadership is stable, but line staff turnover is high.
- The average elementary school student attends two to three days a week, and the average middle school student attends one day a week. Middle school students attend less frequently as the school year progresses, and most do not return in the second year even when they have access to centers. Elementary school students attend about the same throughout the year and are more likely to return in the second year.

This burnout factor may relate to the fact that many center staff were teachers during the regular school day. Though hiring teachers as staff has advantages—they are familiar with delivering curriculum and instruction and maintaining control of students, and the district knows them—the demands of teaching during the day make it difficult to teach after school as well.

Program attendance was about two days a week for elementary students and about one day a week for middle schoolers. Weekly attendance for middle school students was higher in the earlier part of the school year and declined as the year went on, and many did not return to the program in the second year. Weekly attendance was about the same for elementary school students throughout the school year, and they were more likely than middle school students to return in the second year. Middle school and elementary school students who returned in the second year had patterns of attendance similar to those in the first year. Program and student characteristics did not appear to have relationships with the frequency of attendance, and the study did not find relationships between more frequent attendance and positive outcomes. However, more frequent and steadier attendance would help programs manage service delivery and integrate school-day and after-school instruction.

Impact Findings

The experiences and outcomes of control- and comparison-group students in the evaluation provide a benchmark for measuring impacts. Control- or comparison-group students may have gone home after school or attended some other after-school program, been supervised by a parent, sibling, or some other adult, worked on their homework in their own home or in an after-school program, and so on. Because the elementary school evaluation used an experimental design, the study can validly measure what treatment-group students would have experienced in the absence of the 21st Century center in their school or local area. For example, the majority of elementary school students in the control group were at home after school and

with a parent, which indicates that the majority of the treatment group attending 21st Century centers would have been home with a parent if centers did not operate in their schools.

For the middle school study, the evaluation used a matched-comparison group design, which by its nature cannot rule out the possibility that other factors besides the program explain part of the outcome differences. The evaluation used statistical techniques to adjust for a wide range of other variables that could differ between the treatment and comparison groups.

Supervision After School. Students in centers were more likely than control- or comparison-group students to be with adults who were not their parents after school and less likely to be with parents or older siblings. There was no impact of the program on self-care, regardless of how it was defined.

Academic Achievement. Generally, the program had no impact on reading test scores or grades. For elementary school students who had low grades at baseline, the program had a positive impact on English grades. The difference was about 2 points on a 100-point scale. Middle school students in the treatment group also had lower absenteeism than students in the comparison group.

Homework. Homework assistance was the most common academic activity that centers provided, but there was no impact of the program on the extent to which students completed homework or received help with it. The study found that nearly all elementary school students already received homework help. About 90 percent of the elementary students in the control group reported that a parent or some other adult asked them if their homework was complete, and about 80 percent reported that a parent or some other adult checked their homework to see if it was complete. For middle school students in the comparison group, 80 percent reported that a parent or other adult asked them if their homework was complete; about 53 percent reported that a parent or other adult checked that homework was complete.

Feelings of Safety. Elementary school students in the treatment group reported feeling safer after school than students in the control group, even though nearly three-quarters of students in the control group reported feeling “very safe” (the highest of three categories) and only seven percent reported feeling “not at all safe” (the lowest of three categories). Similar findings were not observed for middle school students. Fewer than three percent of middle school students reported feeling “not at all safe.”

Developmental Outcomes. The study looked at a range of outcomes related to personal and social development, though it did not collect detailed measures in these domains. Although most outcomes showed no differences, middle school treatment-group students were more likely than comparison-group students to say they expected to graduate from college. The difference was small, about two percentage points. Elementary students in the treatment group were more likely than elementary students in the control group to report helping other students after school in the first year, which may be related to program activities. In the second year, however, treatment-group students were less likely than control-group students to say they worked well in teams, and teachers rated them lower than control-group students in getting along with others.

Parental Outcomes. Parents of elementary students in the treatment group had higher employment levels than parents of elementary students in the control group in the first year but not in the second year. The finding hints at the possibility that programs may enable parents to participate in the labor market, although the lack of a second-year finding makes the picture unclear. For middle school parents, parental involvement was higher in the first year for the treatment group than for the comparison group. Treatment-group parents were more likely than comparison-group parents to attend parent-teacher organization meetings, volunteer at school, and go to after-school events. Elementary school parents in the treatment group were more likely than parents in the control group to participate in after-school events in the first year, but their involvement in other areas was unaffected. In the second year, parents were as involved as the first year, but the extent of involvement was the same for the program and control groups.

Negative Behaviors. Middle school treatment-group students were more likely than comparison-group students to engage in some negative behaviors. A composite variable for five negative behaviors was higher for the program group than the comparison group in both years, and the difference was statistically significant. Negative behaviors were higher among elementary students in the treatment group compared with the control group in the second year but not the first. Treatment-group students were more likely than control-group students to be disciplined by their regular school-day teachers and to be suspended from school (about 12 percent of the treatment group were suspended at least once in the second year, compared to about 8 percent of the control group). Discussions with program directors indicated that, generally, students were not suspended because of misbehavior that may have happened during the after-school program, suggesting that, like the teacher discipline outcome, suspensions are related to negative behavior during the regular school day. Subgroup analyses showed that impacts on negative behaviors were larger for boys (behavior impacts for girls were close to zero and statistically insignificant) and for students who had higher levels of disciplinary problems at baseline, providing some insights about the pathways of behavior problems.

Key Impact Findings from the National Evaluation

- Treatment-group students were more likely than control- and comparison-group students to be supervised by other adults after school, and less likely to be supervised by parents and siblings; there were no differences between the groups in self-care.
- There were few impacts of the program on academic achievement, and there was no difference between the treatment and control or comparison groups in receiving homework assistance.
- Elementary students in the treatment group felt safer than elementary students in the control group.
- There were mixed impacts of the program on developmental outcomes.
- Treatment-group students were more likely than control-group students to engage in some negative behaviors.

I. Introduction

The number of after-school programs has grown rapidly in recent years, spurred by growing employment rates of mothers, pressure to increase academic achievement, and concerns about risks to children who are unsupervised during after-school hours. The percentage of public schools offering “extended-day” programs (which include before- and after-school programs) more than tripled between 1987 and 1999, from about 16 to 47 percent (DeAngelis and Rossi 1997; National Center for Education Statistics 2002).

In 1994, Congress authorized the 21st Century Community Learning Centers (21st Century) program to open up schools for broader use by their communities. In 1998, the program was refocused on providing academic, enrichment, and recreational activities in public schools during the after-school hours (centers also could be open before school, on weekends, and during the summer). The program grew from an appropriation of \$40 million in 1998 to \$1 billion in 2002, where it has remained.

Research on the impacts of after-school programs has accumulated in the past decade but is inconclusive. Some studies have reported that after-school programs increase academic achievement, increase safety, and reduce negative behaviors such as drug and alcohol use (Brooks et al. 1995; Hamilton and Klein 1998; Tierney et al. 1995; Welsh et al. 2002; Massachusetts 2020 and Boston Public Schools 2004; Reisner et al. 2004). Most of these studies also report negative or neutral findings, a pattern that has been noted by observers (Fashola 1998; Hollister 2003; National Research Council and Institute of Medicine 2002; Roth et al. 1998). In addition, most studies of after-school programs have used non-experimental designs with varying degrees of validity, adding to the difficulty of synthesizing the literature’s findings.

In 1999, the U.S. Department of Education (ED) selected Mathematica Policy Research, Inc. (MPR) and Decision Information Resources, Inc. to evaluate the 21st Century Community Learning Centers program. The challenge facing the national evaluation was to address three key questions about a rapidly growing and popular program at a level of rigor that would support policymakers in their efforts to develop the program.

1. Did the program improve student outcomes, such as supervision after school, safety after school, academic achievement, behavior, and social and emotional development?
2. What types of students benefited the most? For example, did particular groups of students, such as boys or students with low levels of academic achievement, experience more positive impacts than girls or students with high levels of academic achievement?
3. What were the features and characteristics of programs? How often did students attend the programs? What types of services did programs provide, and how often? What type of staff did programs hire? How did programs structure program activities?

The wide range of outcomes examined in the study was guided by program content and ED's priorities in the 21st Century program grant competitions, which called for programs to include extended learning opportunities, but also allowed them to include enrichment activities, such as recreation, music, and art (section A provides more information on the 21st Century grant competitions).

To address these key questions, the evaluation conducted an implementation study and an impact study. The implementation study was conducted to provide a better understanding of program features and operations and relied primarily on site visits and staff surveys for its data. Two different designs were used to measure impacts for elementary and middle schools. The elementary school study was based on random assignment, in which outcomes of students assigned to the centers were compared to outcomes of students not assigned to the centers. The

elementary grantees and centers in our study were purposively selected because they could implement random assignment, and the results apply to these grantees and centers. The results should not be interpreted as findings from the universe of 21st Century centers serving elementary school students. The middle school study was based on a nationally representative sample of 21st Century programs serving middle school participants and a matched-comparison design, in which outcomes of students who participated in centers were compared to outcomes of similar students who did not. The results can be interpreted as findings from the universe of 21st Century centers serving middle-school students (in the first three cohorts of grantees, which was the universe from which the sample of grantees was drawn). Both the elementary and middle school studies followed all students in the treatment and control or comparison groups from baseline through the second follow-up data collection.

In its first year of data collection, the evaluation collected baseline and first follow-up data for roughly 1,000 elementary students in 18 centers in 7 school districts, and 4,300 middle school students in 61 schools in 32 school districts (baseline data were collected in fall 2000, and first follow-up data were collected in spring 2001). The evaluation's first report, released in February 2003, provides findings based on these data (Dynarski et al. 2003).

In its second year of data collection, the evaluation added a second cohort of eight elementary school centers and administered the baseline and first follow-up surveys to students in these centers (for these new students, baseline data were collected in fall 2001, and first follow-up data were collected in spring 2002). First follow-up data from the first and second cohorts of elementary students were then combined. The study also conducted the second follow-up for middle school students during spring 2002. Findings from these data—the first followup for both cohorts of elementary school students and the second followup for middle schools—are reported in Dynarski et al. (2004) (hereafter, referred to as the second report). The

second follow-up data collection also was conducted for the first cohort of elementary students during spring 2002; these data are included in this report.

In spring 2003, during the evaluation's third and final year of data collection, the study conducted the second followup for the second cohort of elementary students. This report combines these data with the second followup from the first cohort, to explore whether outcomes are affected by a second year of being able to attend the after-school programs in the evaluation.

The report also presents a synthesis of the evaluation's findings, looking back on findings from the three reports and on issues of program implementation as well as impacts. The synthesis focuses on findings for middle school students in the first and second reports and on findings for elementary school students in the second and third reports. Elementary school findings in the first report are based on a partial sample of students and are less useful than the findings in the second report, which are based on the full sample.

A. Context

When the national evaluation got under way in October 1999, relatively little was known about the effectiveness of after-school programs, though research had suggested that the programs held promise. This promise was captured in the title *Safe and Smart*, a report about after-school programs jointly issued in June 1998 by ED and the U.S. Department of Justice, promoting after-school programs as safe places for children to improve their academic skills and enhance other aspects of their development.

At the time of *Safe and Smart's* release, ED was making its initial 21st Century grants, totaling \$40 million, to the first cohort of school districts. Within a few months, Congress increased the program's funding to \$200 million; the following year, funding more than doubled, to \$450 million. When the evaluation began in 1999, funding had increased tenfold in three fiscal years. Program funding continued to increase, rising to \$1 billion in 2001, where it has

remained. Ultimately, ED had made grants to seven cohorts of school districts, with funds going to almost 1,600 districts and 6,800 schools. In 2002, the No Child Left Behind Act (NCLB) substantially changed the program's structure, and money now is provided to states in proportion to the state allocation of Title I funds. States conduct their own grant competitions to fund programs that local school districts operate.

The 21st Century program made its first grants in 1998, but school districts receiving funding were not necessarily operating after-school programs for the first time. Most districts in the study had operated some type of after-school program, though the programs may have been smaller or included fewer services and activities than those the districts could offer with the 21st Century grants.¹ Data collection for the evaluation began after programs had been operating under their grants for at least one year, and sometimes for two years. Grants lasted for three years.

The legislation authorizing the 21st Century program did not require programs to focus on academic activities, but ED's implementation did. ED issued a "notice of priorities" in September 1997 that it would fund only programs that proposed academic activities in addition to other kinds of activities. In its response to public comments about the academic focus it was creating, ED provided a glimpse of its vision for the program:

For younger children who are not reading as well as they should, Community Learning Centers can provide extended time in which to overcome the obstacles that have in the past prevented them from becoming good readers. The competitive priorities will also encourage schools to develop strategies to address the needs of students who can benefit from additional enrichment or challenge in mathematics or science, or who are not performing as well as they should. Community learning

¹Sixty-five percent of middle school grantees and 57 percent of elementary school grantees had operated after-school programs in one or more schools that were part of the 21st Century grant. The proportion of grantees that had ever operated after-school programs is likely to be higher than this because other schools in the district could have operated programs.

centers can provide extended hours for students to learn and review basic concepts they may have missed during class, to delve deeper into a more challenging curriculum, or to participate in enjoyable hands-on activities and experiments.²

Consistent with this vision, the initial grant announcement in the *Federal Register* on December 2, 1997, indicated that ED would fund only applicants that proposed “an array of inclusive and supervised services that include extended learning opportunities (such as instructional enrichment programs, tutoring, or homework assistance) but may also include recreational, musical and artistic activities.” ED also awarded additional points to applications that proposed activities that would help students meet state and federal standards in core academic subjects.³

B. Features of the Evaluation Design

Key features of the evaluation’s design for elementary centers are described below. Additional information about the evaluation design, including information about the design of the middle school study, can be found in Chapter I of the first report and the evaluation’s design report (Dynarski et al. 2001).

The evaluation identified grantees with oversubscribed 21st Century centers serving elementary school students and implemented experimental designs. In fall 2000, roughly 1,000 students from 18 centers in seven school districts applied to 21st Century centers and were randomly assigned. Random assignment was conducted at the center level; for example,

²*Federal Register*, December 2, 1997, page 63774.

³The academic focus became clearer in subsequent grant competitions. In its competition for grants in 2001 (*Federal Register*, January 3, 2001), ED stated, “Applicants must describe in their application the elements of their projects that are designed to assist students to meet or exceed state and local standards in core academic subjects, as appropriate to the needs of the participating children.” The academic focus was put into law when the program was reauthorized by NCLB. NCLB defined the program’s first purpose as being to “provide opportunities for academic enrichment, including providing tutorial services to help students, particularly students who attend low-performing schools, to meet state and local student academic achievement standards in core academic subjects, such as reading and mathematics” (P.L. 107-110, Title IV, Part B, sec. 4201).

students who applied to center A were randomly assigned at that center and students who applied to center B were assigned at that center. Results from this sample (the first cohort) were presented in the first report. In fall 2001, more than 1,300 students from eight centers in five school districts applied to 21st Century centers and were randomly assigned (the second cohort). Results from the full sample of 2,300 students in 26 elementary centers after one school year were presented in the second report. This report presents results for the full sample of 2,300 students after two school years.

The evaluation collected data on a wide array of outcomes, including grades, test scores, classroom behavior and effort, absences, suspensions, location and supervision after school, social development, parental involvement, negative behavior, and feelings of safety after school. The wide range of outcomes reflects the many objectives embraced by after-school programs, which are suggested by the research literature, by other descriptions of programs (see, for example, U.S. Department of Education 1998), and by ED's priorities in the 21st Century program grant competitions (as described in section A).

The evaluation's data sources include questionnaires completed by students, parents, teachers, principals, and program staff, as well as reading tests, school records, center attendance records, and site visits. Generally, response rates in the second year were high, ranging from 76 percent for reading test scores to 88 percent for the student survey.

C. Key Elementary School Findings from the First Year

It is helpful to review key findings for elementary school students after one year (which were presented in the evaluation's second report) to provide a context for the results presented in this report. Key findings from the first year were:

- Students attended centers about 2 days a week, an average of 63 days in the school year.

- Students in the treatment group were more likely than students in the control group to be with an adult who was not their parent after school and less likely to be with a parent or sibling, and they were more likely to be at school or another place for activities and less likely to be at home after school. The incidence of students taking care of themselves after school for three or more days a week did not change.
- There was no impact of the program on reading test scores, homework completion, or math, English, science, or social studies grades.
- Students in the treatment group reported feeling safer after school than students in the control group.
- Parents of treatment-group students were more likely than parents of control-group students to report helping their children with homework, asking their child about classwork, and attending an after-school event.
- Additional analysis found no relationship between impacts and student characteristics.

The findings in this report provide useful information about the extent to which findings from the first year continue into a second year or possibly are affected by another year of exposure to 21st Century centers.

D. Report Organization

The next chapter of the report presents findings on implementation and impacts of elementary school centers after two years. Because the first report described implementation in detail, this report focuses on describing key features of implementation and on changes between the first and second follow-up years. Supporting this chapter, the appendixes present detailed information about the evaluation's data quality and methods for estimating impacts, as well as additional findings not discussed in the main text, including an examination of the relationship between attendance and outcomes. Because this analysis is based on regression models—as opposed to the treatment and control groups created by random assignment—the estimates have lower validity than those presented in the main text. They are a useful adjunct to the experimental findings, however.

The last chapter of the report synthesizes the findings from the national evaluation, including both implementation and impact findings and findings from the elementary and middle school studies. The evaluation is not collecting more data, and a synthesis is useful for taking stock of what the evaluation learned and what questions would be useful to address in future research.

II. Implementation and Impacts of Elementary School Centers

A second follow-up year for elementary students allows the evaluation to examine the longer term impacts of 21st Century centers.⁴ This section first provides an overview of elementary school centers in the evaluation, focusing on their key features in the second year, and then examines student attendance at centers. It then presents impacts for the full sample and for different types of students.

A. Program Objectives and Structures

In the second year, administrators of nearly all the centers in the evaluation indicated that helping students improve academically was a major program objective (see box). Many also indicated that providing a safe

Percentage of Center Administrators Indicating the Following as a Major Program Objective	
Help students improve academic performance	91%
Provide a safe environment for students after school	64%
Provide recreational activities	50%
Help students develop socially	43%
Provide services for parents and other adults	29%
Provide cultural opportunities	21%
<p>Source: Assessment Form.</p> <p>Note: Academic performance was the only item included on the assessment form for all 22 centers visited in the second year (the sample includes 26 centers, but for two grantees that had more than two centers, only two centers were visited in the second year). Other percentages are based on the first cohort of 14 centers.</p>	

⁴A “center” refers to after-school services operated in one school, and a “site” refers to the group of centers that were part of the evaluation in one school district. Note that some centers in the study served students from the school in which they were located and from other neighboring schools; therefore, the study included students from more schools than there were centers. A “grantee” refers to a school district that received a 21st Century grant to operate centers. Not all centers operated by grantees participated in the evaluation. Some grantees operated centers in both elementary and middle schools, and the evaluation included only the elementary school centers or only the middle school centers.

Data are presented for the 2001-2002 school year for the initial set of elementary school sites and for the 2002-2003 school year for the elementary school sites added to the evaluation in 2001.

environment for students after school was an important objective. These objectives also were the two primary objectives in the first year.

The activities that centers offered were consistent with their objective of improved academic performance.

Percentage of Centers Offering Classes on the Following Topics Once a Week or More	
Homework completion	100%
Improving reading and writing skills	86%
Improving math skills	77%
Improving test scores	46%
Source: Center Profile Form. Sample size is 22 centers (for two grantees that had more than two centers, only two centers were visited in the second year).	

Homework help was the most common academic activity, with homework sessions offered at least once a week at all centers (see box). Classes for reading and writing, and for math, were also offered at least once a week at a majority of centers (86 and 77 percent, respectively), while classes specifically focused on improving test scores were offered at least weekly at just under half of the centers.

Homework sessions were generally 30 to 60 minutes long, with students grouped by grade level. Students worked on their homework independently or in small groups while session monitors, which included teachers, paraprofessionals, college students, and, in one center, parents, were available to provide assistance. Although a few centers were able to

track what homework had been assigned, most centers neither monitored what homework students should have been doing nor ensured that students completed the homework their teacher had assigned.

Examples of Academic Activities in 21st Century Centers
<ul style="list-style-type: none"> • Direct instruction • Educational technology packages to reinforce basic skills or supplement classroom instruction • Practice drills, worksheets, and games to improve reading, writing, and math skills • Preparation for standardized tests, including practice worksheets and computer software • Enrichment activities with an academic focus such as science lab, Spanish, algebra club, robotics, technology, and computer lab

In addition to homework help, most centers offered other types of academic activities, including small-group instruction, computer tutorials, and test preparation sessions (see box). Some centers also offered enrichment activities with an academic focus, such as math club, science experiments, robotics, or computer lab. The academic sessions were typically staffed by certified teachers and designed to develop specific academic areas, most often reading and writing or mathematics.

