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New Jersey 21st Century Community Learning Centers

Year 5 Evaluation Report Impact Data for 2016–17

MAY 2019

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Matthew Vinson | Feng Liu, PhD | Shuqiang Lin, PhD

1000 Thomas Jefferson Street NW
Washington, DC 20007-3835
202.403.5000
www.air.org

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Funding Statement

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Executive Summary

The information presented in this report is the result of data collected and analyzed as part of a statewide evaluation currently being conducted by the American Institutes for Research (AIR) of New Jersey's *21st Century Community Learning Centers* (21st CCLC) program. The results outlined in this report are associated with 21st CCLC–funded activities and services delivered during the course of the 2016–17 school year.

The information collected and analyzed in relation to the 2016–17 school year was meant to answer two primary evaluation questions related to the implementation of the New Jersey 21st CCLC program:

1. What were the primary characteristics of programs funded by 21st CCLC and characteristics of the students served?
2. To what extent is there evidence that students participating in 21st CCLC program services and activities demonstrate better outcomes compared with students not participating in the program, specifically with respect to
   a. higher academic achievement in English language arts (ELA) and mathematics and
   b. lower unexcused absence rates.

The information presented in this report is designed to address these questions while providing an array of information useful for 21st CCLC planning by the New Jersey Department of Education (NJDOE).

Data Sources

To address the evaluation questions, data were collected from the following sources during the course of 2016–17:

- **Program Activity and Review System (PARS21).** PARS21 is a Web-based data collection system developed and maintained by NJDOE. PARS21 collects data directly from grantees on a broad array of program characteristics, along with individual student information in the form of demographics and 21st CCLC program attendance (including activity session-level participation data). Notably, the system collected state student identifiers that can be linked to state warehouse outcome data (i.e., NJ SMART data, detailed later).
- **Youth Survey.** AIR collected two youth surveys during 2016–17, a preadministration and a postadministration version of the Youth Motivation, Engagement, and Beliefs survey. This survey was developed by Youth Development Executives of King County in Washington state in conjunction with AIR. The survey has been tested, revised, and validated by AIR. The presurvey and postsurvey include the same set of youth outcome questions, whereas the postsurvey includes an extra set of program experience questions.

- **New Jersey Standards Measurement and Resource for Teaching (NJ SMART) Data Warehouse.** In early 2017, the research team obtained access to New Jersey assessment test scores and unexcused absence data for the 21st CCLC participants served during the 2016–17 school year. These data came from the NJ SMART data warehouse maintained by NJDOE for students in Grades 4 through 12. Similar data also were obtained for students attending the same schools as the 21st CCLC participant population who did not participate in the program during these periods. The research team used these nonparticipant data to conduct an analysis of the program impact outcomes.
- **Staff Survey.** The purpose of the online staff survey was to obtain information from staff members working directly with youth in programs funded by 21st CCLC about the extent to which they engage in practices suggested by the afterschool research literature as likely to be supportive of both positive academic and youth development outcomes. The staff survey data are primarily used in creating values for the program leading indicators.
- **New Jersey 21st CCLC Evaluation Template and Reporting System.** The 21st CCLC Evaluation Template and Reporting System (ETRS) is a Web-based data collection application designed to obtain center-level information about the characteristics and performance of afterschool programs funded by 21st CCLC, based on information garnered from local evaluation efforts. The system is designed to collect information midyear through a given school year. ETRS data are primarily used in creating values for the program leading indicators.

Methods of Analysis

The findings in this report are purely quantitative, with methods as follows:

1. **Descriptive Analyses.** Data related to grantee, center, and student characteristics obtained from PARS21, NJ SMART, and the youth surveys were analyzed descriptively.
2. **Analyses to Create Scale Scores.** Many questions appearing on the staff and youth surveys and that were represented in the ETRS reports were part of a series of questions designed to assess an underlying construct/concept, resulting in a single scale score summarizing performance on a given area of practice or facet of afterschool implementation (e.g., practices that support linkages to the school day). An example is Exhibit 1, which outlines the questions making up the Intentionality Program Design scale that appeared on the staff survey.