Roughly half the programs in the study had designed or selected their curricula to align with regular school-day curricula. Two grantees used the school's curriculum for the academic component of the program, two grantees used technology products for academic activities that were consistent with the school's curriculum, and two grantees organized their curriculum around the assessments that their districts used. The rest of the grantees did not have an organized curriculum that was aligned with the school's curriculum.

Coordinating the program's academic activities with the regular school day was challenging. Ensuring that program staff knew about student homework assignments was a particular challenge; on questionnaires, only 31 percent of staff and 23 percent of teachers reported that they shared information about homework assignments with the program at least once a week. Discussing student academic needs or progress was also a challenge for programs, with similar percentages of staff and teachers reporting that they discussed program students' academic needs at least once each week. Coordination with the regular school day appeared to go more smoothly when teachers and program staff had frequent planning meetings and when centers used liaisons who talked with teachers about what was being covered during the school day. Site visitors noted that programs and teachers were less likely to coordinate activities when coordination mechanisms were complex or burdensome,

such as when centers asked teachers to submit their lesson plans to the program each week or sign homework logs each day.

The schedule typically began with a homework session that all students attended, followed by academic or enrichment activities.⁵ Seven of the 12 programs required all students to attend academic classes in addition to the homework session (in most cases, students rotated through various academic or enrichment classes depending on day of the week and grade level). Three programs offered homework assistance and no other academic activities. Two programs had some students participating in homework and other students participating in tutorial sessions.

The extent to which certain activities were offered was similar in the first and second years, except that homework help was offered more often in the second year. In the first year, 85 percent of centers offered homework assistance; in the second year, all centers offered homework assistance.

Examples of Other Activities in 21st Century Centers

- Recreation: soccer, martial arts, board games, talent show, free time in playground or gym
- Cultural enrichment: arts and crafts, music classes, dance classes, cooking classes, field trips
- Interpersonal development: leadership, Boy or Girl Scouts, conflict resolution, character education

In addition to academic activities, most centers provided recreation and cultural enrichment activities to students (see box). Activities that focused on music, art, or dance were common. Recreation activities often were structured to provide students with an opportunity to learn a particular game or skill (for example, soccer or martial arts). In addition to the structured activities, centers

⁵ One program focused primarily on providing computer skill classes for adults, and students attended when accompanied by a parent or grandparent. Once there, students worked on homework or played computer or board games in the cafeteria. This program structure differed from others in the evaluation, but impact estimates excluding the program were similar to what is reported in the text.

gave students free time to play in the gymnasium or play board games. Some centers also offered interpersonal development activities, such as leadership development and conflict resolution, which focused on students' behavior and their relationships with others.

B. Program Attendance

Students in the full treatment group attended an average of 81 days during the two-year follow-up period—49 days in the first year and 32 in the second. An important reason for the observed decline in average attendance in the second year compared with the first year is that one-fourth of the treatment group did not have access to the program in the second year, because they changed schools and their new school did not operate a 21st Century center. Figure II.1 shows how the full sample of students breaks down in terms of whether they had access to centers and whether they attended if they did. Among the three-fourths who had access, 53 percent attended in the second year and 47 percent did not.

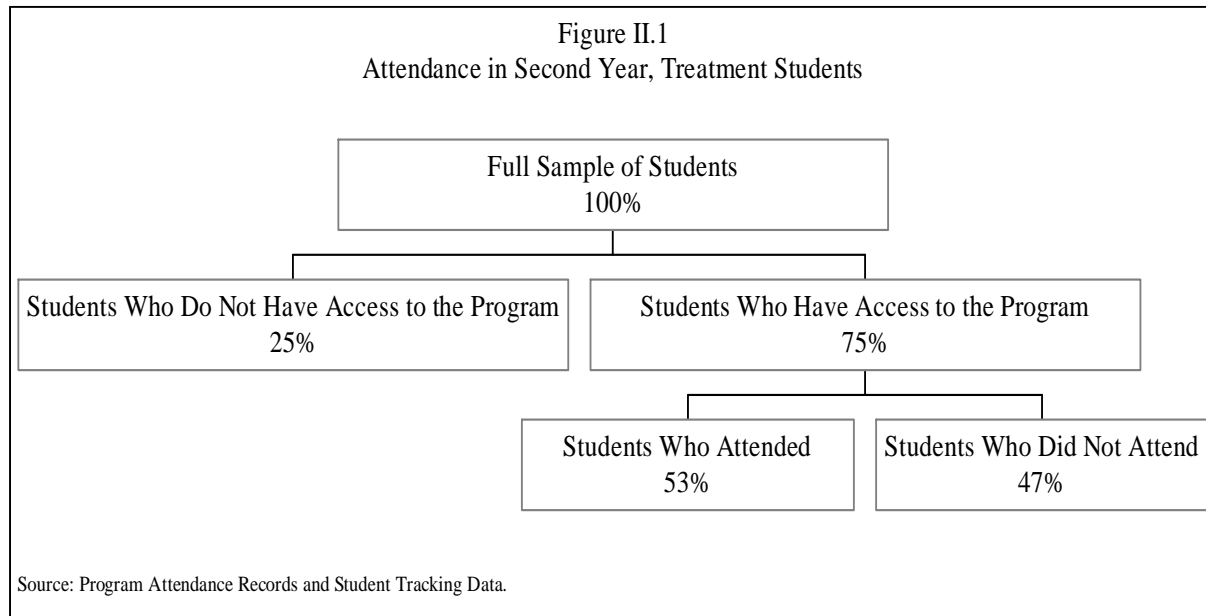


Table II.1 provides more information about second-year attendance levels and rates. About 40 percent of the treatment-group students attended the program in the second year for at least one day. Attendance for these students (those who continued to attend in the second year) averaged about 81 days, which translates into roughly 2.7 days a week (centers were open for 30 weeks on average) or 63 percent of days centers were open (on average, centers were open for 129 days).

The attendance patterns of those in the full treatment group who attended the program in both years (about 38 percent) are interesting. They attended an average of 158 days, 77 days in the first year and 81 days in the second year (not shown). Their level of participation in the first year is well above the average (63 days) and suggests that students who returned in the second year were likely to be students who attended more often in the first year.

Table II.1
21st Century Elementary School Center Attendance, Year 2

	All Treatment Students	Participating Treatment Students
Percentage of Students Who Attended the Program	39.7	100.0
Average Days Attended	32.0	80.8
Number of Days Attended (Percentage of Students)		
0	60.4	0.0
25 or less	8.0	20.1
26 to 50	4.8	12.2
51 to 75	5.5	14.0
76 to 150	20.2	50.9
151 to 175	1.1	2.8
Attendance Rate ^a (Percentage of Students)		
10 or less	62.7	5.7
11 to 25	5.3	13.4
26 to 50	6.4	16.2
51 to 70	5.0	12.6
71 to 85	7.1	17.9
86 to 100	13.6	34.3

Source: Center Attendance Records. Sample size for all treatment students is 1,246. Sample size for participating treatment students is 493.

^aThe attendance rate is the number of days students attended as a proportion of the number of days centers were open, which centers provided in their annual performance reports. Totals may not add to 100 percent because of rounding.

Attendance varied throughout the school year. Figure II.2 shows the average weekly attendance during the first and second year for students in the treatment group. Attendance patterns are similar in both years, but lower overall level in the second year because some students did not attend at all. Figure II.3 shows the average attendance pattern only for students who attended in the second year, which removes students with zero attendance. Again, the patterns are similar in both years. The pattern is relatively constant, with sharp dips around major holidays.

Closer examination revealed large differences in average attendance across grantees. Average attendance for the three grantees with the lowest attendance was 29 days, compared to 104 days for the three grantees with the highest attendance. Districts with high and low average attendance were compared in terms of their attendance policies, urban and rural locations, and academic focus, but no patterns were evident, perhaps because of low statistical power—the sample was only 12 districts.

Student characteristics also did not explain most of the variation. We used regression models to examine relationships between the number of days attended and 15 student and family characteristics.⁶ Only one characteristic—high levels of maternal education—was significant (students whose mothers had a high education level attended less). For the most part, variation in attendance seems to be related to factors not observed by the evaluation.

⁶The 15 characteristics included in the regression were: grade, race/ethnicity, receipt of public assistance, mother's education, family income, household structure, whether the family had moved frequently in the past, whether the student was over age for their grade, whether the student was suspended in the year before the study, number of suspensions, absences, and tardies in the year before the study, whether students had ever been retained in the years prior to the study, and baseline reading and math scores (for students whose math scores were available from school records).

Figure II.2

Average Days Attended Each Week, Second Year and First Year

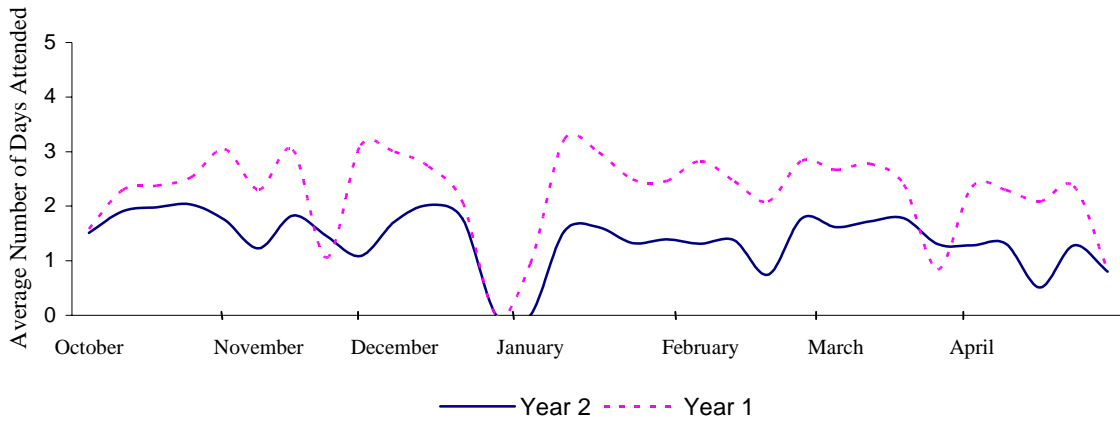
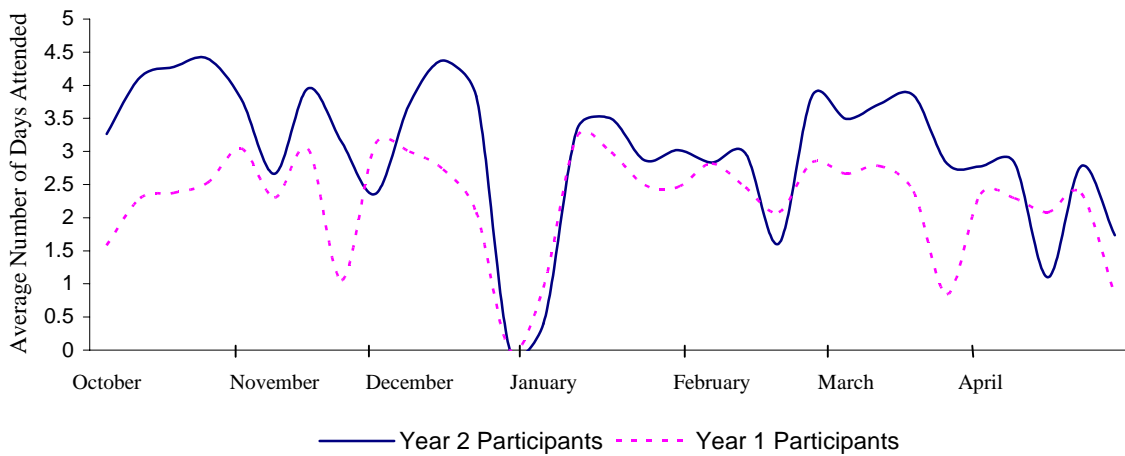


Figure II.3

Average Days Attended Each Week, Second-Year Participants and First-Year Participants



Source: Center Attendance Records.

Note: Figures exclude students who transferred during the year.

The study also examined whether different types of students participated in the program in the second year. Students from two-parent families and students with high baseline reading test scores were more likely to participate in the program in the second year, but other characteristics were not statistically significant.⁷

C. Impacts of Centers

This report uses the term “treatment group” to mean the group of students who were randomly assigned and were able to attend centers, and the “control group” to mean students who were randomly assigned and not able to attend centers. The term “participants” is used for treatment group members who attended a program in one or both years, as indicated by program attendance records. As noted above, students may have attended the program in the first year and not in the second year (or the second year but not the first, which was much less common), but are considered participants here.

At baseline, treatment and control groups were similar on a range of characteristics, such as gender, grade level, mother’s age, absences, suspensions, and reading test scores (Table II.2). These similarities are expected because the groups were constructed using random assignment.⁸ One of the baseline variables differed significantly (students in the treatment group were more likely to report doing their homework). Considering the large number of variables reported in the table, some differences naturally would arise by chance, which also applies to the large number of impact estimates reported in this chapter.

⁷Middle school students who participated in the second year were younger and more likely to be white, speak English at home, and have mothers who were more highly educated (Dynarski et al. 2004).

⁸Impacts were estimated using regression models to adjust for baseline differences and to improve the precision of the estimates. Appendix B provides details on the procedures used to estimate impacts, including methods used to adjust for cross-over by control-group students and nonparticipation by treatment-group students. Appendix C presents impacts based on simple treatment-control differences, which generally are similar in magnitude and statistical significance to the impacts presented in the text.

Table II.2

Characteristics of Treatment- and Control-Group Students at Baseline,
Elementary School Centers

Characteristic	Treatment Group	Control Group	p-value ^a
Demographic Characteristics			
Gender			
Male	48.0	49.6	0.48
Female	52.0	50.4	0.48
Race/Ethnicity			
White (Non-Hispanic)	6.6	4.8	0.06
Black (Non-Hispanic)	54.2	55.0	0.06
Hispanic	35.3	36.2	0.06
Other	1.0	2.2	0.06
Mixed	2.9	1.7	0.06
Grade Level (Percentages)			
Kindergarten	10.5	10.3	0.95
1st grade	17.9	18.2	0.95
2nd grade	17.7	19.1	0.95
3rd grade	14.9	13.7	0.95
4th grade	16.6	17.1	0.95
5th grade	16.3	16.0	0.95
6th grade	6.2	5.7	0.95
Mother's Age (Years)	34.7	34.3	0.28
Academic and Other Characteristics at Baseline			
SAT-9 Reading Score (Percentile)	32.6	30.4	0.18
Number of Absences from School	6.4	6.5	0.87
Percentage of Students Who Were Suspended at Least Once in Previous School Year	2.9	3.0	0.93
Percentage of Students Who Report Feeling the Following Level of Safety After School up Until Dinnertime:			
Very safe	73.4	74.9	0.06
Somewhat safe	25.1	21.3	0.06
Not at all safe	1.9	3.8	0.06
Percentage of Students Who Report Doing the Homework Teachers Assign	42.9	38.8	0.04**
Sample Size ^b	1,247	1,041	

Source: Student Survey, Parent Survey, School Records.

^aThe p-value is the smallest level of significance at which the null hypothesis that the difference in means between program participants and control group members equals zero can be rejected. If the p-value is less than .01, the difference is significant at the 1 percent level. If the p-value is less than .05, the difference is significant at the 5 percent level, and so on. Chi-squared tests were conducted for categorical variables; for other variables, t-tests were conducted.

^bSample sizes differ depending on the data source. Sample sizes for demographic variables range from 746 to 1,041 for treatments and 936 to 1,247 for controls. Sample sizes on academic and other outcomes at baseline range from 501 to 721 for treatments and 567 to 847 for controls.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

The experiences and outcomes of control-group students in the evaluation provide a benchmark for measuring impacts. Control-group students may have gone home after school or attended some other after-school program, been supervised by a parent, sibling, or some other adult, worked on their homework in their own home or in an after-school program, and so on. Because the evaluation used an experimental design, these experiences accurately measure what treatment-group students would have experienced in the absence of the 21st Century center in their school. The experimental design ensures that outcome differences between the treatment and control groups are attributable to the program.

Second follow-up response rates were high for student surveys (88 percent) and teacher surveys (85 percent), and lower for parent surveys (78 percent) and student tests (76 percent). The evaluation used nonresponse weights to adjust for possible differences in the characteristics; the weights are described in Appendix A.

The evaluation also looked at attendance lists to determine whether control-group students attended centers. In principle, none of the control-group students would have attended centers. Over the course of two years, however, about 16 percent of control-group students were found in the attendance records, and overall, the control group averaged about 9 days of center attendance (compared to 81 days for the treatment group).

The tables show two types of impact estimates. The first are known as "intent-to-treat" estimates, and are based on the full treatment and control groups. The second set of estimates, which are shown in the column labeled "Estimated Impact on Participants" and sometimes are termed the impacts of "treatment on the treated," adjust for the 8 percent of treatments who never attended centers ("no show adjustment") and for the 16 percent of controls who attended centers for one day or more ("cross-over adjustment"). The properties of the estimation methods that the evaluation used make it possible for "intent-to-treat" impacts to be statistically significant while

impacts for participants are not, and vice versa. In general, the participant impacts are qualitatively similar to the intent-to-treat impacts. The text below notes some outcomes for which differences were observed.

1. The Program Had an Impact on Whom Students Were With and Where Students Were After School

Treatment-group students were less likely than control-group students to be with their parents after school and more likely to be with other adults (Table II.3). For example, 68 percent of treatment-group students were with parents after school at least three days in a typical week, compared to 75 percent of control-group students (effect size of 0.15), and 40 percent of treatment-group students were with other adults after school at least three days in a typical week, compared to 33 percent of control-group students (effect size of 0.14).⁹

Supervision by older siblings did not differ significantly between the treatment and control groups. In the second report, supervision by siblings was lower among the treatment group relative to the control group.

The program had no impact on the frequency with which parents reported students to be in self-care. For the self-care estimate in Table II.3, students were defined as being in self-care if, for at least three days in a typical week, they were not with a parent, a nonparent adult, or an older sibling. Just over one percent of treatment-group (and control-group) students were in self-care in a typical week using this definition. Estimates based on other definitions of self-care, such as whether students were home alone at all during the week, or were home alone three or

⁹Tables and text indicate significance at 1 and 5 percent levels. Effect sizes are reported only for estimates that are statistically significant at least at the 5 percent level.

Table II.3

Impacts on Students' Location, Supervision, and Activities After School, and Mother's Employment, Elementary School Centers, Year 2

Outcome	Treatment Group	Control Group	Estimated Impact	Estimated Impact on Participants
Percentage of Students with the Following Individuals at Least Three Days After School in a Typical Week, According to Parent Reports:				
Self-care ^a	1.1	1.1	-0.1	1.3
Parent	67.8	74.5	-6.7**	-8.4***
Nonparent adult	39.5	32.8	6.7**	9.4***
Sibling	22.6	27.5	-4.9	-4.9
Mixed (Not in any one category for at least three days)	2.7	2.2	0.5	-0.8
Percentage of Students in the Following Locations After School at Least Three Days in a Typical Week, According to Parent Reports:				
Own home	67.3	76.0	-8.7***	-12.5***
Someone else's home	13.7	14.5	-0.8	-4.2
School or other place for activities	45.9	36.4	9.5***	17.2***
Somewhere to "hang out"	2.1	2.3	-0.2	-1.2
Mixed location (not in one location for at least three days)	1.4	0.9	0.4	0.7
Employment of Mother				
Full-time	53.5	50.2	3.3	1.7
Part-time	13.0	15.7	-2.8	-4.4
Looking for work	14.3	17.6	-3.2	-0.5
Not in labor force	19.2	16.5	2.7	1.0
Mean Number of Days Stayed After School for Activities in Typical Week, According to Parent Reports				
	1.5	1.0	0.5***	1.0***
Percentage of Students in the Following Activities After School at Least One Day in the Prior Week, According to Parent Reports:				
Homework	90.3	91.6	-1.3	-1.0
Tutoring	27.5	16.1	11.4***	15.1***
Nonhomework reading, writing, or science activities	58.3	57.4	0.8	2.0
School activities (band, drama, etc.)	19.4	18.8	0.6	1.7
Lessons (music, art, dance, etc.)	20.9	19.6	1.3	3.2
Organized sports	27.1	26.3	0.8	2.8
Clubs (Boy and Girl Scouts, Boys and Girls Club, etc.)	13.5	16.3	-2.9	1.3
Activities at church, temple, or mosque	27.7	27.5	0.2	0.1
Watched TV or videos	76.8	78.7	-1.9	-7.2**
Surfed the Internet or did other things on the computer	42.4	35.7	6.6**	8.2**
"Hung out" with friends	43.0	44.6	-1.6	1.0
Did chores around the house	81.2	80.3	0.9	-1.6
Took care of a brother or sister	18.9	21.2	-2.3	-2.1
Mean Time Students Reported Watching Television in the Past Day (Hours)				
	2.0	2.1	0.0	-0.1
Mean Time Students Reported Reading for Fun in the Past Day (Hours)				
	0.3	0.3	0.0	0.0
Sample Size ^b	991	812		

Source: Parent Survey, Student Survey.

Note: The tables show two types of impact estimates: (1) "intent-to-treat" estimates (in the "Estimated Impact" column) use the full treatment and control groups, and (2) impacts on participants (in the "Estimated Impact on Participants" column) are the impacts after adjusting for the percentage of treatments who did not attend centers ("no-shows") and the percentage of controls who attended centers ("cross-overs"). The percentages and mean values of outcomes for treatment and control students have been regression-adjusted for baseline differences between the groups. The control variables in the regression included students' demographic characteristics, students' baseline test scores, and school attendance. Weights are used to adjust impact estimates for nonresponse. Impacts on participants are estimated using an instrumental variables method, and the significance levels may differ from significance levels of the intent-to-treat estimates. Appendix B describes methods used to estimate impacts. Percentages may not sum to 100 because of rounding.

^aStudents are defined as being in self-care if they were not with a parent, a nonparent adult, or an older sibling at least three days in a typical week.

^bSample sizes differ for some outcomes due to nonresponse. Sample sizes for student-reported outcomes are 784 for the treatment group and 657 for the control group. Only students in third grade and above completed a student survey.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

more days during the week, resulted in the same finding of no impact (Appendix C reports estimates based on alternative measures of self-care).¹⁰

Students in the treatment group were more likely than students in the control group to be at school or in another place outside the home during the after-school hours (Table II.3). Forty-six percent of treatment-group students were at school or another place outside the home at least three days in a typical week, compared to 36 percent of control-group students (effect size of 0.20). Students in the treatment group were less likely than students in the control group to be at home during the after-school hours, with 67 percent of treatment-group students at home after school at least three days in a typical week, compared to 76 percent of control-group students (effect size of 0.20). Treatment-group students stayed after school more frequently than control-group students, averaging 1.5 days per week, compared to 1.0 day for control-group students (effect size of 0.31).

The evaluation also looked at location and supervision together. The most common after-school situation for control-group students was being at home and with a parent, or with a parent and siblings (about 40 percent of control students). Only four percent of parents of control students reported that their child was at school and with other adults after school. The most common situation for treatment students also was being at home with a parent or parents and siblings (about 30 percent), followed by being at school with other adults (about 13 percent).

Impacts of centers are likely related to whether students otherwise would have attended after-school programs. The evaluation looked at data from the parent surveys on participation in after-school programs to determine the percentage of parents who reported that their child

¹⁰The amount of self-care observed in the evaluation is roughly consistent with estimates from the National Household Education Survey, which reported that two percent of K-2 grade students and eight percent of 3-5 grade students are in self-care (Kleiner et al. 2004).

attended an after-school program at the time of either of the two follow-up surveys. It found that about 40 percent of parents of control students indicated that their child was attending an after-school program at the time of one or both of the surveys. In contrast, 69 percent of treatment parents indicated that their child was attending an after-school program at the time of one or both of the parent surveys.¹¹ The data do not provide more information about the type of after-school program students attended, and the evaluation is not able to determine if control and treatment students were attending similar types of programs. However, the data support the notion that there was a difference in rates of after-school program participation between the treatment and control groups.

The study also looked at activities of students after school. Treatment-group students were more likely than control-group students to report that they surfed the Internet or “did other things on the computer” (42 percent of treatment-group students and 36 percent of control-group students reported doing this activity at least one day in the previous week).¹² Program participants reported watching TV or videos less often than nonparticipants, but this finding was statistically insignificant for the full sample.

2. No Impact on Whether Mothers Worked or Were Looking for Work

An increase in labor force participation might be expected to occur if the presence of after-school programs makes it easier for mothers to work or look for work. In the first year, we found that mothers of treatment-group students were more likely than mothers of control-group students to be in the labor force (working or looking for work). However, in the second year,

¹¹Attendance records indicate that 82 percent of treatment students attended 21st Century programs at some point during the study. Parent reports of after-school program attendance are lower than the estimates provided by the attendance records because the surveys asked about after-school program participation in the spring, whereas attendance records measured attendance over the duration of the study.

¹²The program’s impacts on participation in tutoring are discussed in the section on homework, below.

mothers of students in the treatment group were no more likely than mothers of students in the control group to be “in the labor force,” which includes working full-time, working part-time, or looking for work (Table II.3).

3. No Impact on Homework Completion

The evaluation gathered data from students and parents about participation in homework and from teachers about completion of homework. According to students, there was no impact of the program on homework or tutoring participation. According to parents, there was no impact of the program on homework participation, but treatment-group students were more likely than control-group students to participate in tutoring (Table II.3). Student surveys were administered to students in grades 3 to 6, while parent and teachers surveys were administered to parents and teachers of all students regardless of grade, and differences in the samples may explain the differences in impacts on tutoring. In the second year, according to teachers, there was no impact of the program on homework completion. In the first year, the evaluation found that students in the treatment group were less likely than students in the control group to complete their homework.

It is not clear why the impacts on homework completion differ between the first and second years, but it could be related to the increase in the percentage of centers offering homework help sessions from the first year to the second year (85 and 100 percent, respectively). Consistent with this, the percentage of parents of treatment-group students reporting that their child did their homework after school increased from 84 percent in year 1 to 90 percent in year 2 ($p < .01$; compared to 89 and 91 percent, respectively, for parents of control-group students).

Table II.4 provides a potential explanation for the lack of an effect on homework completion. The table shows that programs did not affect homework assistance received by students. Treatment-group students were no more likely than control-group students to have their parent or another adult ask if their homework is complete, look at their homework to see if it is complete, look at their homework to see if it is correct, or to explain homework in a way that is easy to understand. Almost 90 percent of control-group students reported that a parent or other adult asked them if their homework was complete, and about 80 percent reported that a parent or other adult looked at the homework to check it if was complete or correct.¹³

In addition, the structure of the homework help sessions that centers provided may not have been conducive to completing homework. Site visitors reported that most centers did not track the homework students should have been doing, or ensure that students completed their homework during the sessions. In addition, students mostly worked on their own, asking session monitors for assistance if needed.

4. Negative Impacts on Behavior

There was evidence of higher levels of behavior problems among treatment-group students relative to control-group students in the study's second year (Table II.5). For example, teachers reported having to call parents about behavior problems for 28 percent of treatment-group students and 23 percent of control-group students (effect size of 0.12). Twenty-two percent of treatment-group students reported that they were disciplined for behavior by having to miss recess or sit in the hall, compared to 17 percent of control-group students (effect size of 0.16).

¹³Tabulations from the National Household Education Survey for 2001 indicate that 59 percent of students in grades 1 to 5 get homework help three days a week or more (which can be interpreted as analogous to "often" or "always" getting help). Table II.6 shows levels of assistance that are comparable to these estimates. For example, 59 percent of control-group parents reported helping their child with homework at least three times in the past week. The frequencies shown in Table II.4 are not directly comparable because they address specific types of homework assistance provided.

Table II.4

Impacts on Homework Assistance, Elementary School Centers, Year 2

Outcome	Treatment Group	Control Group	Estimated Impact	Estimated Impact on Participants
Percentage of Students Who Report That Their Parent “Often” or “Always” Does the Following:				
Asks if homework is complete	83.3	80.2	3.1	2.4
Looks at homework to see if it is complete	72.3	74.8	-2.5	-1.3
Looks at homework to see if it is correct	72.3	71.8	0.5	-1.5
Explains homework in a way that is easy to understand	73.5	73.8	-0.3	3.5
Percentage of Students Who Report That an Adult Who Is Not Their Parent “Often” or “Always” Does the Following:				
Asks if homework is complete	56.0	55.5	0.5	2.1
Looks at homework to see if it is complete	49.6	52.1	-2.6	4.3
Looks at homework to see if it is correct	52.1	57.2	-5.1	-0.8
Explains homework in a way that is easy to understand	55.1	54.4	0.8	6.7
Percentage of Students Who Report That Their Parent or an Adult Who Is Not Their Parent “Often” or “Always” Does the Following:				
Asks if homework is complete	89.0	87.1	1.9	0.7
Looks at homework to see if it is complete	80.1	81.8	-1.7	-1.4
Looks at homework to see if it is correct	80.4	82.1	-1.7	-3.8
Explains homework in a way that is easy to understand	80.5	83.3	-2.8	2.3
Percentage of Students Who Had the Following Individual Ask the Child to Correct Parts of Homework:				
Parent	89.5	91.6	-2.1	-1.8
An adult who is not their parent	75.0	76.2	-1.2	3.8
A parent or an adult who is not their parent	94.0	96.4	-2.4	-1.7
Sample Size ^a	769	647		

Source: Student Survey.

Note: The tables show two types of impact estimates: (1) “intent-to-treat” estimates (in the “Estimated Impact” column) use the full treatment and control groups, and (2) impacts on participants (in the “Estimated Impact on Participants” column) are the impacts after adjusting for the percentage of treatments who did not attend centers (“no-shows”) and the percentage of controls who attended centers (“cross-overs”). The percentages and mean values of outcomes for treatment and control students have been regression-adjusted for baseline differences between the groups. The control variables in the regression included students’ demographic characteristics, students’ baseline test scores, and school attendance. Weights are used to adjust impact estimates for nonresponse. Impacts on participants are estimated using an instrumental variables method, and the significance levels may differ from significance levels of the intent-to-treat estimates. Appendix B describes methods used to estimate impacts.

^aSample sizes differ for some outcomes due to nonresponse. Sample sizes in this table are smaller than the other elementary impact tables because all outcomes in the table are from the student survey, which was not administered to students in grades K-2.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table II.5

Impacts on Academic and Other In-School Outcomes, Elementary School Centers, Year 2

Outcome	Treatment Group	Control Group	Estimated Impact	Estimated Impact on Participants
Mean Number of Days Student Was:				
Absent	8.1	8.4	-0.2	0.1
Late	4.4	4.3	0.1	-0.3
Percentage of Students Whose Teachers Report That They Are “Often” Late for Class	8.9	6.8	2.1	2.4
Percentage of Students Who Report That They “Often” or “Always” Complete the Homework Teachers Assign	77.8	79.4	-1.6	-4.5
Percentage of Students Whose Teachers Report That They “Often” Complete Their Homework	53.5	56.9	-3.4	-5.7
Mean Amount of Time Students Spent Doing Homework the Last Time They Had Homework (Hours)	0.8	0.8	0.0	0.0
Percentage of Students Whose Teachers Report the Following:				
“Agree” or “Strongly Agree” That Student Completes Assignments to the Teacher’s Satisfaction	52.8	54.5	-1.7	-0.2
Student Achieves at “Above-Average” or “Very High” Level	22.2	28.1	-5.9**	-4.2
“Agree” or “Strongly Agree” That Student Comes to School Prepared and Ready to Learn	56.6	60.7	-4.0	-5.3
Student “Usually Tries Hard” in Reading or English	46.7	52.4	-5.7**	-6.0
Student “Often” Performs at or Above His or Her Ability	39.9	40.6	-0.7	-0.5
Percentage of Students Whose Parents “Agree” or “Strongly Agree” That Their Child Works Hard at School	83.5	84.4	-0.9	0.9
Level of Effort Composite ^a (Mean)	3.5	3.6	-0.1	-0.1
Percentage of Students Whose Teachers Report Doing the Following “Two or More Times”:				
Disciplining the child for misbehaving	47.0	43.2	3.8	1.1
Sending child to the office for misbehaving	13.6	12.4	1.2	3.3
Giving child detention	20.8	17.5	3.4	3.1
Calling parents about child’s behavior	28.1	23.1	5.1**	4.5
Percentage of Students Who Report the Following Happens “Some” or “A Lot”:				
Student has to miss recess or sit in the hall	22.4	16.9	5.5**	3.7
Parents have to come to school about problem	22.3	16.8	5.6**	3.6
Student-Reported Discipline Problem Composite ^b (Mean)	1.7	1.6	0.1**	0.1
Teacher-Reported Discipline Problem Composite ^c (Mean)	1.8	1.7	0.1**	0.1
Percentage of Students Who Were Suspended During Most Recent School Year	11.5	7.5	4.1**	5.3***
Mean Grade:				
Math	79.9	80.6	-0.6	-0.6
English/language arts	81.2	80.8	0.3	0.1
Science	82.3	82.5	-0.1	-0.3
Social studies/history	81.2	82.2	-1.0	-0.8
Mean Reading Test Score	32.7	32.4	0.3	0.6
Reading Confidence Composite ^d (Mean)	3.0	3.0	0.0	-0.1
Sample Size ^e	1,055	880		

Source: Student Survey, Parent Survey, School Records, Teacher Survey.

Note: The tables show two types of impact estimates: (1) “intent-to-treat” estimates (in the “Estimated Impact” column) use the full treatment and control groups, and (2) impacts on participants (in the “Estimated Impact on Participants” column) are the impacts after adjusting for the percentage of treatments who did not attend centers (“no-shows”) and the percentage of controls who attended centers (“cross-overs”). The percentages and mean values of outcomes for treatment and control students have been regression-adjusted for baseline differences between the groups. The control variables in the regression included student characteristics such as indicators of students’ demographic characteristics, students’ baseline test scores, and school attendance. Weights are used to adjust impact estimates for nonresponse. Impacts on participants are estimated using an instrumental variables method, and the significance levels may differ from significance levels of the intent-to-treat estimates. Appendix B describes methods used to estimate impacts.

^aThe level of effort composite is based on five teacher-reported items regarding student (1) effort, (2) performance at ability level, (3) attentiveness, (4) participation, and (5) volunteering. Values on these items range from 1 to 5; a value of 1 on the composite indicates a low level, and a value of 5 indicates a high level.

^bThe student-reported discipline composite is based on three responses: (1) how often the student is sent to the office for doing something wrong, (2) how often the student misses recess or sits in the hall, and (3) how often parents have to come to school about a problem. A value of 1 on the composite means a low occurrence of student-reported discipline problems, and a value of 3 means a high occurrence.

^cThe teacher-reported discipline composite is based on four teacher responses regarding the student's behavior in the past month: (1) how often the student is disciplined for misbehaving, (2) how often the teacher has given the student detention, (3) how often the teacher has sent the student to the office for misbehaving, and (4) how often the teacher has contacted the student's parents regarding behavior. A value of 1 on the composite means a low occurrence of teacher-reported discipline problems, and a value of 4 means a high occurrence.

^dThe reading confidence composite is based on student reports on three items: (1) reading is hard to learn, (2) they are a good reader, and (3) they would read better if they had more help. Values on these items range from 1 to 4; a value of 1 on the composite indicates a low level, and a value of 4 indicates a high level.

^eSample sizes differ for some outcomes. For teacher-reported outcomes, the sample sizes are 967 treatment group members and 811 control group members; for student-reported outcomes, the sample sizes are 743 treatment group members and 619 control group members; for records outcomes, the sample sizes range from 819 to 1,044 for treatment group members and from 732 to 860 for control group members; for test scores sample sizes are 952 for treatments and 796 for controls.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Twelve percent of treatment-group students were suspended from school, compared to 8 percent of control-group students (effect size of 0.16).¹⁴ The impact on suspensions was more significant for participants (at the .01 level) relative to the intent-to-treat model (significant at the .05 level).¹⁵

No impacts were observed on the extent to which teachers reported disciplining the child for misbehaving, sending the child to the office for misbehaving, or giving the child detention. However, a composite variable based on teacher reports of discipline problems was significantly higher for treatment-group students relative to control-group students, as was a composite variable based on student reports of discipline problems.

Site visitors observed some evidence of behavior problems in centers, such as center staff struggling to maintain control of students or students talking back to staff, but it is not clear how negative behaviors in centers relate to negative behaviors during the school day. Previous research about whether after-school programs are related to negative behavior is mixed. A Massachusetts study reported significant increases in negative behaviors while students were in after-school programs (Massachusetts 2020 and Boston Public Schools 2004), and researchers studying a school district in suburban Dallas reported that children who attended day care centers after school (including after-school programs) were more likely to be viewed negatively by their peers (Vandell and Corasaniti 1988). Another study found that nonmaternal care (including after-school programs) was not related to behavior problems (National Institute of Child Health and Human Development Early Child Care Research Network 2004). Findings for subgroups discussed below indicate that the negative-behavior impacts are concentrated among boys and students who had high levels of disciplinary problems at baseline, which may provide some insight about the pathways.

¹⁴The prior report had similar impact estimates, but the impacts were statistically insignificant.

¹⁵The pattern of impacts on participants on other behavior outcomes, including the student-reported discipline composite (p-value of .07) and the teacher-reported discipline composite (p-value of .06), was similar.

5. No Impacts on Academic Outcomes

There were no impacts of the program on reading test scores or course grades in math, English, science, or social studies (Table II.5). Treatment-group students had an average reading score of 32.7 (in percentiles) on the Stanford Achievement Test—Version 9 (SAT-9) reading test, and control-group students had an average reading score of 32.4.¹⁶ Course grades were similar for the two groups. For example, treatment students had an average math grade of 79.9, while control students had an average math grade of 80.6 (Table II.5).

The evaluation looked at other academic outcomes, including classroom effort and teacher reports of achievement (Table II.5). According to teachers, effort and achievement were lower for treatment-group students relative to control-group students. Teachers reported that 22 percent of treatment-group students achieved at an “above-average” or “very high” level, compared to 28 percent of control-group students (effect size of 0.14). Similarly, 47 percent of treatment-group students “usually try hard” in reading and English according to their teachers, compared to 52 percent of control-group students (effect size of 0.11).¹⁷

There were no differences between the groups for related academic outcomes, such as completing assignments to the teacher’s satisfaction, coming to school prepared, and performing at or above the student’s ability level. However, the subgroup findings noted below indicate that there were some differences in students’ readiness for learning according to teachers (the impact of the program for boys on being “ready to learn” was significantly different than the impact for girls).

¹⁶Baseline reading scores were imputed by calculating the mean baseline reading score among students with a baseline score and assigning the mean score to students who were missing the baseline score. Handling missing baseline reading scores in other ways, such as estimating impacts only for students with nonmissing baseline reading scores and excluding the baseline reading score from the list of regressors, did not change the findings.

¹⁷The pattern of impacts on participants for students trying hard in reading and students achieving at a high level was similar (p-values of .07 and .12, respectively).

6. Treatment Students Felt Safer After School than Control Students

Treatment-group students reported feeling safer after school than control-group students (Table II.6). Three percent of treatment-group students reported feeling “not at all safe” after school, compared to seven percent of control-group students (effect size of 0.21).¹⁸ The increase in feelings of safety for treatment students relative to control students suggests that centers were meeting one of their key objectives. The evaluation did not gather other data about whether student safety after school improved from other perspectives, which might be suggested, for example, by a lower incidence of victimization in the neighborhood area around schools that operated centers.

7. No Impact on Parent Involvement

Parents of treatment-group and control-group students were equally likely to help their child with homework, check homework completion, and ask about things their child was doing in class (Table II.6).¹⁹ Parents of treatment-group and control-group students were also equally likely to attend open houses at school, parent-teacher organization meetings, and after-school events and to volunteer to help out at school (Table II.6). Parents of participants were more likely than parents of nonparticipants to attend parent/teacher organization meetings.

8. Some Negative Impacts on Developmental Outcomes

Treatment-group students were less likely than control-group students to rate themselves highly on working with others on a team or group (Table II.6): 78 percent of treatment-group students rated themselves highly on this measure, compared to 85 percent of control-group students (effect size of 0.19). In addition, according to teachers, treatment-group students were less likely than

¹⁸The impact on participants (p-value of .08) was consistent with the intent-to-treat impact.

¹⁹These results contrast with the first-year findings, which found statistically significant, positive impacts on homework help, asking about what the child was doing in class, and attending an after-school event (Dynarski et al. 2004).