Exhibit 1. Example of a Survey Scale Calibrated Using Rasch Techniques

How often do you lead or participate in program activities that are...	Rarely	Sometimes	Frequently	Always
a. Based on written plans for the session, assignments, and projects?	○	○	○	○
b. Well planned in advance?	○	○	○	○
c. Tied to specific learning goals?	○	○	○	○
d. Meant to build upon skills cultivated in a prior activity or session?	○	○	○	○
e. Explicitly meant to promote skill building and mastery in relation to one or more state standard?	○	○	○	○
f. Explicitly meant to address a specific developmental domain (e.g., cognitive, social, emotional, civic, physical, etc.)?	○	○	○	○
g. Structured to respond to youth feedback on what the content or format of the activity should be?	○	○	○	○
h. Informed by the expressed interests, preferences, and/or satisfaction of participating youth?	○	○	○	○

For scales like this, Rasch scale scores were created using responses to the whole series of questions to create one overall score. These scale scores ranged from 0 to 4, where higher scores were indicative of a higher level or more frequent adoption of a specific quality practice or set of practices. Depending on the type of survey data involved, these scores could be left as individual scores (e.g., for use in analyzing youth survey data) or averaged to the center, grant, or state level (e.g., staff survey data). AIR used Rasch scale scores in calculating many of the leading indicator values and also for analyzing outcomes relating to the youth survey results.

3. **Correlational Multilevel Modeling Techniques.** A multilevel model was run to explore the relationship between, on the one hand, participation levels (in terms of days) or youth program experiences and, on the other hand, student outcomes as measured by pre-to-post youth survey changes (using Rasch scale scores). Note that this method is capable of highlighting significant relationships (e.g., two variables increased together, decreased together, moved inversely to each other, etc.), but cannot indicate the cause of that observed relationship.

4. **Propensity Score Matching.** In contrast to the multilevel modeling techniques just described, propensity score matching approaches were employed to estimate the causal impact of 21st CCLC program participation on student performance in terms of achievement (reading and mathematics) and unexcused absences. Given that 21st CCLC program participants were not randomly assigned to participate in the program, the problem of selection bias was an issue that needed to be addressed before program impact could be explored from a causal perspective. It is likely that students who participated in 21st CCLC programming were different from those students attending the same schools who did not enroll in 21st CCLC. These differences can bias estimates of program effectiveness because they make it difficult to disentangle preexisting differences between participants and nonparticipants from program impact. Propensity score matching was used to mitigate that existing selection bias in program effect.

Characteristic Data Summary

The following is a summary of key evaluation findings.

Primary Characteristics of Programs Funded by 21st CCLC and the Students Served

Grantee Characteristics

- A plurality of grantees (40%) were in their third year of program operation.
- Grantees were split between the categories of school-based (44%) and non-school-based (56%) grantees (about the same as in previous years).

Center Characteristics

- By far, the most common staff type reported by grantees was school-day teacher, with 888 (41% of all staff) being reported for the 2016–17 school year. The next highest category was "program staff"[1] with 518 (or 24% of all staff).
- Centers on average had 16 staff members (median 14).
- The average student-to-staff ratio was about 12 students for each program staff member, similar to the ratio observed in 2015–16.
- Centers mainly served children in elementary and middle schools (88% of centers, the same as the previous year).
- Approximately 29% of all centers chose career awareness as their theme, whereas another 40% chose science, technology, engineering, and mathematics (STEM). Another 17% chose visual and performing arts as their central theme, and only 5% chose civic engagement.

[1] "Program staff" is a category of staff reported in PARS21.

Student Characteristics

- A total of 17,715 students attended 21st CCLC programming for at least one day (compared with 15,449 for 2015–16).
- A majority of 21st CCLC participants were Hispanic/Latino (46%) or Black (34%). Most attendees (77%) qualified for free or reduced-price lunch.
- Two thirds of the students (66.7%) attended 30 or more days, and slightly more than one third (35.2%) participated for 90 or more days.
- About 35.1% of students attended 21st CCLC programming for two consecutive years or more.
- On average, students spent about 20% of their time in tutoring or homework help, about 18% in academic enrichment, 16% in recreation, and 15% in youth development/learning activities.
- However, taking the median total student hours spent in each type of activity (instead of the average) showed that students spent a median of 8 hours in academic enrichment. This was followed by 5 hours each in youth development/learning activities and in recreational activities. The median number of tutoring hours was two. This indicates that the averages (as indicated in the preceding bullet point) were skewed by a smaller number of youth with high amounts of tutoring.
- A total of 48% of all youth participated in at least 10 hours of academic enrichment across the year. Comparable figures for youth development/learning activities, recreation, and tutoring were 44%, 42%, and 42%, respectively.
- The typical student attended an average of 58 hours of reading activities and 55 hours of mathematics activities (average of total hours across the reporting period). This was higher than the previous year (50 and 54 hours, respectively).