Table II.6

Impacts on Other Outcomes, Elementary School Centers, Year 2

Outcome	Treatment Group	Control Group	Estimated Impact	Estimated Impact on Participants
Percentage of Students Who Report Feeling the Following Levels of Safety After School up Until 6 p.m.:				
Very safe	79.1	76.4	2.7	4.4
Somewhat safe	18.4	16.5	1.9	-1.5
Not at all safe	2.5	7.1	-4.6***	-2.9
Percentage of Students Who Report the Following Are "Somewhat True" or "Very True":				
They get along with others their age	85.9	85.8	0.1	4.5
They feel left out of things	31.2	30.6	0.6	-1.2
Percentage of Students Whose Teachers Report That the Student Gets Along Well with Others				
	69.8	76.1	-6.3**	-8.1***
Percentage of Students Who Do the Following "Some" or "A Lot":				
Help another student in school	75.0	73.4	1.6	0.7
Help another student after school	58.6	56.6	2.0	9.3**
Percentage of Students Who Rate Themselves as "Good" or "Excellent" on the Following:				
Working with others on a team or group	77.7	84.7	-7.0**	-6.1**
Feeling bad for other people who are having difficulties	73.5	73.3	0.2	-1.0
Believing the best about other people	76.2	76.4	-0.3	-1.9
Percentage of Students Who Rate Themselves as "Excellent" on the Following:				
Using a computer to look up information	42.4	44.5	-2.1	1.7
Setting a goal and working to achieve it	50.2	48.6	1.7	3.4
Percentage of Students Who Rate Themselves as "Excellent" on Sticking to What They Believe in, Even if Their Friends Don't Agree				
	50.0	52.1	-2.1	0.5
Negative Behavior Composite ^a				
	1.7	1.7	0.0	0.0
Percentage of Students Whose Parents Report Doing the Following:				
Helped their child with homework at least three times last week	62.0	59.0	3.1	2.5
Checked on their child's homework completion at least three times last week	90.1	91.0	-0.9	-1.1
Asked their child about things they were doing in class at least seven times last month	66.7	68.4	-1.6	-1.5
Percentage of Students Whose Parents Did the Following at Least Three Times Last Year:				
Attended an open house at the school	40.3	39.0	1.2	0.9
Attended parent-teacher organization meetings	48.7	44.3	4.5	9.6***
Attended an after-school event	40.0	45.3	-5.3	0.1
Volunteered to help out at school	29.0	32.8	-3.8	-2.8
Sample Size ^b	784	658		

Source: Student Survey, Parent Survey, Teacher Survey.

Note: The tables show two types of impact estimates: (1) "intent-to-treat" estimates (in the "Estimated Impact" column) use the full treatment and control groups, and (2) impacts on participants (in the "Estimated Impact on Participants" column) are the impacts after adjusting for the percentage of treatments who did not attend centers ("no-shows") and the percentage of controls who attended centers ("cross-overs"). The percentages and mean values of outcomes for treatment and control students have been regression-adjusted for baseline differences between the groups. The control variables in the regression included students' demographic characteristics, students' baseline test scores, and school attendance. Weights are used to adjust impact estimates for nonresponse. Impacts on participants are estimated using an instrumental variables method, and the significance levels may differ from significance levels of the intent-to-treat estimates. Appendix B describes methods used to estimate impacts.

^aThe negative behavior composite is based on student responses to five questions regarding how often they do the following: (1) break something on purpose, (2) punch or hit someone, (3) argue with their parents, (4) lie to their parents, and (5) give a teacher a "hard time." Values on these items range from 1 to 4; a value of 1 on the composite indicates a low level, while a value of 4 indicates a high level.

^bSample sizes differ for outcomes depending on the source. For some parent-reported outcomes, the sample sizes are 991 treatment-group members and 811 control-group members; for student-reported outcomes, the sample sizes are 743 treatment-group members and 619 control-group members.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

control-group students to get along well with others (effect size of 0.15). Treatment-group students were as likely as control-group students to (1) report getting along with others their age, (2) rate themselves highly on sticking to their beliefs even if their friends do not agree, (3) rate themselves highly on setting goals and working toward them, and (4) report helping other students.²⁰ Differences between students and teachers in the finding about getting along well with others could be attributable to sample differences (as noted above, only students in grades 3 to 6 completed questionnaires, whereas teachers completed questionnaires about students in grades K to 6).

9. Some Impacts for Subgroups

As in the prior report, the evaluation estimated intent-to-treat impacts for six subgroups: (1) grade level, (2) whether students had low or high reading test scores at baseline, (3) whether students had low or high behavior problems at baseline, (4) student race and ethnicity, (5) student gender, and (6) whether students lived in two-parent or one-parent households.²¹ Appendix D presents the full set of subgroup impacts; a reduced set of tables, which focuses on subgroups with noteworthy impacts, is presented here.²²

Two subgroup patterns are worth noting (see Tables II.7a-c). One is that students who had low test scores at baseline had impacts on grades which differed significantly from the impacts on

²⁰In the first year, treatment-group students were more likely than control-group students to report helping other students after school. This was not found in the second year. However, participants were more likely than nonparticipants to report helping other students after school.

²¹Students are defined as having low (high) scores if they scored below (above) the median reading test score for the evaluation sample. Students are defined as having low (high) behavior problems if their behavior problem composite variable is below (above) the median level of the behavior composite for the evaluation sample.

²²The text focuses on impacts that differ significantly between subgroups (shown in tables as bold text) and that differ significantly from zero (marked by asterisks). Some caution should be exercised in interpreting the statistical test results because with the large number of outcomes and subgroups considered here, some statistical tests will be positive by chance.

Table II.7a

Impacts on Student Attendance and Academic Achievement by Subgroup, Elementary School Centers, Year 2

Outcome	Low Baseline Test Scores ^a			High Baseline Test Scores ^a		
	Treatment Mean	Control Mean	Estimated Impact	Treatment Mean	Control Mean	Estimated Impact
Mean Number of Days School Records Indicate Student Was:						
Absent	9.2	9.2	0.0	7.8	8.2	-0.4
Late	4.0	4.8	-0.8	4.5	4.0	0.4
Mean Student-Reported Reading Confidence Composite	2.8	3.0	-0.2**	3.3	3.2	0.0
Percentage of Students Whose Teachers Report That They Achieve at an "Above-Average" or "Very High" Level	0.1	0.1	1.0	0.3	0.4	-7.8
Mean Class Grade						
Math	78.9	77.3	1.6	82.5	83.3	-0.8
English	79.9	77.5	2.4**	83.5	84.5	-1.0
Science	80.5	79.1	1.4	83.9	85.5	-1.6
Social Studies	79.1	78.6	0.5	83.7	85.9	-2.2**
Mean Reading Test Score	31.1	34.4	-4.4	48.8	45.9	5.4
Number of Observations:						
Student-reported outcomes		642			471	
Teacher-reported outcomes		686			653	
School records outcomes (Attendance)		606			623	
School records outcomes (Grades)		579			599	
School records outcomes (Reading scores)		631			693	

Source: Student Survey, School Records, Teacher Survey.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are defined as having low (high) scores if they scored below (above) the median reading test score for the study sample.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table II.7b

Impacts on Homework Completion, Level of Effort, and Classroom Behavior by Subgroup, Elementary School Centers, Year 2

Outcome	Male			Female		
	Treatment Mean	Control Mean	Estimated Impact	Treatment Mean	Control Mean	Estimated Impact
Percentage of Students Whose Teachers Report That They Often Complete Homework	46.0	52.6	-6.6	61.8	61.4	0.5
Percentage of Students Whose Teachers “Agree” or “Strongly Agree” That:						
Student completes assignments to my satisfaction	45.5	48.5	-3.0	61.7	59.8	1.9
Student comes prepared and ready to learn	47.5	56.6	-9.1**	69.1	65.0	4.0
Percentage of Students Whose Teachers Report That They “Usually Try Hard” in Reading or English	37.7	49.4	-11.7***	54.8	55.9	-1.1
Percentage of Students Whose Teachers Report That They “Often” Perform at or Above Their Ability	34.7	33.6	1.1	46.4	46.5	-0.1
Teacher-Reported Level of Effort Composite (Mean)	3.3	3.5	-0.2	3.7	3.7	0.0
Percentage of Students Whose Parents “Agree” or “Strongly Agree” That Child Works Hard at School	80.7	81.1	-0.4	89.0	87.6	1.4
Percentage of Students Whose Teachers Report Doing the Following “Two or More Times”:						
Disciplining the child for misbehaving	60.0	49.5	10.4**	33.9	34.9	-1.0
Sending child to the office for misbehaving	20.8	16.4	4.4	5.9	7.4	-1.5
Giving child detention	25.9	21.5	4.3	17.0	12.7	4.4
Calling parents about child’s behavior	39.8	29.5	10.3**	15.6	15.5	0.0
Percentage of Students Who Report the Following Happens “Some” or “A Lot”:						
Student has to miss recess or sit in the hall	31.2	21.0	10.2**	14.6	12.7	1.9
Parents have to come to school about problem	28.6	20.2	8.4	16.7	14.5	2.1
Percentage of Students Who Were Suspended	15.6	9.4	6.2**	6.9	6.6	0.3
Number of Observations:						
Parent-reported outcomes		801			849	
Teacher-reported outcomes		887			924	
School records outcomes (Suspensions)		846			879	
Student-reported outcomes		630			708	

Source: Parent Survey, Student Survey, Teacher Survey, School Records.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table II.7c

Impacts on Homework Completion, Level of Effort, and Classroom Behavior by Subgroup, Elementary School Centers, Year 2

Outcome	Low Baseline Disciplinary Problems Composite ^a			High Baseline Disciplinary Problems Composite ^a		
	Treatment Mean	Control Mean	Estimated Impact	Treatment Mean	Control Mean	Estimated Impact
Percentage of Students Whose Teachers Report That They Often Complete Homework	53.6	59.2	-5.6	42.0	45.2	-3.2
Percentage of Students Whose Teachers “Agree” or “Strongly Agree” That:						
Student completes assignments to my satisfaction	54.2	51.6	2.6	41.6	46.1	-4.5
Student comes prepared and ready to learn	59.7	65.1	-5.4	40.5	48.9	-8.4
Percentage of Students Whose Teachers Report That They “Usually Try Hard” in Reading or English	47.2	49.4	-2.2	31.7	44.7	-13.0
Percentage of Students Whose Teachers Report That They “Often” Perform at or Above Their Ability	42.9	42.2	0.7	31.0	21.5	9.5
Teacher-Reported Level of Effort Composite (Mean)	3.6	3.6	0.0	3.2	3.4	-0.1
Percentage of Students Whose Parents “Agree” or “Strongly Agree” That Child Works Hard at School	80.6	81.7	-1.1	82.1	83.0	-0.9
Percentage of Students Whose Teachers Report Doing the Following “Two or More Times”:						
Disciplining the child for misbehaving	36.2	31.3	4.9	58.9	46.8	12.1
Sending child to the office for misbehaving	9.9	9.9	-0.1	20.5	21.3	-0.8
Giving child detention	15.8	13.3	2.6	32.3	18.2	14.2**
Calling parents about child’s behavior	20.6	17.4	3.2	36.1	24.7	11.4
Percentage of Students Who Report the Following Happens “Some” or “A Lot”:						
Student has to miss recess or sit in the hall	7.6	12.0	-4.4	29.6	16.7	12.9**
Parents have to come to school about problem	11.3	8.3	3.0	30.2	21.0	9.2
Percentage of Students Who Were Suspended	12.1	7.2	4.9	21.6	19.6	2.0
Number of Observations:						
Parent-reported outcomes		588			271	
Teacher-reported outcomes		614			303	
School records outcomes (Suspensions)		581			279	
Student-reported outcomes		636			318	

Source: Parent Survey, Student Survey, Teacher Survey, School Records.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^a The baseline student discipline composite was based on students' responses to how frequently the following three things happened to them: (1) sent to the office for doing something wrong, (2) have to miss recess or sit in the hall, and (3) parents have to come to school about a problem they're having. Students are defined as having low (high) levels of discipline problems if the composite falls below (above) the median of the composite for the study sample.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

grades for students with high test scores at baseline (Table II.7a). The differences in grade impacts between the high and low score groups were statistically significant for English (reading) and science, though not statistically significant for math and social studies (significant differences in impacts between two subgroups are indicated by bold text). While impacts on English and science grades for these two subgroups differed significantly from each other, only the impact on English grades differed significantly from zero for students in the low baseline score group (treatment students with low baseline scores had higher English grades than control students with low baseline scores).

Impacts for low-score students also differed significantly from impacts for high-score students on teacher reports of trying hard in reading and on a composite variable for classroom effort (see appendix Table D.2a). Again, while impacts for these subgroups differed significantly from each other, only teacher reports of students trying hard in class in the high baseline group differed significantly from zero (treatment students with high scores at baseline were significantly less likely than control students with high scores at baseline to try hard in class, according to teachers). Low-score students also had impacts which differed significantly from impacts for high-score students on confidence in their reading abilities (Table II.7a). Treatment students with low baseline scores reported feeling less confident in their reading abilities than control students with low baseline scores.

The second subgroup pattern is that the negative behavior findings noted in section (4) (treatment-group students were more likely than control-group students to be suspended, have their parents called about behavior problems, to be disciplined for behavior problems by having to miss recess or sit in the hall, and to have their parents come to school about a problem) are concentrated in two subgroups: (1) boys, and (2) students with high levels of disciplinary problems at baseline. The behavior results in Table II.7b show differences for boys and girls. For four of the seven

behavioral outcomes, there was a negative impact for boys. On none of the behavioral outcomes was there a negative impact for girls. The difference in impacts for boys and girls was statistically significant for one of the behavioral outcomes. For example, for girls, the estimated impact on teachers calling parents about behavior was zero, and, for boys, the estimated impact was an increase of 10 percentage points. Other behavior outcomes for boys and girls show a similar pattern, though the differences are not statistically significant.

Similar patterns also are evident in Table II.7c for students with high- and low-discipline problems at baseline.²³ For example, there was no impact of the program on being disciplined by missing recess or sitting in the hall for students with low-discipline problems, but high-discipline problem treatment students were more likely to be disciplined than high-discipline problem control students.

²³The correlation between being in the boy subgroup and the high-discipline subgroup was 0.16, which suggests that the subgroups overlap to some degree, but not substantially.

III. Synthesis of National Evaluation Findings

The national evaluation is the largest and most rigorous examination to date of school-based after-school programs. Given the large amount of data that have been collected, analyzed, and reported, it is helpful to synthesize the findings presented in the evaluation's three major reports. We first highlight key implementation findings, then turn to impact findings.

The synthesis necessarily focuses on particular findings from the many reported by the evaluation. In highlighting the particular findings, the synthesis relied on the three main evaluation questions: (1) What were the features and characteristics of programs? (2) Did programs improve student outcomes? and (3) What types of students benefited the most? It also considered the second impact question in five student domains: supervision and location after school, academic performance, personal and social development, behavior, and safety. In addition, the synthesis touches on several parent outcomes. Generally, impact findings are reported only if the estimated impact is statistically significant in one or both years.²⁴ Some findings relate to an absence of impact when it was hypothesized that an impact would be observed.

The synthesis combines both elementary and middle school findings. Middle school centers in the study were nationally representative, but elementary school centers had higher levels of low-income and minority students than the national average for elementary school centers, and the impact estimates are based on different measurement designs. The synthesis focuses on the overall consistency of findings, for which these differences play less of a role.

²⁴The first report's findings for elementary school students were based on a partial sample and are not included here.

A. Implementation Findings

The study team collected data from program directors, staff, and school principals, and it observed centers to analyze program objectives, activities, staffing, and changes in centers during the two-year follow-up period. The data were the basis for several useful findings about implementation.

National data from program performance reports provide a description of an average 21st Century center.²⁵ The average center serves about 200 students during a school year (though the number served each day is lower and varies widely across centers) and is open 10 or more hours a week (many are open 20 or more hours a week and on Saturdays). The center employs 12 or 13 staff, many of whom are teachers during the regular school day, to work with students. The center's budget allows it to spend about \$1,000 a year per enrolled student, with most of the budget consisting of the 21st Century grant.

Most schools hosting centers are elementary and middle schools that enroll a large number of low-income and minority students. Whereas 17 percent of middle schools nationwide are classified as high poverty (based on the proportion of students participating in the free lunch program), 66 percent of middle schools operating 21st Century centers are classified as high poverty. Similarly, 37 percent of students in middle schools nationwide are minorities; in middle schools operating 21st Century centers, 57 percent are minorities.

In both middle and elementary centers, program directors reported that their most important objectives were (1) providing a safe environment after school, and (2) helping students improve academically. These objectives coincide with ED's *Safe and Smart* theme for the 21st Century program.

²⁵Chapter I of the first report presents descriptive statistics about the national 21st Century program based on data from program performance reports.

Nearly all centers provided academic activities in reading, math, and science. Enrichment activities, such as art, music, and technology, also were common. Program directors in the evaluation’s elementary school centers reported that they designed activities mostly to support increased academic achievement and for enrichment and recreation. Directors in middle school centers reported that they designed activities to appeal to students (most of whom said they attended voluntarily) and to accommodate staff, parent, and teacher views about what students needed to develop and improve. In interviews, program directors noted that they needed to provide interesting and fun activities that attracted students, while also providing academic activities that they saw as not being as attractive to students. Finding the right balance was a continual concern.

The study found wide variability in activities and services delivered across programs. The variability is consistent with the “model” underlying the program, which is that school districts and community partners would work together and combine local resources and skills to create a menu of services and activities that appeal to students. The authorizing legislation and ED’s funding criteria both left program design primarily to the local programs. The variation in activities and services observed by the study is a logical consequence of this feature.

Key Implementation Findings from the National Evaluation

- The 21st Century program is serving mostly low-income schools that enroll large proportions of minority students.
- The most important program objectives are providing a safe setting and offering activities to help students improve academically.
- Many center staff are teachers.
- Program leadership is stable, but line staff turnover is high.
- The average elementary school student attends two to three days a week, and the average middle school student attends one day a week. Middle school students attend less frequently as the school year progresses, and most do not return in the second year even when they have access to centers. Elementary school students attend about the same throughout the year and are more likely to return in the second year.

Academic activities, which programs had to provide to be funded, also varied according to local skills and resources. Middle school programs commonly provided homework help, and the evaluation observed that the help typically was passive and more like a study hall than a tutoring session. Other academic activities generally focused on smaller numbers of students who needed to work on particular skills or practice for state assessment tests. Coordination with the school-day curriculum was uncommon. Elementary school programs provided a range of academic activities beyond homework. Most programs understood the importance of coordinating the activities with curriculum in the regular school day and were aware of the need to have information flow between teachers in classrooms and staff in programs. They had varying degrees of success in facilitating the flow. Coordination was smoother when regular schoolteachers were also program staff and had the same students, which was uncommon. Coordination appeared weak or nonexistent in centers that relied on outside staff, focused on noncognitive activities, or used processes that created a paperwork burden, such as having teachers send homework assignments to programs or share lesson plans with them.

During the study's two-year period of observing implementation, program leadership was stable. Eighty-two percent of program directors were still working for the programs in the study's second year. However, two-thirds of the center staff and one-third of center coordinators from the first year had left the centers in the second year, suggesting high turnover. Centers did not pay high wages, which may have contributed to turnover, but the most common reason staff gave for departing was the demands of working after school.

This burnout factor may relate to the fact that many center staff were teachers during the regular school day. Though hiring teachers as staff has advantages—they are familiar with delivering curriculum and instruction and maintaining control of students, and are known to the district—the demands of teaching during the day work against wanting to teach after school as well.

Program attendance was about two days a week for elementary students and about one day a week for middle schoolers. Weekly attendance for middle school students was higher in the earlier part of the school year and declined as the year went on, and many did not return to the program in the second year. Weekly attendance was about the same for elementary school students throughout the school year, and they were more likely than middle school students to return in the second year. Middle school and elementary school students who returned in the second year had patterns of attendance similar to those in the first year. Program and student characteristics did not appear to have relationships with the frequency of attendance, and the study did not find relationships between more frequent attendance and positive outcomes. However, more frequent and steadier attendance would help programs manage service delivery and integrate school-day and after-school instruction.

B. Impact Findings

The experiences and outcomes of control- and comparison-group students in the evaluation provide benchmarks for measuring impacts. Control- or comparison-group students may have gone home after school or attended some other after-school program, been supervised by a parent, sibling, or some other adult, worked on their homework in their own home or in an after-school program, and so on. For example, in the second year, 75 percent of control-group students were with a parent after school, 76 percent were at home, and 1 percent were in self-care three or more days a week (see Table II.3 above). These proportions indicate that students in the treatment group were likely to be at home and with a parent if the 21st Century center was not in their school.

Because the elementary school evaluation used an experimental design, the study can validly measure what treatment-group students would have experienced in the absence of the 21st Century center in their school. The experimental design ensures that outcome differences between the treatment and control groups are attributable to the program. For elementary schools, Table III.1

Table III.1

Effect Sizes for Selected Outcomes from the First and Second Study Years, Elementary Students

Outcome	Year 1 Full Sample Impacts	Year 2 Full Sample Impacts
In Self-Care After School	0.01	-0.01
With Parent After School	-0.23***	-0.15**
With Other Adult After School	0.23***	0.14**
With Sibling After School	-0.12**	-0.11
In Mixed Care After School	0.05	0.03
Grade in Math	0.03	-0.06
Grade in English	0.01	0.03
Grade in Science	0.03	-0.02
Grade in Social Studies/History	0.04	-0.11
Reading Test Score	-0.02	0.01
Teacher-Reported Homework Completion	-0.12**	-0.07
Number of School Absences	0.00	-0.03
Teacher Reports Above-Average Levels of Achievement	-0.08	-0.14**
Teacher Reports "Tries Hard" in Reading/English	0.06	-0.11**
Feel Very Safe After School	0.04	0.06
Feel Somewhat Safe After School	0.04	0.05
Feel Unsafe After School	-0.15**	-0.21***
Helps Other Students After School	0.16**	0.04
Gets Along Well with Others	-0.11	-0.15**
Works Well on Teams or Groups	-0.07	-0.19**
Teacher-Reported Discipline Problems Composite	0.10	0.12**
Student-Reported Discipline Problems Composite	0.01	0.16**
Percentage of Students Suspended	0.08	0.16**

Source: School Records, Student Survey, Parent Survey, Teacher Survey.

**The impact on which the effect size is based is significantly different from zero at the .05 level, two-tailed test.
 ***The impact on which the effect size is based is significantly different from zero at the .01 level, two-tailed test.

presents a summary of findings for key outcomes. For the middle school study, the evaluation used a matched-comparison group design, and other factors besides the program may explain outcome differences. The evaluation's statistical techniques to enhance the validity of the middle school design included using pre- and post-outcome measures whenever possible and using regression models to adjust for a wide range of other variables that could differ between the treatment and control groups. For middle schools, Table III.2 presents a summary of findings for key outcomes.

Table III.2

Effect Sizes for Selected Outcomes from the First and Second Study Years, Middle School Students

Outcome	Year 1 Full Sample Impacts	Year 2 Full Sample Impacts
In Self-Care After School	0.0	-0.02
With Parent After School	-0.12***	-0.04
With Other Adult After School	0.24***	0.11
With Sibling After School	-0.11***	-0.09**
In Mixed Care After School	0.00	-0.06
Grade in Math	0.06	0.06
Grade in English	0.01	0.04
Grade in Science	0.01	0.05
Grade in Social Studies/History	0.03	0.14***
Number of School Absences	-0.11***	-0.09**
Teacher-Reported Effort in Class	0.10***	0.01
Teacher-Reported Homework Completion	0.01	-0.02
Feel Very Safe After School	-0.03	-0.05
Feel Somewhat Safe After School	0.03	0.04
Feel Unsafe After School	0.00	0.02
Social Engagement Composite	-0.03	-0.05
Peer Interaction Composite	-0.05	-0.03
Works Out Conflicts with Others	-0.09**	-0.07
Student Expects to Graduate from College	0.08**	0.06**
Negative Behavior Composite	0.09***	0.08**
Drug Use Composite	0.01	0.05
Been Picked on After School	0.04	0.07
Had Property Damaged	0.08**	0.07

Source: School Records, Student Survey, Parent Survey, Teacher Survey.

**The impact on which the effect size is based is significantly different from zero at the .05 level, two-tailed test.

***The impact on which the effect size is based is significantly different from zero at the .01 level, two-tailed test.

Supervision After School. Treatment-group students were more likely than control- or comparison-group students to be with adults who were not their parents after school and less likely to be with parents or older siblings. There was no impact of the program on self-care, regardless of how it was defined.

Academic Achievement. Generally, there was no impact of the program on reading test scores or grades. For elementary school students who had low test scores at baseline, however, the program had a positive impact on English grades, possibly reflecting an ability to help low-achieving students. The difference was about 2 points on a 100-point scale. Middle school treatment-group students also had lower absenteeism than middle school comparison-group students.

Homework. Homework assistance was the most common academic activity that centers provided, but there was no impact of the program on the extent to which students completed homework or received help with it. The study found that nearly all elementary school students already received homework help. About 90 percent of the elementary students in the control group reported that a parent or some other adult asked them if their homework was complete, and about 80 percent reported that a parent or some other adult checked their homework to see if it was complete.

For middle school students in the comparison group, 80 percent reported that a parent or other adult asked them if their homework was complete; about 53 percent reported that a parent or other adult checked that homework was complete. These lower rates of homework help mean programs had the opportunity to increase homework help provided to middle school students compared to elementary school students, but their ability to do so is counteracted by low rates of attendance by middle school students.

Feelings of Safety. Elementary school treatment-group students reported feeling safer after school than elementary school control-group students. Considering that nearly three-quarters of students in the control group reported feeling “very safe” (the highest of three categories) and only seven percent reported feeling “not at all safe” (the lowest of three categories), the program’s ability to generate a statistically significant increase in feelings of safety is noteworthy. Similar findings

were not observed for middle school students. However, fewer than three percent of middle school students reported feeling “not at all safe.”

Developmental Outcomes. The study looked at a range of outcomes related to personal and social development, though it did not collect detailed measures in these domains. Although most outcomes showed no differences, middle school students in the treatment group were more likely than students in the comparison group to say they expected to graduate from college, but the difference was small (about two percentage points). Elementary school students in the treatment group were more likely than elementary school students in the control group to report helping other students after school in the first year, which may be related to program activities. In the second year, however, students in the treatment group rated themselves less highly than students in the control group at working well on teams, and teachers rated them less highly on getting along with others.

Key Impact Findings from the National Evaluation

- Treatment-group students were more likely than control- and comparison-group students to be supervised by other adults, and less likely to be supervised by parents and siblings; there was no difference in self-care.
- There were few impacts of the program on academic achievement, and there was no difference between the treatment and control or comparison groups in homework assistance.
- Elementary students in the treatment group felt safer than elementary students in the control group.
- There were mixed impacts of the program on developmental outcomes.
- Treatment-group students were more likely than control-group students to engage in some negative behaviors.

Parental Outcomes. Parents of elementary school treatment-group students had higher employment levels than parents of elementary school control-group parents in the first year but not in the second year. The finding hints at the possibility that programs may enable parents to participate in the labor market, although the lack of a second-year finding makes the picture unclear. For middle school parents, parental involvement was higher in the first year for the treatment group than the control group. Parents of treatment-group students were more likely than parents of control-group students to attend parent-teacher organization meetings, volunteer at school, and go to after-school events. In the second year, the levels were roughly similar to the first year, but the differences between the program and comparison groups were smaller and not statistically significant.

This pattern could arise if parent involvement is related to student participation in the after-school program, which was higher in the first year. Elementary school parents in the treatment group were more likely than parents in the control group to participate in after-school events in the first year, but their involvement in other areas was unaffected. In the second year, parents were as involved as the first year, but the extent of involvement was the same for the program and control groups.

Negative Behaviors. Middle school students in the treatment group were more likely than middle school students in the comparison group to engage in some negative behaviors. A composite variable for five negative behaviors was higher for the treatment group than the comparison group in both years, and the difference was statistically significant. For elementary school students, treatment-group students were more likely than control-group students to engage in negative behaviors in the second year but not in the first year. Program students were more likely than control-group students to be disciplined by their regular school-day teachers and to be suspended from school (about 12 percent were suspended at least once in the second year,

compared to about 8 percent of the control group). Discussions with program directors indicated that students were not likely to be suspended because of their behavior during the after-school program, suggesting that, like the teacher discipline outcome, suspensions are related to negative behavior during the regular school day.

Subgroup analyses showed that nearly all the negative behaviors could be attributed to boys (behavior impacts for girls were close to zero and statistically insignificant) and to students who had a higher level of disciplinary problems at baseline, providing some insights about the pathways of behavior problems.

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Appendix A

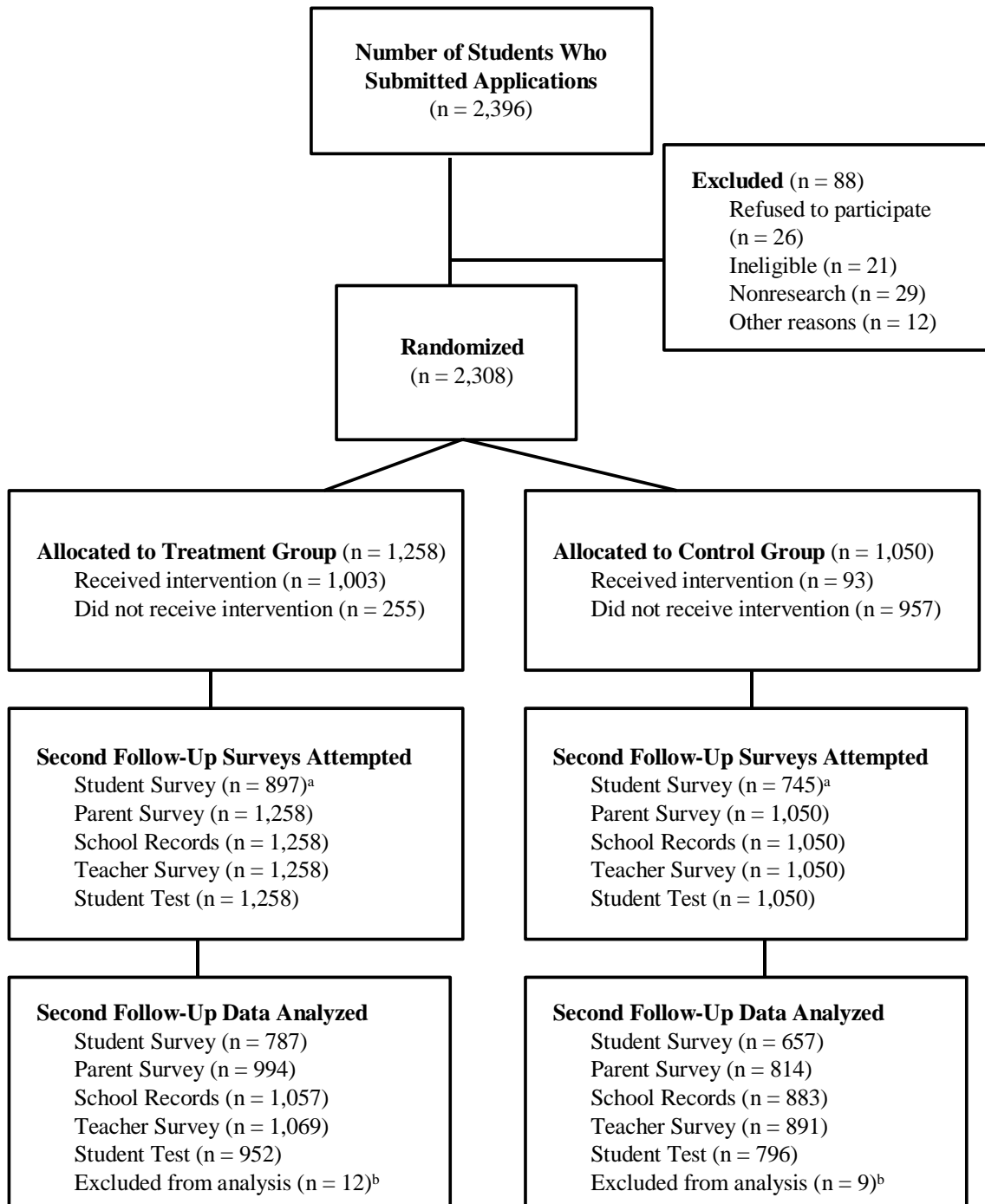
Response Rates and Data Quality

This appendix describes the results of the second follow-up wave of data collection conducted in the 12 elementary school sites. Data collection results for middle schools were presented in earlier reports and are not discussed here.

Figure A.1 documents the flow of elementary students through the evaluation, starting from students' application to programs through the analysis of the second follow-up data. Of the 2,396 students who applied to the programs, 88 were excluded from the evaluation for various reasons, such as refusing to participate or being ineligible. The remaining 2,308 students were randomly assigned to the treatment or control groups. Data collected from all students were analyzed. Twelve treatment-group students and 9 control-group students dropped out of the evaluation after the baseline survey.

The evaluation collected data from a variety of respondents at the 12 elementary school sites (7 in cohort 1 and 5 in cohort 2). We conducted baseline surveys with elementary school students and parents and administered standardized reading tests to the students in fall 2000 for cohort 1 sites and fall 2001 for cohort 2 sites. In the first and second follow-up waves, we administered surveys to students, parents, and teachers; collected students' school records and program attendance; and administered reading tests or collected reading test scores from school records (Table A.1). We also administered surveys to school principals and after-school program staff (center directors, coordinators, and line staff) in the first follow-up wave for both cohorts and in the second follow-up wave for cohort 2 (these data were presented in a previous report and are not discussed here).

Figure A.1
Flow of Elementary School Participants Through Study



^aOnly students in grades 3 through 6 completed student surveys.

^bThese students refused to participate in the study after randomization.

A. Data Collection Procedures for the Second Followup

1. Student Surveys

About six weeks before the end of the school year, questionnaires were given to all third- to sixth-grade elementary school students whose parents had signed a consent form for their child to participate in the evaluation. Questionnaires were generally self-administered during the school day (in some instances, teachers read the questions to their class). We surveyed 88 percent of the 1,642 third- to sixth-grade elementary school students (Table A.2). Response rates ranged from 67 to 100 percent; all but two sites had response rates above 80 percent. About 85 percent of the students who completed the questionnaire did so in school. The others (mostly students who had transferred to other schools) completed the questionnaire by telephone (12 percent) or mail (3 percent).

Table A.1

Data Sources, by Data Collection Wave

Data Source	Data Collection Wave		
	Baseline	First Followup	Second Followup
Elementary School Student Questionnaire	T	T	T
Elementary School Student Test	T	T	T
Elementary School Parent Questionnaire	T	T	T
Teacher Questionnaire		T	T
Principal Questionnaire ^a		T	T
School Record ^b		T	T
After-School Program Attendance Record		T	T
After-School Program Project Director Questionnaire ^a		T	T
After-School Program Center Coordinator Questionnaire ^a		T	T
After-School Program Staff Questionnaire ^a		T	T

^aThese data were collected in both follow-up waves for cohort 1 sites and in only the first follow-up wave for cohort 2 sites.

^bBaseline records data were collected at the time of the first follow-up records collection.

2. Student Tests

MPR obtained reading test scores for the Stanford Achievement Test 9 (SAT-9) for elementary school students in one of two ways: (1) we collected scores from sites that administered tests, or (2) field staff administered the test in sites that did not use the test on their own. Field staff administered the tests to most students during the school day and did make-ups with a few students in their homes. Tests were administered about six weeks before the end of the academic year. We obtained test scores for 76 percent of students (Table A.2). Most of the

Table A.2
Sample Sizes and Response Rates for the Second Followup

Instrument	Sample Size						Response Rate					
	Total		Treatment		Control		Total		Treatment		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Baseline												
Student Survey ^a	1,233	56	688	56	545	44	1,110	90	625	91	485	89
Student Test	2,308	55	1,258	55	1,050	45	1,568	68	847	67	721	69
Parent Survey	2,308	55	1,258	55	1,050	45	2,126	92	1,161	92	965	92
First Followup												
Student Survey ^a	1,233	56	688	56	545	44	1,106	90	618	90	488	90
Student Test	2,308	55	1,258	55	1,050	45	1,902	82	1,044	83	858	82
Parent Survey	2,308	55	1,258	55	1,050	45	1,732	75	961	76	771	73
Teacher Survey ^b	2,308	55	1,258	55	1,050	45	1,831	79	995	79	836	80
School Record	2,308	55	1,258	55	1,050	45	2,016	87	1,110	88	906	86
Second Followup												
Student Survey ^a	1,642	55	897	55	745	45	1,444	88	787	87	657	88
Student Test	2,308	55	1,258	55	1,050	45	1,748	76	952	76	796	76
Parent Survey	2,308	55	1,258	55	1,050	45	1,808	78	994	79	814	78
Teacher Survey ^b	2,308	55	1,258	55	1,050	45	1,960	85	1,069	85	891	85
School Record	2,308	55	1,258	55	1,050	45	1,940	84	1,057	84	883	84

^aSample includes only grades 3 to 6.

^bSample size and response rates are based on number of students, not teachers; 81 percent of the 1,074 teachers in the sample completed surveys.

students who were not tested had transferred to another school district. Other students did not answer enough test questions for their test to be scored, and some were not tested because of language barriers or impairment. Response rates across sites ranged from 57 to 93 percent.

B. Other Data Collected from Parents, Teachers, and Records

Nearly four-fifths of parents (78 percent) completed the follow-up questionnaire (Table A.2). Response rates ranged across sites from 64 to 98 percent. One-half of the parents who completed the survey did so by mail; the remaining half responded by telephone.

A total of 81 percent of teachers completed questionnaires that provided data on 85 percent of students (Table A.2). Response rates were above 70 percent at all but one site, with rates across sites ranging from 49 to 100 percent. Most teachers responded by mail (80 percent).

We obtained school records for 84 percent of students (Table A.2). We collected more than 80 percent of records at all but two sites, with response rates ranging from 72 to 97 percent. Generally, students for whom we were unable to collect school records had transferred to other school districts.

C. After-School Program Attendance

We collected program attendance records from all centers that had active 21st Century programs.²⁶ The centers provided copies of their records in whatever form they typically maintained attendance, such as by day or by activities offered each day. In principle, the elementary school evaluation design precluded attendance by students in the control group. During the evaluation, however, about 16 percent of control-group students attended the program

²⁶One site had a program in the fall semester only.

for at least one day. Over the two years of the evaluation, the control group averaged 9 days of center attendance (compared to 81 days for the treatment group).²⁷

D. Procedures for Constructing Nonresponse Weights

As in the evaluation's second report, nonresponse weights were calculated by identifying how nonrespondents differed from respondents in terms of baseline characteristics. Respondents who were most similar to nonrespondents were then given a greater weight, which enabled them to "represent" nonrespondents.

Nonresponse weights were constructed using a propensity-score approach. The probability of responding to the follow-up survey was modeled as a logistic function of student baseline characteristics similar to those used as control variables in estimating impacts. For each respondent, the predicted probability of response was calculated using the estimated model. Respondents who were most similar to nonrespondents generally were those with the lowest predicted probabilities of response. The nonresponse weight is the inverse of this predicted probability. For example, a respondent who had a predicted probability of responding to the follow-up survey of 0.25 was given a nonresponse weight of 4, whereas a respondent with a predicted probability of 0.90 was given a nonresponse weight of 1.1. Weights were then normalized so they summed to the original sample size. The second report provides additional details about the procedure used to estimate nonresponse weights.

We constructed nonresponse weights for the parent, teacher, student, and records surveys and for elementary reading tests. The goodness-of-fit of the propensity score models was high, with the models able to correctly predict 77 to 83 percent of responses (depending on the data source).

²⁷Reasons control-group members attended the program were related mostly to changes in program staff and miscommunications. New staff were not always aware that some students had been assigned not to attend the program.

Appendix B

Evaluation Design and Methods for Estimating Impacts

A. Evaluation Design and Methods for Estimating Impacts

The design for measuring impacts in the elementary school sites was based on random assignment of students to treatment or control groups. Students and their parents applied to the program by completing a brief information form and consent form. Their applications were then sent to MPR for random assignment. For seven sites, random assignment took place at the beginning of the 2000-2001 school year; for the other five sites, random assignment took place at the beginning of the 2001-2002 school year. Random assignment was conducted separately for each center; for example, random assignment was conducted for students who applied to center A and a different random assignment was conducted for students who applied to center B.

To estimate impacts, we used regression models that included outcomes at the second followup as dependent variables. We included two types of independent variables in these models: (1) student characteristics (based on baseline data collected on students), and (2) variables created by interacting treatment status with the 12 site indicators.²⁸ The models yielded 12 impact estimates, one for each site, and the overall impacts were then calculated as the simple mean of the 12 site-specific impacts. The variance of the estimator was derived from the variance-covariance matrix of the 12 site impact estimates.²⁹

Grantee-by-treatment interaction terms were used in the regression models instead of center-by-treatment interaction terms because grants to implement 21st Century programs are awarded

²⁸The student characteristics include students' grade, whether the student is overage for grade, race/ethnicity, number of absences in the year prior to the start of the study, number of tardies in the year prior to the start of the study, whether the student has been retained in any year prior to the start of the study, number of suspensions in the year prior to the start of the study, math scores from the year prior to the start of the study, and reading scores from the year prior to the start of the study. We also included baseline measures of the outcome variables whenever possible, such as a baseline measure of students' homework habits, a baseline measure of the extent to which parents feel that their child works hard in school, and a baseline measure of students' confidence in their reading skills.