Leading Indicators Summary

A primary goal of the statewide evaluation was to provide 21st CCLC grantees with data to inform program improvement efforts regarding their implementation of research-supported best practices. Building from the quality framework, AIR and NJDOE worked collaboratively to define a series of leading indicators predicated on data collected as part of the statewide evaluation. The leading indicators were meant to enhance existing information/data available to 21st CCLC grantees regarding how they fared in the adoption of program strategies and approaches associated with high-quality afterschool programming. Specifically, the leading indicator system was designed to do the following:

- Summarize data collected as part of the statewide evaluation in terms of how well the grantee and its respective centers[2] are adopting research-supported best practices.
- Allow grantees to compare their level of performance on leading indicators with similar programs and statewide averages.
- Facilitate internal discussions about areas of program design and delivery that may warrant additional attention from a program improvement perspective.

General Program Indicators

General program indicators are those that relate to program practices at the general or program level but that may have a strong effect on participant experience. Programs characterized by a supportive and collaborative climate permit staff to engage in self-reflective practice to improve overall program quality, and, as noted by Smith (2007); Glisson (2007); and Birmingham, Pechman, Russell, and Mielke (2005), an organizational climate that supports staff in reflecting on and continually improving program quality is a key aspect of effective youth-development programs. Further, research suggests that youth achievement outcome improvement can be supported by simply paying attention to *how* programming is delivered (Birmingham et al., 2005; Durlak & Weissberg, 2007). These indicators therefore provide information on program internal communication, links to the school day, collaboration with school partners, and staff commitment to quality at the point of service.

- The average statewide scale score for internal communication fell within the once a month response category (scale response options included never, a couple of times per year, about once a month, and nearly every week), suggesting that the assessed collaborative efforts were frequently implemented during the 2016–17 programming period (Leading Indicator 1).
- Centers tended to have at least some access to school-based data on youth academic functioning and needs (Leading Indicator 2).
- In terms of program staff collaborating with school personnel to adopt practices that are supportive of academic skill building, including linkages to the school day and using data on youth academic achievement to inform programming, the statewide average was 2.8, which indicates that staff agree that linkages exist (Leading Indicator 3).
- In terms of activities provided at the point of service meant to support youth development, statewide averages on the Staff Capacity to Create Interactive and Engaging Environment scale (the source for Leading Indicator 4) suggest that staff adoption of such practices is more common than not.

[2] Throughout this report, the term *center* is used to refer to the physical location where 21st CCLC programming is delivered. Each grantee operates at least one center, although it is more common for a given grantee to operate multiple centers. Most, but not all, centers are located in public schools. The term *site* also is commonly used to refer to an individual center.

Activity-Related Indicators

In order for 21st CCLC programming to have an impact, activities must be offered that are intentionally designed relative to the desired outcomes, and youth must participate in those activities. Activity-related indicators provide data on both activity provision and activity participation, with indicators addressing mathematics and language arts, social and emotional development, and parent or guardian involvement. Overall, these indicators showed the following:

- A statewide average of about 31.7% of activity sessions had either a mathematics or a language arts focus (Leading Indicator 5).
- Statewide, nearly three quarters of regular attendees participated in mathematics or language arts activities for at least half their activity time (Leading Indicator 7).
- Frequent intentionality was evident in the design of activity sessions in terms of the skills and knowledge program staff were trying to impart to participating youth (Leading Indicator 6).
- Statewide, an average of approximately 83.8% of activity sessions offered infused components that were meant to support youth development-related behaviors and social-emotional learning (SEL) (Leading Indicator 8).
- An average of about 84.0% of regular attendees participated for at least 20% of their time in activities meant to support youth development-related behaviors and SEL (Leading Indicator 9).
- The *Practices Supportive of Positive Youth Development* and *Opportunities for Youth Ownership* scales of the staff survey (the sources for Leading Indicator 10) suggest, as in previous years, that staff adoption of such practices is more common than not.
- In terms of engaging in practices to support and cultivate parent involvement and engagement (Leading Indicator 11), most sites were found to do so *sometimes* (58.2% of sites falling within the *sometimes* range of the scale), as opposed to *never* (3.4% of sites) or *frequently* (15.8%).
- Only a very small percentage of programs (5.3%) were able to engage parents or other adult family members in activities for at least 15% of the youth served in the program during the 2016–17 school year, with adult family members of only 5.3% of all program participants attending at least one 21st CCLC activity (Leading Indicator 12). Overall, only 37 centers (27.8%) reported activities of this sort.

Youth Experience Summary

During spring 2017, AIR collected youth surveys that included questions about their experiences in the 21st CCLC program.

- In terms of youth choice, youth generally reported being able to choose how to spend their time, suggest ideas for new activities, and choose what activities they did. Conversely, about half reported that they could sometimes or often help make decisions or rules for the program, and just over half indicated they could sometimes or often be in charge of doing something to help the program or lead an activity.
- In terms of relationships with adults, most youth reported having good relationships with adults, though about a fifth reported it was either not at all true or only somewhat true that they had good relationships with adults.
- In terms of relationships with other participants, over two thirds of youth indicated that it was either mostly true or completely true that kids support and help one another, were friendly with each other, and listen to what teachers tell them to do. Over a third, however, said it was not at all true or only somewhat true that kids in the program don't tease or bully other kids.
- Finally, in terms of how the program had helped them over the past year, youth were most likely to report that it was "mostly true" or "completely true" that the program had helped them "find out what I like to do" (86%), "find out what I'm good at doing" (86%), and "learn things that will be important for my future" (85%).

Program Impact Summary

AIR conducted two types of impact analysis: (1) participants versus nonparticipants and (2) high-attending youth (defined as attending 45 days or more) compared with low-attending youth (15 days or less). In both cases, AIR used propensity score matching to create comparison groups that were similar to the treatment group of interest. AIR also ran multiple types of correlational models involving youth attendance levels, as well as correlational models using youth survey data.

Impact Analyses

The impact analyses concerning **English language arts (ELA) assessments** showed few statistically significant results. Youth in 11th grade were an exception to this trend, performing at a statistically significant higher level than the nonparticipant comparison groups. In addition, high-attending youth in 11th grade performed at a statistically significant higher level than matched low-attending youth. Furthermore, effects sizes related to ELA did follow the conceptual framework, in that effect sizes generally were higher with higher attendance, even if not statistically significant.

In terms of **mathematics assessment** outcomes, statistically significant impacts were observed for fourth and eighth grades. In addition, when comparing high-attending youth with low-attending youth, the high-attending youth collectively performed 0.037 standard deviation units higher than low-attending youth (a statistically significant result). As with ELA results, impact and effects related to mathematics also followed the conceptual framework, in that effect sizes were again generally larger with higher attendance in the 21st CCLC program, even if not statistically significant.

The results from AIR's analysis of 21st CCLC program impact on **unexcused school-day absences** are much clearer than those for assessment scores. For most grade levels, and for 21st CCLC attendees overall (when all grade levels are pooled together), 21st CCLC participants have lower unexcused school-day absence rates than do non-attending peers. Likewise, higher attending 21st CCLC participants have lower school-day unexcused absence rates than do lower-attending 21st CCLC youth. The exception to this was 12th grade, where 21st CCLC participation yielded *higher* unexcused absence rates. This is, however, an effect of a relatively small number of programs.

Correlational Analyses

AIR found statistically significant correlations between **youth *relationships*** scales as reported by youth on AIR's postsurvey (both relationships with adults and with peers) and increases in terms of academic identity, mindsets, self-management, and interpersonal skills (as measured on pre-post youth surveys). The stronger the reported relationships, the more the pre-post scores increased for each survey outcome. Further, increases on the **youth choice** scale were also associated with increases on three of the four outcome areas: mindsets, self-management, and interpersonal communication. Note, however, that these results are not causal.