²⁹Because the elementary sites and centers in our study were purposively selected, the results do not generalize statistically to the universe of 21st Century centers serving elementary students. If the evaluation had instead randomly selected sites and randomly selected centers within sites to participate in the study, a more complex multilevel model would have been needed to account for sampling variability between centers and between sites.

to grantees—not centers—and the grants were administered by a project director who typically developed policies and procedures for centers that were funded by the grant. Analyses of the variation of center and student characteristics confirmed that nearly all the variation is between grantees rather than within grantees (i.e., across centers of a grantee). Because an important goal of this evaluation was to assess impacts of the grants, using grantees as the unit of analysis enables the evaluation to relate its impact findings to the grants. A grantee-by-treatment interaction can be interpreted as the impact averaged across a grantee's centers.

The study's design report presented a detailed analysis of the study's power to detect impacts (Dynarski et al. 2001). The minimum detectable effect size was estimated to be about 0.12 for the full sample (assuming 80 percent power and a two-tailed *t*-test), for an outcome with a 50 percent mean. The minimum detectable effect size was estimated to be about 0.08 for test scores because of the increase in precision from having a baseline score as a covariate.

A two-stage procedure was used to estimate impacts on elementary school participants. In the first stage, an indicator for whether students participated in the program was regressed on treatment status and baseline characteristics; in the second stage, outcomes at the second followup were regressed on predicted participation from the first-stage and the baseline characteristics.^{30,31}

³⁰It is common in program evaluation for some treatment-group members not to participate in the program after random assignment occurs. A simple estimator of program impact on participants is to divide the overall impact estimate by the participation rate. The two-stage adjustment used in this evaluation is the regression analog of that technique, but it is more powerful because it also adjusts for control-group students who cross over into the program.

³¹Models that included treatment/site interactions were unstable, so the models estimated include only a single treatment indicator.

B. Measuring the Relationship Between Attendance and Outcomes

As noted in prior reports, policymakers are often interested in knowing if greater participation in a program is related to larger effects. This is especially important for after-school programs because attendance is voluntary and how often students attend is highly variable. The fixed-effects method we used to estimate this relationship is discussed briefly below (it was discussed in detail in the second report), and the findings from these models are presented in Appendix C.

The fixed-effects models estimated allowed for attendance to have different impacts at different attendance levels by including a squared attendance variable (see Equation 1 below).

$$(1) \quad y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 d_{i,t} + \beta_3 d_{i,t}^2 + \beta_4 X_{i,t} u_i + \beta_5 u_i + \varepsilon_{i,t}^y.$$

In Equation 1, there are two time periods, $t=1,2$. Time period 1 corresponds to the first followup, and time period 2 to the second followup. Variable d is a measure of program attendance, y is an outcome, and observable characteristics used as regressors are represented by X . Finally, each student's "fixed effect" is designated by u , and the error term is represented by ε . For continuous outcomes, the marginal impact of attendance from Equation (1) is $\hat{\beta}_2 + 2\hat{\beta}_3 d$, where $\hat{\beta}_2$ and $\hat{\beta}_3$ are estimates of β_2 and β_3 .

The variance of the marginal impact is a function of the estimated parameters and depends on the assumed attendance level.

$$(2) \quad \text{Variance of Marginal Impact} = \text{Var}(\hat{\beta}_2) + 4d^2 \text{Var}(\hat{\beta}_3) + 4d \cdot \text{Cov}(\hat{\beta}_2, \hat{\beta}_3).$$

A technical consideration for the attendance analysis presented in this report is that we estimate a fixed-effects model for binary outcomes using ordinary least squares (OLS) rather than the fixed-effects logit approach developed by Chamberlain (1980). Because the

Chamberlain approach can only use cases where the dependent variable changes between the first and second year, only a fraction of observations are actually used. We found that the number of students who changed outcomes between the first and second years typically was too small (as low as 14 observations) for the Chamberlain model to provide computationally stable estimates.³² We therefore used an OLS approach.³³ However, the OLS estimates also are related to the extent to which attendance varies from one year to the next and the extent to which outcomes likewise change. The technique's reliance on attendance and outcome changes means the technique has relatively low power in this instance, as evidenced by the large number of insignificant estimates.

³²The fixed-effects logit approach was used for the middle school attendance analysis presented in the second report, since the middle school sample was much larger than the elementary sample.

³³Dynarski et al. (2004) found that the Chamberlain approach yielded similar results to the OLS fixed-effects approach for most outcomes examined.

Appendix C

Sensitivity Tests and Results for Alternative Specifications

This appendix presents results for alternative specifications and sensitivity tests that were conducted to assess the robustness of the findings. We assessed the sensitivity of the impacts to the use of nonresponse weights and regression adjustment methods, whether findings could be attributed to outlier sites, and the effects of using alternative definitions of self-care. We then analyzed the relationship between center attendance and outcomes.

A. Sensitivity of Estimates to Weights and Regression Adjustment

To investigate how weights and regressors affect the impact estimates, we compared four sets of impacts: (1) impacts presented in the text, which use nonresponse weights and regression adjustment; (2) impacts that use the weights but not regression adjustment; (3) impacts that do not use the weights but use regression adjustment; and (4) impacts that do not use the weights or regression adjustment. Table C.1 presents the results. Comparing the first two columns provides a sense of how regression adjustment may have modified the impacts. The estimates are similar in the two columns, and 1 of the 24 outcomes had a higher level of significance when regression adjustment was used.

Comparing the first and third columns provides a sense of how nonresponse weighting may have modified the impacts. The last column presents impacts estimated as simple treatment-control differences. The point estimates are similar to the estimates in the first column. One impact that was significant in the first column was not significant in the fourth, which may reflect the lower precision of the simple estimator. Overall, the results appear to be robust to weights and regression adjustment.

B. Consistency of Impacts Across Sites

A measured impact could be attributed to an outlier site or set of sites, which would reduce confidence in the generalizability of the findings. For example, a positive impact that, on closer

Table C.1

Sensitivity of Impact Estimates to Alternative Specifications, Elementary School Centers, Year 2

Outcome	With Nonresponse Weights and Regressors	With Nonresponse Weights, No Regressors	No Nonresponse Weights, with Regressors	No Nonresponse Weights, No Regressors
Percentage of Students in the Following Types of Supervision at Least Three Days After School in a Typical Week, According to Parent Reports:				
Self-care ^a	-0.1	0.0	-0.1	-0.1
Parent care	-6.7**	-6.0**	-6.8**	-6.0**
Nonparent adult care	6.7**	5.9	6.6**	5.8
Sibling care	-4.9	-4.7	-4.9	-4.6
Mixed care (not in any one category for at least three days)	0.5	0.4	0.7	0.6
Percentage of Students in the Following Locations After School at Least Three Days in a Typical Week, According to Parent Reports:				
Own home	-8.7***	-8.3***	-8.9***	-8.6***
Someone else's home	-0.8	-1.1	-1.5	-1.9
School or other place for activities	9.5***	9.0***	9.7***	9.4***
Somewhere to "hang out"	-0.2	-0.2	-0.2	-0.3
Mixed location (not in one location for at least three days)	0.4	0.5	0.3	0.4
Percentage of Students Who Report That They "Often" or "Always" Complete the Homework Teachers Assign				
	0.0	-1.7	-1.7	-1.9
Percentage of Students Whose Teachers Report That They Often Complete the Homework Teachers Assign				
	0.0	-3.2	-2.5	-2.3
Mean Grade:				
Math	-0.6	-0.5	-0.5	-0.4
English/language arts	0.3	0.3	0.4	0.4
Science	-0.1	0.0	-0.1	0.0
Social studies/history	-1.0	-1.0	-1.0	-1.0
Mean Reading Test Score				
	0.3	0.3	-0.2	-0.2
Percentage of Students Who Report Feeling the Following Levels of Safety After School up Until 6 p.m.:				
Very safe	2.7	1.8	1.9	1.1
Somewhat safe	1.9	2.3	2.2	2.5
Not at all safe	-4.6***	-4.1***	-4.1***	-3.6**
Percentage of Students Whose Parents Did the Following at Least Three Times Last Year:				
Attended an open house at the school	1.2	-0.7	0.9	-1.0
Attended parent-teacher organization meetings	4.5	3.9	5.7	5.3
Attended an after-school event	-5.3	-5.5	-4.9	-5.6
Volunteered to help out at school	-3.8	-3.2	-2.2	-1.9
Sample Size ^b	1,803	1,803	1,803	1,803

Source: Parent Survey, Student Survey, School Records, Teacher Survey.

^aStudents are defined as being in self-care if they were not with a parent, a nonparent adult, or an older sibling at least three days in a typical week.

^bSample sizes differ for some outcomes due to nonresponse.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

inspection, resulted from a large impact in 1 of 12 sites and no impact in 11 sites, might suggest an unusual experience in the one site. On the other hand, an overall impact that results from an impact in 11 of 12 sites suggests broader generalizability.

To investigate this issue, we compared the impact findings with the number of sites that had positive or negative impacts (regardless of statistical significance). We did the comparison for all main impacts, but here we show one table to illustrate the results of the analysis (Table C.2). For one outcome, whether students report feeling unsafe after school, the overall impact was a reduction of 4.6 percentage points (an increase in students feeling safe). Across the sites, seven had an impact estimate with a negative sign and five sites had an impact with a positive sign. Similarly, we found a large negative impact for whether students rate themselves as “good” or “excellent” at working with others on a team, and, on closer inspection, 10 of 12 sites also had a negative impact. We found no impact for whether parents attended an after-school event, and sites were divided evenly between positive (six sites) and negative impacts (six sites).

We also conducted statistical tests to determine whether site impacts differed from the average impact. Six of the 21 tests indicated that site impacts differed from the average impact (Table C.2). The likely reason for these differences is that there were one or two large site impacts in the opposite direction of the overall impact. This suggests that, for at least some outcomes, site-specific factors were related to impacts, though additional investigation was not able to identify the specific site characteristics that may have been related to impacts.

Finally, we prepared a table that is similar to Table C.2 but includes impacts for each site. Table C.3 presents these results. This allows for an examination of the pattern of impacts for a given outcome across sites and for an examination of the pattern of impacts for a given site across outcomes.

Table C.2

Number of Sites with Positive or Negative Impacts on Other Outcomes,
Elementary School Centers, Year 2

Outcome	Estimated Impact	Number of Positive Site Impacts	Number of Negative Site Impacts	p-value for Test of Equality of Site Impacts ^a
Percentage of Students Who Report Feeling the Following Levels of Safety After School up Until 6 p.m.:				
Very safe	2.7	7	5	0.60
Somewhat safe	1.9	6	6	0.42
Not at all safe	-4.6***	5	7	0.00***
Percentage of Students Who Report the Following Are “Somewhat True” or “Very True”:				
They get along with others their age	0.1	7	5	0.01**
They feel left out of things	0.6	6	6	0.12
Percentage of Students Who Do the Following “Some” or “A Lot”:				
Help another student in school	1.6	5	7	0.09
Help another student after school	2.0	8	4	0.14
Percentage of Students Who Rate Themselves as “Good” or “Excellent” on the Following:				
Working with others on a team or group	-7.0**	2	10	0.59
Feeling bad for other people who are having difficulties	0.2	5	7	0.96
Believing the best about other people	-0.3	6	6	0.96
Percentage of Students Who Rate Themselves as “Excellent” on the Following:				
Using a computer to look up information	-2.1	5	7	0.04**
Setting a goal and working to achieve it	1.7	10	2	0.53
Percentage of Students Who Rate Themselves as “Excellent” on Sticking to What They Believe in, Even if Their Friends Don’t Agree				
	-2.1	6	6	0.87
Negative Behavior Composite ^b	0.0	5	7	0.36
Percentage of Students Whose Parents Report Doing the Following:				
Helped their child with homework at least three times last week	3.1	7	5	0.32
Checked on their child’s homework completion at least three times last week	-0.9	4	8	0.14
Asked their child about things they were doing in class at least seven times last month	-1.6	4	8	0.47
Percentage of Students Whose Parents Did the Following at Least Three Times Last Year:				
Attended an open house at the school	1.2	9	3	0.63
Attended parent-teacher organization meetings	4.5	7	5	0.01***
Attended an after-school event	-5.3	6	6	0.00***
Volunteered to help out at school	-3.8	5	7	0.00***
Sample Size ^c	1,803			

Source: Student Survey, Parent Survey.

^aTo examine the joint significance of the site impacts, we tested whether the site impacts were jointly significantly equal to the mean of the site impacts.

^bThe negative behavior composite is based on student responses to five questions regarding how often they do the following: (1) break something on purpose, (2) punch or hit someone, (3) argue with their parents, (4) lie to their parents, and (5) give a teacher a “hard time.” Values on these items range from 1 to 4; a value of 1 on the composite indicates a low level, while a value of 4 indicates a high level.

^cSample sizes differ for some outcomes due to nonresponse.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table C.3

Impacts on Other Outcomes by Site, Elementary School Centers, Year 2

Outcome	Site A	Site B	Site C	Site D	Site E	Site F	Site G	Site H	Site I	Site J	Site K	Site L
Percentage of Students Who Report Feeling the Following Levels of Safety After School up Until 6 p.m.:												
Very safe	11.7	-10.6	0.5	3.0	-7.6	13.5	-1.7	13.3	-6.2	-4.1	6.1	14.2
Somewhat safe	-5.3	14.2	19.3	-4.5	1.7	-0.5	-2.1	0.3	5.5	6.2	-6.6	-4.8
Not at all safe	-6.4	-3.6	-19.7***	1.5	5.9	-12.9	3.8	-13.7	0.7	-2.1	0.5	-9.4**
Percentage of Students Who Report the Following Are “Somewhat True” or “Very True”:												
They get along with others their age	6.8	11.4	17.0	3.9	-9.3	-41.0***	-11.1	30.7	7.9	-5.9	-1.0	-2.1
They feel left out of things	-0.4	3.0	-2.5	-7.7	-13.0	-28.9**	2.1	9.3	-18.4	-6.4	-5.7	-6.7
Percentage of Students Who Do the Following “Some” or “A Lot”:												
Help another student in school	7.7	-1.7	-14.5	15.1**	-11.1	-10.0	-16.1	32.8**	6.7	-1.5	-2.2	13.4
Help another student after school	8.1	-25.3**	-22.0	18.1**	6.8	-7.7	-4.2	17.3	8.9	7.0	9.1	7.4
Percentage of Students Who Rate Themselves as “Good” or “Excellent” on the Following:												
Working with others on a team or group	-7.7	14.4	-15.6	-7.3	-5.8	-14.0	8.5	-5.3	-19.4	0.5	-2.9	-0.5
Feeling bad for other people who are having difficulties	10.8	5.7	-7.9	-1.9	-10.3	-5.1	4.2	12.2	-2.1	-2.3	-1.6	0.5
Believing the best about other people	-4.9	-9.4	-3.7	5.2	3.0	-12.0	2.5	11.2	11.7	0.1	-3.6	-2.9
Percentage of Students Who Rate Themselves as “Excellent” on the Following:												
Using a computer to look up information	6.0	-9.1	-28.0	-11.1	-9.4	-24.0	-12.1	27.2	24.1	7.3	9.1	-5.2
Setting a goal and working to achieve it	6.7	2.2	-20.1	3.6	11.5	5.6	-25.8**	13.1	16.5	0.4	3.9	2.4
Percentage of Students Who Rate Themselves as “Excellent” on Sticking to What They Believe in, Even if Their Friends Don’t Agree												
	-7.2***	0.7	-13.7	4.6	2.4	-16.8	-14.8	14.4	-0.1	-2.4	4.0	3.5
Negative Behavior Composite ^a	7.0	-7.9	32.1	-14.5	-4.7	-12.0	-22.1	18.3	-16.0	-3.2	10.9	5.6

Table C.3 (continued)

Outcome	Site A	Site B	Site C	Site D	Site E	Site F	Site G	Site H	Site I	Site J	Site K	Site L
Percentage of Students Whose Parents Report Doing the Following:												
Helped their child with homework at least three times last week	7.8	-16.9	14.1	-12.4	-3.8	21.5	0.2	-0.2	16.2	-0.7	2.0	8.7
Checked on their child's homework completion at least three times last week	-1.5	-7.0	-9.8	-4.1	-3.1	0.8	-6.1	-3.7	15.8	-3.2	3.4	7.3
Asked their child about things they were doing in class at least seven times last month	10.7	-0.2	-2.1	-9.8	-5.1	-22.7	5.5	-6.9	23.0	-4.9	1.9	-8.8
Percentage of Students Whose Parents Did the Following at Least Three Times Last Year:												
Attended an open house at the school	5.5	2.5	1.3	-16.7**	-7.5	11.2	1.8	-10.4	13.3	0.4	3.0	0.2
Attended parent-teacher organization meetings	14.2	-11.3	-13.7	-4.5	32.6***	11.5	16.4	5.0	-10.6	-1.5	13.2***	2.3
Attended an after-school event	-36.2***	7.0	-4.5	-34.6***	6.4	5.3	5.9	-2.0	-17.0	1.6	17.2***	-12.3
Volunteered to help out at school	-20.0***	-3.1	-13.0	-5.9	0.6	9.4	-17.4**	-1.3	20.3	4.0	7.3**	-26.6***
Sample Size ^b	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Source: Student Survey, Parent Survey.

^aThe negative behavior composite is based on student responses to five questions regarding how often they do the following: (1) break something on purpose, (2) punch or hit someone, (3) argue with their parents, (4) lie to their parents, and (5) give a teacher a "hard time." Values on these items range from 1 to 4; a value of 1 on the composite indicates a low level, while a value of 4 indicates a high level.

^bSample sizes are not reported to maintain site confidentiality. Sample sizes ranged from 41 to 621.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

NR = Not reported.

C. Self-Care Alternative Definitions

Changing the definition of self-care altered its levels but did not change the impact findings (Table C.4). As in the prior report, we investigated four definitions of self-care: a student was defined to be in self-care if (1) the student did not spend at least three days with a parent, nonparent adult, or older sibling in a typical week; (2) the student did not spend at least one day with a parent, nonparent adult, or older sibling in a typical week; (3) the student was alone at least three days in a typical week; or (4) the student was alone at least one day in a typical week.

We also investigated how the self-care estimates changed with the inclusion of nonresponse weights and regressors. In all cases, their inclusion does not affect the estimates.

D. The Relationship Between Center Attendance and Outcomes

Having two years of attendance and outcome data allows the evaluation to explore the relationship between attendance and outcomes that could not be explored in the prior report because only one year of data was available for elementary students. Students could attend more or less often in the two years, and differences in attendance could affect outcomes. Because we can observe the same students in two different time periods, the influence of unobservable factors that may vary across students and affect both attendance and outcomes can be reduced.

The analysis of the relationship between center attendance and outcomes found that some outcomes improved when students attended centers more often. Students who attended more often were more likely to stay after school for activities, more likely to be cared for by adults other than their parents, more likely to participate in tutoring, more likely to report that an adult who is not their parent explains homework in a way that is easy to understand, and less likely to watch TV or videos (Tables C.5–C.8). However, students who attended programs more often did not experience improvements in grades, test scores, absences, discipline problems, classroom

effort, homework completion, feelings of safety, or the extent to which they were in self-care (Tables C.5–C.8). The estimation technique depends on the degree of variation in attendance from one year to the next and the extent to which outcomes likewise change. The moderate degree of attendance and outcome changes for elementary school students means the technique has relatively low power, as evidenced by the large number of insignificant estimates.

Table C.4

Sensitivity of Various Self-Care Impact Estimates to Alternative Specifications, Elementary School Centers, Year 2

Outcome	With Nonresponse Weights and Regressors	With Nonresponse Weights, No Regressors	No Nonresponse Weights, with Regressors	No Nonresponse Weights, No Regressors
Percentage of Students in Self-Care at Least Three Days After School in a Typical Week, According to Parent Reports (Self-Care Defined as Not Being in Parent, Nonparent Adult, or Older Sibling Care)	-0.1	0.0	-0.1	-0.1
Any Self-Care After School in a Typical Week, According to Parent Reports (Self-Care Defined as Not Being in Parent, Nonparent Adult, or Older Sibling Care)	0.9	0.9	1.0	0.9
Percentage of Students in Self-Care at Least Three Days After School in a Typical Week, According to Parent Reports (Self-Care Defined as Being Alone After School)	0.7	0.7	0.5	0.5
Any Self-Care After School in a Typical Week, According to Parent Reports (Self-Care Defined as Being Alone After School)	1.7	1.6	1.6	1.5
Sample Size	1,803	1,803	1,803	1,803

Source: Parent Survey.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table C.5

Differences in Impacts on Students' Location, Supervision, and Activities After School, and Mother's Employment, Elementary School Centers, Year 2

Outcome	Marginal Effect of Attending the After-School Program 10 More Days	
	Effect of 10 More Days for Those Attending 10 Days	Effect of 10 More Days for Those Attending 30 Days
Percentage of Students with the Following Individuals at Least Three Days After School in a Typical Week, According to Parent Reports:		
Self-care ^a	0.0	0.0
Parent	-1.4	-1.7
Nonparent adult	2.1***	2.3***
Sibling	0.1	0.8
Mixed (Not in any one category for at least three days)	0.1	0.2
Percentage of Students in the Following Locations After School at Least Three Days in a Typical Week, According to Parent Reports:		
Own home	-3.1***	-2.9***
Someone else's home	-1.7***	-2.2***
School or other place for activities	3.5***	3.9***
Somewhere to "hang out"	-0.2	-0.3
Mixed location (Not in one location for at least three days)	-0.2	-0.2
Mean Number of Days Stayed After School for Activities in Typical Week, According to Parent Reports	0.2***	0.3***
Percentage of Students in the Following Activities After School at Least One Day in the Prior Week, According to Parent Reports:		
Homework	0.5	0.6
Tutoring	2.3***	2.2**
Nonhomework reading, writing, or science activities	0.2	0.3
School activities (band, drama, etc.)	1.0	0.4
Lessons (music, art, dance, etc.)	-0.6	-0.6
Organized sports	0.4	0.8
Clubs (Boy and Girl Scouts, Boys and Girls Club, etc.)	0.2	-0.1
Activities at church, temple, or mosque	-0.4	-0.4
Watched TV or videos	-1.7**	-2.0**
Surfed the Internet or did other things on the computer	0.2	0.4
"Hung out" with friends	0.6	1.3
Did chores around the house	-3.1***	-3.7***
Took care of a brother or sister	-0.2	0.1
Mean Time Students Reported Watching Television in the Past Day (Hours)	0.0	0.0
Mean Time Students Reported Reading for Fun in the Past Day (Hours)	0.0	0.0
Sample Size ^b	1,506	

Source: Parent Survey, Student Survey.

Note: For all outcomes, we estimate OLS fixed effects models by regressing the change in the outcome on the change in attendance. All regressions include both linear and squared attendance terms to capture any diminishing returns to attendance. The marginal effect of an additional 10 days of attendance has also been regression adjusted for baseline differences between the groups. The control variables in the regression include students' demographic characteristics, students' baseline test scores, and school attendance. Weights are used to adjust impact estimates for nonresponse.

^aStudents are defined as being in self-care if they were not with a parent, a nonparent adult, or an older sibling at least three days in a typical week.

^bSample sizes differ for some outcomes due to nonresponse. Sample sizes for student-reported outcomes are 786 for the treatment group and 661 for the control group. Only students in third grade and above completed a student survey.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table C.6

Differences in Impacts on Academic and Other In-School Outcomes, Elementary School Centers, Year 2

Outcome	Marginal Effect of Attending the After-School Program 10 More Days	
	Effect of 10 More Days for Those Attending 10 Days	Effect of 10 More Days for Those Attending 30 Days
Mean Number of Days Student Was:		
Absent	-0.1	-0.1
Late	0.0	0.1
Percentage of Students Whose Teachers Report That They Are “Often” Late for Class	-0.4	-0.3
Percentage of Students Who Report That They “Often” or “Always” Complete the Homework Teachers Assign	-0.9	-1.7
Percentage of Students Whose Teachers Report That They “Often” Complete Their Homework	-1.2	-1.2
Mean Amount of Time Students Spent Doing Homework the Last Time They Had Homework (Hours)	0.0	0.0
Percentage of Students Whose Teachers Report the Following:		
“Agree” or “Strongly Agree” That Student Completes Assignments to the Teacher’s Satisfaction	-0.3	-0.6
Student Achieves at “Above-Average” or “Very High” Level	-0.7	-0.3
“Agree” or “Strongly Agree” That Student Comes to School Prepared and Ready to Learn	0.8	0.6
Student “Usually Tries Hard” in Reading or English	-0.8	-0.9
Student “Often” Performs at or Above His or Her Ability	0.3	0.1
Percentage of Students Whose Parents “Agree” or “Strongly Agree” That Their Child Works Hard at School	0.2	0.3
Level of Effort Composite ^a (Mean)	0.0	0.0
Percentage of Students Whose Teachers Report Doing the Following “Two or More Times”:		
Disciplining the child for misbehaving	-0.7	-0.6
Sending child to the office for misbehaving	0.5	0.2
Giving child detention	1.3	1.3
Calling parents about child’s behavior	-0.3	-0.6
Percentage of Students Who Report the Following Happens “Some” or “A Lot”:		
Student has to miss recess or sit in the hall	-0.6	-0.8
Parents have to come to school about problem	1.4**	1.7**
Student-Reported Discipline Problem Composite ^b (Mean)	0.1	0.0
Teacher-Reported Discipline Problem Composite ^c (Mean)	0.8	0.4
Percentage of Students Who Were Suspended During Most Recent School Year	0.6	0.6
Mean Grade:		
Math	0.0	-0.1
English/language arts	-0.3	-0.4
Science	0.2	0.0
Social studies/history	0.0	-0.2
Mean Reading Test Score	0.1	0.1
Reading Confidence Composite ^d (Mean)	0.0	0.0
Sample Size ^e	1,271	

Source: Student Survey, Parent Survey, School Records, Teacher Survey.

Note: For all outcomes, we estimate OLS fixed-effects models by regressing the change in the outcome on the change in attendance. All regressions include both linear and squared attendance terms to capture any diminishing returns to attendance. The marginal effect of an additional 10 days of attendance has also been regression adjusted for baseline differences between the groups. The control variables in the regression include students’ demographic characteristics, students’ baseline test scores, and school attendance. Weights are used to adjust impact estimates for nonresponse.

^aThe level of effort composite is based on five teacher-reported items regarding student (1) effort, (2) performance at ability level, (3) attentiveness, (4) participation, and (5) volunteering. Values on these items range from 1 to 5; a value of 1 on the composite indicates a low level, and a value of 5 indicates a high level.

^bThe student-reported discipline composite is based on three responses: (1) how often the student is sent to the office for doing something wrong, (2) how often the student misses recess or sits in the hall, and (3) how often parents have to come to school about a problem. A value of 1 on the composite means a low occurrence of student-reported discipline problems and a value of 3 means a high occurrence.

^cThe teacher-reported discipline composite is based on four teacher responses regarding the student's behavior in the past month: (1) how often the student is disciplined for misbehaving, (2) how often the teacher has given the student detention, (3) how often the teacher has sent the student to the office for misbehaving, and (4) how often the teacher has contacted the student's parents regarding behavior. A value of 1 on the composite means a low occurrence of teacher-reported discipline problems, and a value of 4 means a high occurrence.

^dThe reading confidence composite is based on student reports on three items: (1) reading is hard to learn, (2) they are a good reader, and (3) they would read better if they had more help. Values on these items range from 1 to 4; a value of 1 on the composite indicates a low level, and a value of 4 indicates a high level.

^eSample sizes differ for some outcomes. For teacher-reported outcomes, the sample sizes are 1,068 treatment group members and 895 control group members; for student-reported outcomes, the sample sizes are 771 treatment group members and 650 control group members; for records outcomes, the sample sizes range from 819 to 1,044 for treatment group members and from 732 to 860 for control group members; for test scores, sample sizes are 952 for treatments and 796 for controls.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table C.7

Differences in Impacts on Homework Assistance, Elementary School Centers, Year 2

Outcome	Marginal Effect of Attending the After-School Program 10 More Days	
	Effect of 10 More Days for Those Attending 10 Days	Effect of 10 More Days for Those Attending 30 Days
Percentage of Students Who Report That Their Parent “Often” or “Always” Does the Following:		
Asks if homework is complete	-1.2	-1.2
Looks at homework to see if it is complete	2.1	3.0
Looks at homework to see if it is correct	0.6	1.1
Explains homework in a way that is easy to understand	0.2	0.7
Percentage of Students Who Report That an Adult Who is Not Their Parent “Often” or “Always” Does the Following:		
Asks if homework is complete	-1.1	-0.5
Looks at homework to see if it is complete	0.0	1.5
Looks at homework to see if it is correct	-0.7	0.7
Explains homework in a way that is easy to understand	2.5	3.8**
Percentage of Students Who Report That Their Parent or an Adult Who is Not Their Parent “Often” or “Always” Does the Following:		
Asks if homework is complete	-0.8	-1.0
Looks at homework to see if it is complete	1.1	1.9
Looks at homework to see if it is correct	-0.6	-0.2
Explains homework in a way that is easy to understand	0.8	1.2
Percentage of Students Who Had the Following Individual Ask the Child to Correct Parts of Homework:		
Parent	2.0**	2.5**
An adult who is not their parent	-0.1	1.3
A parent or an adult who is not their parent	0.5	0.6
Sample Size ^a	1,142	

Source: Student Survey.

Note: For all outcomes, we estimate OLS fixed-effects models by regressing the change in the outcome on the change in attendance. All regressions include both linear and squared attendance terms to capture any diminishing returns to attendance. The marginal effect of an additional 10 days of attendance has also been regression adjusted for baseline differences between the groups. The control variables in the regression include students’ demographic characteristics, students’ baseline test scores, and school attendance. Weights are used to adjust impact estimates for nonresponse.

^aSample sizes differ for some outcomes due to nonresponse. Sample sizes in this table are smaller than the other elementary impact tables because all outcomes in the table are from the student survey, which was not administered to students in grades K-2.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table C.8

Differences in Impacts on Other Outcomes, Elementary School Centers, Year 2

Outcome	Marginal Effect of Attending the After-School Program 10 More Days	
	Effect of 10 More Days for Those Attending 10 Days	Effect of 10 More Days for Those Attending 30 Days
Percentage of Students Who Report Feeling the Following Levels of Safety After School up Until 6 p.m.:		
Very safe	-1.3	-1.0
Somewhat safe	1.1	0.8
Not at all safe	0.2	0.2
Percentage of Students Who Report the Following Are “Somewhat True” or “Very True”:		
They get along with others their age	-0.3	-0.9
They feel left out of things	-0.1	-0.3
Percentage of Students Whose Teachers Report That the Student Gets Along Well with Others	-0.3	-0.5
Percentage of Students Who Do the Following “Some” or “A Lot”:		
Help another student in school	-0.5	-0.1
Help another student after school	0.6	1.4
Percentage of Students Who Rate Themselves as “Good” or “Excellent” on the Following:		
Working with others on a team or group	0.3	0.5
Feeling bad for other people who are having difficulties	1.4	1.5
Believing the best about other people	-0.3	0.1
Percentage of Students Who Rate Themselves as “Excellent” on the Following:		
Using a computer to look up information	-3.5***	-5.0***
Setting a goal and working to achieve it	1.6	0.7
Percentage of Students Who Rate Themselves as “Excellent” on Sticking to What They Believe in, Even if Their Friends Don’t Agree	-0.2	-1.1
Negative Behavior Composite ^a	0.0	0.0
Percentage of Students Whose Parents Report Doing the Following:		
Helped their child with homework at least three times last week	0.1	0.6
Checked on their child’s homework completion at least three times last week	0.0	0.3
Asked their child about things they were doing in class at least seven times last month	0.9	0.9
Percentage of Students Whose Parents Did the Following at Least Three Times Last Year:		
Attended an open house at the school	1.0	1.4
Attended parent-teacher organization meetings	0.8	0.6
Attended an after-school event	-0.4	-0.9
Volunteered to help out at school	0.2	0.2
Sample Size ^b	997	

Source: Student Survey, Parent Survey, Teacher Survey.

Note: For all outcomes, we estimate OLS fixed-effects models by regressing the change in the outcome on the change in attendance. All regressions include both linear and squared attendance terms to capture any diminishing returns to attendance. The marginal effect of an additional 10 days of attendance has also been regression adjusted for baseline differences between the groups. The control variables in the regression include students’ demographic characteristics, students’ baseline test scores, and school attendance. Weights are used to adjust impact estimates for nonresponse.

^aThe negative behavior composite is based on student responses to five questions regarding how often they do the following: (1) break something on purpose, (2) punch or hit someone, (3) argue with their parents, (4) lie to their parents, and (5) give a teacher a “hard time.” Values on these items range from 1 to 4; a value of 1 on the composite indicates a low level, while a value of 4 indicates a high level.

^bSample sizes differ for outcomes depending on the source. For some parent-reported outcomes, the sample sizes are 980 treatment group members and 809 control group members; for student-reported outcomes, the sample sizes are 780 treatment group members and 655 control group members.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Appendix D
Subgroup Tables

Table D.1a

Impacts on Maternal Employment and Students' Location, Care, and Activities After School by Subgroup,
Elementary School Centers, Year 2

Outcome	Estimated Impact						
	Grade Level			Baseline Test Scores ^a		Baseline Disciplinary Problems Composite ^b	
	K to 2	3 to 4	5 to 6	Low	High	Low	High
Percentage of Students in Following Locations After School at Least Three Days in Typical Week (According to Parents)							
Own home	-12.1***	-10.3	-1.5	-4.7	-7.4	-16.9***	-1.0
Someone else's home	-0.9	0.3	-1.1	2.4	-3.9	-3.6	12.5**
School or other place for activities	14.4***	13.1**	5.3	9.2	5.9	14.9***	-2.4
Somewhere to "hang out"	-0.8	0.4	2.0	3.9**	-2.1	1.2	-0.6
Mixed (no one location for at least three days)	0.5	-1.3	3.3	0.5	2.0	0.9	-1.3
Percentage of Students in Following Types of Supervision After School at Least Three Days in Typical Week (According to Parents)							
Self-care ^c	0.4	0.8	-0.8	0.4	0.5	-0.9	0.7
Parent care	-10.2**	-10.5**	0.5	-2.6	-1.6	-8.6	-8.3
Nonparent adult care	12.9***	11.7**	8.7	10.8**	4.5	14.3***	0.8
Sibling care	1.6	-16.6***	0.5	3.5	-5.8	-10.6**	-7.8
Mixed care (no one type of care for at least three days)	-0.7	1.9	1.9	0.3	1.2	-0.3	3.4
Employment of Mother							
Full-time	1.0	3.8	4.2	6.4	-1.0	1.6	18.7**
Part-time	-1.6	3.7	-0.2	-9.5**	1.1	3.2	-2.5
Looking for work	1.2	-7.2	-10.9**	-3.2	-5.6	-8.8**	-11.2**
Not in labor force	-0.7	-0.2	6.9	6.3	5.4	4.0	-5.0
Percentage of Students Who Participated in Each Activity at Least Once After School in the Past Week (According to Parents)							
Homework	2.3	-5.7	-7.6	-5.0	-1.4	-6.1	-5.3
Tutoring	12.8***	7.8	5.8	7.4	11.6***	12.9***	-5.4
Nonhomework reading, writing, or science	-4.2	8.8	-4.3	-6.9	3.4	-4.7	2.3
Watched TV or videos	-1.1	-7.8	1.8	-1.5	-3.3	-4.3	-3.2
Surfed the Net or did other things on a computer	5.9	4.3	14.9	10.6	6.9	3.5	14.3
Hung out with friends	-5.2	7.0	2.3	4.3	2.9	3.8	6.0
Mean Number of Hours Spent Watching TV in the Past Day (According to Students)							
	n.a. ^d	-0.3**	-0.2	-0.1	-0.1	-0.3**	0.1
Mean Number of Hours Spent Reading for Fun in the Past Day (According to Students)							
	n.a. ^d	0.0	0.1	-0.1	0.0	0.0	0.0
Number of Observations:							
Student-reported outcomes	n.a. ^d	627	426	649	471	657	318
Parent-reported outcomes	824	554	379	655	597	589	272

Source: Parent Survey, Student Survey.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are defined as having low (high) scores if they scored below (above) the median reading test score for the evaluation sample.

^bThe baseline student discipline composite was based on students' responses to how frequently the following three things happened to them: (1) sent to the office for doing something wrong, (2) have to miss recess or sit in the hall, and (3) parents have to come to school about a problem they're having. Students are defined as having low (high) levels of discipline problems if the composite falls below (above) the median of the composite for the evaluation sample.

^cStudents are defined as being in self-care if they were not with a parent, a nonparent adult, or an older sibling at least three days in a typical week.

^dStudents in grades K-2 were not administered the student survey because of their age.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.1b

Impacts on Maternal Employment and Students' Location, Care, and Activities After School by Subgroup,
Elementary School Centers, Year 2

Outcome	Estimated Impact				
	Race/Ethnicity			Gender	
	White	Black	Hispanic	Male	Female
Percentage of Students in Following Locations After School at Least Three Days in Typical Week (According to Parents)					
Own home	-3.4	-9.9**	-1.4	-1.4	-9.9**
Someone else's home	3.2	-3.5	-4.1	-4.2	1.7
School or other place for activities	-10.3	9.0	14.5**	4.1	7.7
Somewhere to "hang out"	-0.5	-0.1	0.2	0.3	0.4
Mixed (no one location for at least three days)	-2.8	1.6	-0.4	0.9	-0.2
Percentage of Students in Following Types of Supervision After School at Least Three Days in Typical Week (According to Parents)					
Self-care ^a	-5.8	0.5	0.8	0.1	0.6
Parent care	15.9	-8.5	-0.6	-1.1	-8.1
Nonparent adult care	-0.5	5.6	4.1	5.6	2.4
Sibling care	1.1	3.7	-4.9	-8.9**	-5.7
Mixed care (No one type of care for at least three days)	-1.7	3.0	-1.5	-0.4	1.0
Employment of Mother					
Full-time	-14.2	1.1	4.8	10.7**	-1.9
Part-time	28.5***	2.7	-3.3	-10.6***	3.7
Looking for work	-16.0	-3.6	6.3	-3.8	-0.7
Not in labor force	1.7	-0.1	-7.7	3.7	-1.1
Percentage of Students Who Participated in Each Activity at Least Once After School in the Past Week (According to Parents)					
Homework	6.6	-3.8	-1.2	-0.9	-2.0
Tutoring	4.0	7.7**	7.4	15.3***	6.2
Nonhomework reading, writing, or science	4.5	-3.2	2.1	2.9	-5.8
Watched TV or videos	6.4	-6.4	1.1	-0.5	-4.2
Surfed the Net or did other things on a computer	10.1	9.9**	8.3	10.3**	0.9
Hung out with friends	-2.5	-3.2	-6.8	-2.9	-2.5
Mean Number of Hours Spent Watching TV in the Past Day (According to Students)					
	-0.6	0.0	-0.2	0.2	-0.1
Mean Number of Hours Spent Reading for Fun in the Past Day (According to Students)					
	-0.1	0.0	0.0	0.0	-0.1
Number of Observations:					
Student-reported outcomes	69	626	367	636	716
Parent-reported outcomes	95	796	500	805	851

Source: Parent Survey, Student Survey.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are defined as being in self-care if they were not with a parent, a nonparent adult, or an older sibling at least three days in a typical week.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.1c

Impacts on Maternal Employment and Students' Location, Care, and Activities After School by Subgroup,
Elementary School Centers, Year 2

Outcome	Household Structure ^a		Teacher Works in the Program	
	Two Parent	One Parent	Yes	No
Percentage of Students in Following Locations After School at Least Three Days in Typical Week (According to Parents)				
Own home	-7.5	-9.6**	-8.7	-12.0**
Someone else's home	-0.3	-2.9	-1.9	2.5
School or other place for activities	5.9	11.4***	12.6**	8.4
Somewhere to "hang out"	0.6	-0.7	-1.5	-0.3
Mixed (no one location for at least three days)	0.1	0.8	0.4	-0.7
Percentage of Students in Following Types of Supervision After School at Least Three Days in Typical Week (According to Parents)				
Self-care ^b	0.1	0.4	0.3	-0.8
Parent care	-6.4	-6.1	-4.6	-8.8
Nonparent adult care	3.5	7.1	7.3	10.2
Sibling care	-9.3**	-0.3	-6.5	-5.2
Mixed care (o one type of care for at least three days)	1.4	-0.7	-3.0	2.6
Employment of Mother				
Full-time	3.3	4.0	1.5	6.4
Part-time	-5.4	1.6	-2.7	-7.4**
Looking for work	-3.2	-2.9	-1.8	-4.0
Not in labor force	5.3	-2.6	2.9	5.0
Percentage of Students Who Participated in Each Activity at Least Once After School in the Past Week (According to Parents)				
Homework	0.8	-1.8	-0.7	-1.7
Tutoring	6.5	14.9***	21.3***	4.9
Nonhomework reading, writing, or science	-2.1	0.8	-1.6	-3.5
Watched TV or videos	-8.1**	2.3	-5.5	-2.1
Surfed the Net or did other things on a computer	1.0	12.0***	6.9	11.9**
Hung out with friends	-2.0	0.7	1.0	-3.8
Mean Number of Hours Spent Watching TV in the Past Day (According to Students)				
	0.1	-0.1	-0.2	0.1
Mean Number of Hours Spent Reading for Fun in the Past Day (According to Students)				
	0.0	0.0	0.0	0.0
Number of Observations:				
Student-reported outcomes	547	662	407	698
Parent-reported outcomes	803	994	514	821

Source: Parent Survey, Student Survey.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are in the "two-parent" subgroup if they live with a mother, stepmother, foster mother, or female guardian and a father, stepfather, foster father, or male guardian. If they do not live with both a male and female parent or guardian, students are in the "one-parent" subgroup.