Conclusions and Recommendations

As with previous evaluation reports, this report shows that the 21st CCLC program in New Jersey seems to be serving the population intended. More than 17,000 youth were served by 21st CCLC programs in New Jersey during 2016–17, and notably, nearly four out of five of these attendees were eligible for free or reduced-price lunch. Further, the program appears to be offering activities to these attendees that are in keeping with New Jersey's 21st CCLC goals, with almost a third of all activity sessions led by a certified teacher and aimed at supporting growth in either mathematics or ELA, and nearly 84% of all activity sessions are infused with components meant to support social and emotional development of participating youth. The youth themselves attended at fairly high levels, with an average attendance of 66 days. Two thirds of youth were regular attendees, participating 30 days or more during the school year. The youth attendees spent about a fifth of their activity time in tutoring or homework help, nearly another fifth in academic enrichment, and overall receiving about 55 hours of mathematics instruction and 58 hours in ELA.

Yet, the primary purpose of this report was to assess what real impact the program has had on participating youth. Were youth who attended truly helped by the program, and if so, in what way? Although the array of analyses conducted by AIR was by no means exhaustive, this report shows that the program did serve to reduce school-day unexcused absences among participants. In AIR's investigation of unexcused school-day absences, in fact, statistically significant impacts of 21st CCLC were found for nearly every grade level and for youth participants overall as well. Further, youth who reported having strong relationships in the program—whether with other youth or with adult staff—also improved in terms of academic identity, mindsets, self-management, and interpersonal skills (although these results were correlational, not causal).[3] Modest impacts were also observed on participants' mathematics assessment scores, although the effect was only observed in a statistically significant way for fourth and eighth grades and when comparing high-attending youth as a group against low-attending youth as a group.

Program impact on ELA assessment scores was less clear, in that very few statistically significant impacts were observed. Youth in 11th grade performed at a statistically significant higher level than did nonparticipants, but otherwise program participation did not seem to significantly affect ELA scores. This is not, however, necessarily surprising. Per AIR's conceptual theory for how change happens in 21st CCLC, state assessments may be a hard type of outcome to

[3] This fits with other research on out-of-school-time programming concerning the importance of building relationships for achieving youth outcomes (Auger et al., 2013; Durlak & Weissberg, 2007; Kauh, 2011; Miller, 2007; Naftzger & Sniegowski, 2018; Traill et al., 2013).

"move," at least when compared with outcomes such as unexcused absences. If this is true, then it could explain the lack of significant results relating to assessments.

In addition, Hill, Bloom, Black, and Lipsey (2008) found that, on average, the effect of a whole year of learning—including school-day learning—on assessment results averaged 0.31 standard deviation units for reading and 0.42 standard deviation units for mathematics. That is, even if a program did have an effect on assessments, the effect is likely to be very small given the amount of time youth attend 21st CCLC programs relative to all their time spent in education. Even if there is an impact, it simply may be too small to detect.

One last factor may also play a role in the inability to detect many significant impacts on assessment scores. The impact models used by the AIR evaluation team did not account for program quality. Research indicates that program quality can have an impact on youth outcomes (Auger et al., 2013; Naftzger et al., 2014; Naftzger & Sniegowski, 2018; Pierce et al., 2010; Smith et al., 2018; Tracy et al., 2016). Looking at program effects without consideration for program quality could therefore muddy results and reduce detected program impact.

Recommendations

Based on the evaluation findings presented in this report, along with AIR's understanding of NJDOE's current data infrastructure, we recommend the following for NJDOE's consideration in planning their next evaluation effort:

1. **Further explore the relationship between youth experiences in the program and growth on youth outcomes.** AIR found positive correlations between the strength of youth-reported relationships in the program (whether with adults or with their peers) and increases on all four youth outcomes scales measured by AIR's pre-post surveys (academic identity, mindsets, self-management, and interpersonal skills). That is, the stronger the relationships (as reported by youth), the more youth increased on these four outcome areas from presurvey to postsurvey. Although these findings were not causal, it may make sense to dig deeper into these data in the future as part of further evaluation work. It will also be important to replicate these findings, given 2016–17 was the first year that grantees administered the pre- and postsurveys.
2. **Explore incorporation of other NJSMART data for use as outcomes.** Notably, explore inclusion of disciplinary incident data. Disciplinary data were not available from NJDOE for inclusion in this report as an outcome of interest, but indications from NJDOE were that recent data-collection efforts at the state level may make such data available in the future. Given the very modest results relating to assessment outcomes, an outcome like disciplinary incidents may be more capable of showing program impact.