^bStudents are defined as being in self-care if they were not with a parent, a nonparent adult, or an older sibling at least three days in a typical week.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.2a

Impacts on Homework Completion, Level of Effort, and Classroom Behavior by Subgroup,
Elementary School Centers, Year 2

Outcome	Estimated Impact						
	Grade Level			Baseline Test Scores ^a		Baseline Disciplinary Problems Composite ^b	
	K to 2	3 to 4	5 to 6	Low	High	Low	High
Percentage of Students Whose Teachers Report That They Often Complete Homework	-1.5	-9.2	-14.4	-0.4	-0.7	-5.6	-3.2
Percentage of Students Whose Teachers “Agree” or “Strongly Agree” That:							
Student completes assignments to my satisfaction	-1.2	1.4	-12.9	3.9	-2.6	2.6	-4.5
Student comes prepared and ready to learn	-2.2	-7.5	-2.0	3.5	-4.3	-5.4	-8.4
Percentage of Students Whose Teachers Report That They “Usually Try Hard” in Reading or English	-6.6	-3.1	-6.2	5.4	-13.0**	-2.2	-13.0
Percentage of Students Whose Teachers Report That They “Often” Perform at or Above Their Ability	-1.3	-1.0	1.9	8.6	1.0	0.7	9.5
Teacher-Reported Level of Effort Composite (Mean)	-0.1	0.0	-0.2	0.1	-0.2	0.0	-0.1
Percentage of Students Whose Parents “Agree” or “Strongly Agree” That Child Works Hard at School	-0.3	-1.2	1.8	1.9	-6.2	-1.1	-0.9
Percentage of Students Whose Teachers Report Doing the Following “Two or More Times”:							
Disciplining the child for misbehaving	-0.7	4.0	3.6	2.2	0.1	4.9	12.1
Sending child to the office for misbehaving	4.8	-3.3	2.3	0.4	1.9	-0.1	-0.8
Giving child detention	2.1	0.3	1.5	-6.5	-0.6	2.6	14.2**
Calling parents about child’s behavior	2.8	-0.1	10.3	4.0	-0.3	3.2	11.4
Percentage of Students Who Report the Following Happens “Some” or “A Lot”:							
Student has to miss recess or sit in the hall	n.a. ^c	-4.8	4.5	9.4**	5.6	-4.4	12.9**
Parents have to come to school about problem	n.a. ^c	3.1	2.1	4.3	4.3	3.0	9.2
Percentage of Students Who Were Suspended	6.3***	-1.6	5.5	2.1	0.5	4.9	2.0
Number of Observations:							
Parent-reported outcomes	821	555	378	654	594	588	271
Teacher-reported outcomes	923	598	378	685	653	614	303
School records outcomes (Suspensions)	889	563	363	624	627	581	279
Student-reported outcomes	n.a. ^c	622	412	641	458	636	318

Source: Parent Survey, Student Survey, Teacher Survey, School Records.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are defined as having low (high) scores if they scored below (above) the median reading test score for the evaluation sample.

^bThe baseline student discipline composite was based on students’ responses to how frequently the following three things happened to them: (1) sent to the office for doing something wrong, (2) have to miss recess or sit in the hall, and (3) parents have to come to school about a problem they’re having. Students are defined as having low (high) levels of discipline problems if the composite falls below (above) the median of the composite for the evaluation sample.

^cStudents in grades K-2 were not administered the student survey because of their age.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.2b

Impacts on Homework Completion, Level of Effort, and Classroom Behavior by Subgroup,
Elementary School Centers, Year 2

Outcome	Estimated Impact				
	Race/Ethnicity			Gender	
	White	Black	Hispanic	Male	Female
Percentage of Students Whose Teachers Report That They Often Complete Homework	-2.2	-4.2	-4.0	-6.6	0.5
Percentage of Students Whose Teachers “Agree” or “Strongly Agree” That:					
Student completes assignments to my satisfaction	-4.6	4.7	-0.9	-3.0	1.9
Student comes prepared and ready to learn	-5.1	-3.2	-0.4	-9.1**	4.0
Percentage of Students Whose Teachers Report That They “Usually Try Hard” in Reading or English	-10.4	5.1	-10.3	-11.7***	-1.1
Percentage of Students Whose Teachers Report That They “Often” Perform at or Above Their Ability	-1.6	6.6	-8.2	1.1	-0.1
Teacher-Reported Level of Effort Composite (Mean)	-0.2	0.1	-0.2	-0.2	0.0
Percentage of Students Whose Parents “Agree” or “Strongly Agree” That Child Works Hard at School	-13.2	1.9	0.1	-0.4	1.4
Percentage of Students Whose Teachers Report Doing the Following “Two or More Times”:					
Disciplining the child for misbehaving	-2.0	3.3	-2.5	10.4**	-1.0
Sending child to the office for misbehaving	1.5	2.5	2.2	4.4	-1.5
Giving child detention	17.7**	3.1	4.3	4.3	4.4
Calling parents about child’s behavior	6.6	5.0	-1.7	10.3**	0.0
Percentage of Students Who Report the Following Happens “Some” or “A Lot”:					
Student has to miss recess or sit in the hall	7.1	12.8***	-7.6	10.2**	1.9
Parents have to come to school about problem	13.4	-0.6	0.0	8.4	2.1
Percentage of Students Who Were Suspended	2.1	5.3**	-0.5	6.2**	0.3
Number of Observations:					
Parent-reported outcomes	95	792	499	801	849
Teacher-reported outcomes	98	796	506	887	924
School records outcomes (Suspensions)	85	773	420	846	879
Student-reported outcomes	68	617	365	630	708

Source: Parent Survey, Student Survey, Teacher Survey, School Records.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.2c

Impacts on Homework Completion, Level of Effort, and Classroom Behavior by Subgroup,
Elementary School Centers, Year 2

Outcome	Household Structure ^a		Teacher Works in the Program	
	Two Parent	One Parent	Yes	No
Percentage of Students Whose Teachers Report That They Often Complete Homework	-1.1	-3.0	-1.7	-5.4
Percentage of Students Whose Teachers “Agree” or “Strongly Agree” That:				
Student completes assignments to my satisfaction	-0.7	6.0	1.1	-3.9
Student comes prepared and ready to learn	-8.5	0.3	0.7	-7.8
Percentage of Students Whose Teachers Report That They “Usually Try Hard” in Reading or English	-11.1**	2.1	1.6	-6.7
Percentage of Students Whose Teachers Report That They “Often” Perform at or Above Their Ability	2.7	2.8	0.7	-2.0
Teacher-Reported Level of Effort Composite (Mean)	-0.1	0.0	0.0	-0.1
Percentage of Students Whose Parents “Agree” or “Strongly Agree” That Child Works Hard at School	-3.7	0.5	-1.7	-0.6
Percentage of Students Whose Teachers Report Doing the Following “Two or More Times”:				
Disciplining the child for misbehaving	10.9**	-2.5	3.6	4.8
Sending child to the office for misbehaving	4.2	-3.7	-0.5	4.5
Giving child detention	1.8	-1.4	-2.4	5.6
Calling parents about child’s behavior	8.9**	-0.3	1.6	5.8
Percentage of Students Who Report the Following Happens “Some” or “A Lot”:				
Student has to miss recess or sit in the hall	8.8**	-2.2	5.3	6.8
Parents have to come to school about problem	6.4	-2.9	-0.7	9.0**
Percentage of Students Who Were Suspended	1.9	4.9	5.0	6.2**
Number of Observations:				
Parent-reported outcomes	802	989	514	822
Teacher-reported outcomes	712	874	612	1,011
School records outcomes (Suspensions)	681	809	531	897
Student-reported outcomes	544	652	405	689

Source: Parent Survey, Student Survey, Teacher Survey, School Records.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are in the “two-parent” subgroup if they live with a mother, stepmother, foster mother, or female guardian and a father, stepfather, foster father, or male guardian. If they do not live with both a male and female parent or guardian, students are in the “one-parent” subgroup.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.3a

Impacts on Student Attendance and Academic Achievement by Subgroup,
Elementary School Centers, Year 2

Outcome	Estimated Impact						
	Grade Level			Baseline Test Scores ^a		Baseline Disciplinary Problems Composite ^b	
	K to 2	3 to 4	5 to 6	Low	High	Low	High
Mean Number of Days School Records Indicate Student Was:							
Absent	-0.9	-1.5**	-0.6	0.0	-0.4	-0.4	-1.4
Late	0.3	-1.5	0.9	-0.8	0.4	-1.3	-1.3
Mean Student-Reported Reading Confidence Composite	n.a. ^c	0.1	-0.1	-0.2**	0.0	0.0	-0.1
Percentage of Students Whose Teachers Report That They Achieve at an “Above-Average” or “Very High” Level	-2.9	-3.7	-10.5	1.0	-7.8	-10.7**	-2.6
Mean Class Grade							
Math	-0.4	0.3	-2.5	1.6	-0.8	-2.1	-1.2
English	0.5	1.0	-2.3	2.4**	-1.0	-1.1	0.5
Science	-0.7	0.6	-1.2	1.4	-1.6	-0.5	-0.3
Social Studies	-1.6**	0.1	-3.9***	0.5	-2.2**	-1.1	-1.3
Mean Reading Test Score	1.8	-4.5	-6.1	-4.4	5.4	-2.2	2.3
Number of Observations:							
Student-reported outcomes	n.a. ^c	626	427	642	471	657	319
Teacher-reported outcomes	931	597	376	686	653	614	301
School records outcomes (Attendance)	861	537	349	606	623	553	268
School records outcomes (Grades)	720	519	386	579	599	554	270
School records outcomes (Reading scores)	733	566	396	631	693	608	290

Source: Student Survey, Teacher Survey, School Records.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are defined as having low (high) scores if they scored below (above) the median reading test score for the evaluation sample.

^bThe baseline student discipline composite was based on students’ responses to how frequently the following three things happened to them: (1) sent to the office for doing something wrong, (2) have to miss recess or sit in the hall, and (3) parents have to come to school about a problem they’re having. Students are defined as having low (high) levels of discipline problems if the composite falls below (above) the median of the composite for the evaluation sample.

^cStudents in grades K-2 were not administered the student survey because of their age.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.3b

Impacts on Student Attendance and Academic Achievement by Subgroup,
Elementary School Centers, Year 2

Outcome	Estimated Impact				
	Race/Ethnicity			Gender	
	White	Black	Hispanic	Male	Female
Mean Number of Days School Records Indicate Student Was:					
Absent	0.6	-0.1	0.0	0.0	-0.3
Late	2.1	1.2	-1.8	0.0	0.3
Mean Student-Reported Reading Confidence Composite	0.1	-0.1	0.1	0.0	-0.1
Percentage of Students Whose Teachers Report That They Achieve at an "Above-Average" or "Very High" Level	2.4	0.3	-8.7	-8.7***	-4.4
Mean Class Grade					
Math	-1.0	-0.5	-0.1	-1.3	0.0
English	-0.1	-0.6	0.2	-0.8	0.5
Science	-0.1	0.4	-0.1	-1.1	0.0
Social Studies	0.2	-1.0	0.1	-2.4***	-1.0
Mean Reading Test Score	-1.3	0.4	0.2	-3.2	5.9**
Number of Observations:					
Student-reported outcomes	69	617	365	631	709
Teacher-reported outcomes	98	790	508	888	927
School records outcomes (Attendance)	92	752	427	825	862
School records outcomes (Grades)	76	738	376	744	808
School records outcomes (Reading scores)	69	733	425	776	861

Source: Student Survey, Teacher Survey, School Records.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.3c

Impacts on Student Attendance and Academic Achievement by Subgroup,
Elementary School Centers, Year 2

Outcome	Household Structure ^a		Teacher Works in the Program	
	Two Parent	One Parent	Yes	No
Mean Number of Days School Records Indicate Student Was:				
Absent	-1.9***	0.5	-0.5	-0.8
Late	0.1	-0.4	-1.2**	0.8
Mean Student-Reported Reading Confidence Composite	0.0	0.0	-0.1	0.1
Percentage of Students Whose Teachers Report That They Achieve at an “Above Average” or “Very High” Level	-5.9	-1.6	-2.0	-6.1
Mean Class Grade				
Math	0.8	-1.3	-1.5	-0.3
English	1.4	-0.5	-0.3	-0.1
Science	-1.1	-0.7	-0.8	-0.6
Social Studies	-1.2	-0.6	-1.5	-0.7
Mean Reading Test Score	-0.6	6.6**	-2.8	3.2
Number of Observations:				
Student-reported outcomes	546	652	403	691
Teacher-reported outcomes	714	873	616	1,011
School records outcomes (Attendance)	670	762	551	923
School records outcomes (Grades)	594	742	495	799
School records outcomes (Reading scores)	636	775	479	842

Source: Student Survey, Teacher Survey, School Records.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are in the “two-parent” subgroup if they live with a mother, stepmother, foster mother, or female guardian and a father, stepfather, foster father, or male guardian. If they do not live with both a male and female parent or guardian, students are in the “one-parent” subgroup.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.4a

Impacts on Other Student and Parent Outcomes by Subgroup,
Elementary School Centers, Year 2

Outcome	Estimated Impact						
	Grade Level			Baseline Test Scores ^a		Baseline Disciplinary Problems Composite ^b	
	K to 2	3 to 4	5 to 6	Low	High	Low	High
Percentage of Students Who Report Feeling the Following Levels of Safety After School Until 6 p.m.:							
Very safe	n.a. ^c	-1.0	6.7	7.2	0.2	1.9	-3.8
Somewhat safe	n.a. ^c	2.5	-6.2	-2.5	4.6	-1.3	4.8
Not at all safe	n.a. ^c	-1.4	-0.4	-4.7	-4.8	-0.5	-1.1
Percentage of Students Who Report Helping Another Student After School	n.a. ^c	10.8**	5.8	2.1	7.5	4.2	7.9
Percentage of Students Whose Teachers Report That the Student Gets Along Well with Others	4.7	5.7	-0.1	4.6	-4.4	4.0	2.2
Student-Reported Disciplinary Problems Composite ^b (Mean)	n.a. ^c	-0.1	0.0	0.1	0.0	0.0	0.1
Teacher-Reported Discipline Problem Composite ^d (Mean)	0.1	0.0	0.1	0.0	0.1	0.1	0.2
Percentage of Students Whose Parents Report That They Often Ask Student Things He or She Did in Class	-1.9	2.3	-2.3	-6.1	1.5	-7.0	8.6
Percentage of Students Whose Parents Report Helping Them with Homework at Least Three Times Last Week	0.4	0.3	5.3	-7.6	0.8	0.2	4.2
Percentage of Students Whose Parents Did the Following at Least Three Times Last Year:							
Attended an open house at school	2.3	-4.4	11.8	-2.4	7.5	5.7	-6.4
Attended a PTO meeting	8.7**	-0.2	11.3	7.4	0.1	6.3	-5.5
Attended an after-school event	-6.9	-3.0	2.2	-1.6	-0.9	2.5	1.6
Volunteered to help out at school	-8.0**	0.5	-2.0	-6.0	-2.8	-8.1	7.5
Number of Observations:							
Student-reported outcomes	n.a. ^c	627	427	646	471	660	317
Parent-reported outcomes	816	550	375	650	586	574	270
Teacher-reported outcomes	933	603	380	692	657	619	306

Source: Parent Survey, Student Survey, Teacher Survey.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are defined as having low (high) scores if they scored below (above) the median reading test score for the evaluation sample.

^bThe baseline student discipline composite was based on students' responses to how frequently the following three things happened to them: (1) sent to the office for doing something wrong, (2) have to miss recess or sit in the hall, and (3) parents have to come to school about a problem they're having. Students are defined as having low (high) levels of discipline problems if the composite falls below (above) the median of the composite for the evaluation sample.

^cStudents in grades K-2 were not administered the student survey because of their age.

^dThe teacher-reported discipline composite is based on four teacher responses regarding the student's behavior in the past month: (1) how often the student is disciplined for misbehaving, (2) how often the teacher has given the student detention, (3) how often the teacher has sent the student to the office for misbehaving, and (4) how often the teacher has contacted the student's parents regarding behavior. A value of 1 on the composite means a low occurrence of teacher-reported discipline problems, and a value of 4 means a high occurrence.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.4b

Impacts on Other Student and Parent Outcomes by Subgroup,
Elementary School Centers, Year 2

Outcome	Estimated Impact				
	Race/Ethnicity			Gender	
	White	Black	Hispanic	Male	Female
Percentage of Students Who Report Feeling the Following Levels of Safety After School Until 6 p.m.:					
Very safe	1.0	-0.1	2.0	7.9	-3.8
Somewhat safe	3.9	7.3	-5.5	-2.1	5.5
Not at all safe	-4.9	-7.3***	3.6	-5.7**	-1.7
Percentage of Students Who Report Helping Another Student After School	13.3	5.2	19.6**	-0.2	0.3
Percentage of Students Whose Teachers Report That the Student Gets Along Well with Others	0.5	-0.5	1.3	-0.2	2.3
Student-Reported Disciplinary Problems Composite (Mean)	0.1	0.1	0.0	0.2***	0.0
Teacher-Reported Discipline Problem Composite (Mean)	0.3	0.1	0.0	0.2**	0.0
Percentage of Students Whose Parents Report That They Often Ask Student Things He or She Did in Class	-18.6	0.9	1.5	6.7	-9.0**
Percentage of Students Whose Parents Report Helping Them with Homework at Least Three Times Last Week	20.5	-0.6	-3.2	5.3	2.9
Percentage of Students Whose Parents Did the Following at Least Three Times Last Year:					
Attended an open house at school	-7.0	1.1	2.8	6.9	-2.9
Attended a PTO meeting	9.4	6.9	24.1***	6.6	-0.2
Attended an after-school event	-24.4**	-8.5**	14.9**	-4.1	-8.0
Volunteered to help out at school	23.9**	0.7	7.4	-0.6	-6.8
Number of Observations:					
Student-reported outcomes	69	625	364	635	715
Parent-reported outcomes	94	762	492	793	848
Teacher-reported outcomes	98	800	508	896	930

Source: Parent Survey, Student Survey, Teacher Survey.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

**Significantly different from zero at the .05 significance level, two-tailed test.

***Significantly different from zero at the .01 significance level, two-tailed test.

Table D.4c

Impacts on Other Student and Parent Outcomes by Subgroup,
Elementary School Centers, Year 2

Outcome	Household Structure ^a		Teacher Works in the Program	
	Two Parent	One Parent ^a	Yes	No
Percentage of Students Who Report Feeling the Following Levels of Safety After School Until 6 p.m.:				
Very safe	0.8	3.8	1.9	0.3
Somewhat safe	0.2	0.4	0.8	5.7
Not at all safe	-1.0	-4.2	-2.7	-6.0**
Percentage of Students Who Report Helping Another Student After School	2.6	9.0	5.3	-4.6
Percentage of Students Whose Teachers Report That the Student Gets Along Well with Others	-3.5	2.4	-3.3	-0.4
Student-Reported Disciplinary Problems Composite (Mean)	0.3***	-0.1	0.0	0.2**
Teacher-Reported Discipline Problem Composite (Mean)	0.2**	-0.1	0.0	0.1
Percentage of Students Whose Parents Report That They Often Ask Student Things He or She Did in Class	-6.4	4.5	1.0	-2.7
Percentage of Students Whose Parents Report Helping Them with Homework at Least Three Times Last Week	0.9	4.8	4.7	-0.5
Percentage of Students Whose Parents Did the Following at Least Three Times Last Year:				
Attended an open house at school	5.4	0.9	3.7	4.4
Attended a PTO meeting	6.7	2.4	7.8	9.7
Attended an after-school event	-4.4	-2.9	-1.8	-7.8
Volunteered to help out at school	-3.2	-5.9	-5.6	-1.2
Number of Observations:				
Student-reported outcomes	546	661	404	698
Parent-reported outcomes	791	974	504	810
Teacher-reported outcomes	715	879	616	1,021

Source: Parent Survey, Student Survey, Teacher Survey.

Note: Subgroup impacts reported in bold indicate that the estimated impact for one subgroup differed significantly from the estimated subgroup impact for the other related subgroup(s) at the .05 level or higher. Weights are used to adjust estimates for nonresponse.

^aStudents are in the “two-parent” subgroup if they live with a mother, stepmother, foster mother, or female guardian and a father, stepfather, foster father, or male guardian. If they do not live with both a male and female parent or guardian, students are in the “one-parent” subgroup.

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***Significantly different from zero at the .01 significance level, two-tailed test.



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