3. **Plan for collecting program quality data in a way that can be incorporated into future impact analyses.** Although it was not possible to incorporate program quality data into the analysis for this report, we recommend that NJDOE consider exploring whether program quality variables could be created for use in impact models in the future. Doing so would require careful planning around program quality measurement, however, and would need to be done cautiously—ideally with grantee feedback—so as not to interfere with the low-stakes nature of program self-assessments and general improvement efforts.

Section 1. Introduction

For nearly 20 years, 21st Century Community Learning Centers (21st CCLC), operating across New Jersey, have provided youth in high-poverty communities the opportunity to participate in academic enrichment programs and other development and support activities designed to enhance these youths' academic well-being. The primary purpose of this report, one in a series of evaluation reports, is to examine the impact of the New Jersey 21st CCLC programs, especially in terms of impact on youth outcomes of interest. This report provides a descriptive picture of the programs as well as a view of the impact results.

The information presented in this report is the result of data collected and analyzed as part of a statewide evaluation of New Jersey's 21st CCLC program, which the American Institutes for Research (AIR) is currently conducting. For the most part, the results outlined in this report are associated with 21st CCLC–funded activities and services delivered during the 2016–17 school year. Some findings from 2015–16 are presented as well, however, in order to provide cross-year comparisons (notably for Section 3). These comparisons are made only when useful.

Evaluation Context

The broad evaluation context is one of project finalization after a long transition in terms of data collection. Throughout 2015–16 and 2016–17, a great deal of previous data collection was reassessed and revised, with AIR working closely with the New Jersey Department of Education (NJDOE) and the Evaluation Advisory Group to refine and streamline data components to better support quality improvement, monitoring, and impact assessment. These efforts included the following:

- Revision of 21st CCLC program leading indicators, cutting back from 22 to 12
- Removal of the Evaluation Tracking and Reporting System (ETRS) end-of-year data collection (entirely)
- Revision of the ETRS midyear data collection, dividing collection into two time points and reducing the question burden while adding self-assessment and action research modules
- Introduction of the youth motivation, engagement, and beliefs survey

This report provides results relating to the revised leading indicators while also providing impact analyses that incorporate the youth survey results. This is the first report to present any findings on the youth surveys given 2016–17 was the first year that statewide preadministration and postadministration surveys were collected.

Report Organization

This report is organized as follows: Section 2 presents AIR's conceptual theory for how change happens in 21st CCLC programming. Based on that conceptual framework, we then presents the research questions we set out to answer in this report. Following the research questions, Section 2 presents descriptions of all data sources and the methods used to analyze the resultant data. Section 2 concludes with a description of known limitations. Section 3 provides an overview of grantee, site,[4] and youth characteristics, with a particular emphasis on characteristics that have been shown to be related to improving youth academic achievement and attaining desired program outcomes. Where appropriate, year-to-year comparisons are made (using 2015–16 data alongside 2016–17 data). Section 4 presents the leading indicator values associated with 2016-17, concluding with a short description of common program strengths or weaknesses as conveyed through the indicators. Section 5 presents basic descriptive data for the 2016–17 youth postsurvey, focusing on youth-reported answers to questions concerning program experience. Section 6 provides impact results, focusing on test score improvement, unexcused absences, and youth outcome survey pre-to-post changes. Section 7 concludes with a high-level summary of important findings and next steps.

[4] In this report, the terms *site* and *program* are used to refer to the physical location where 21st CCLC–funded services and activities take place. Sites are characterized by defined hours of operation, have dedicated staffs, and usually have positions similar to site coordinators. Each 21st CCLC grantee in New Jersey has at least one site; many grantees have more than one site.

Section 2. Conceptual Framework and Evaluation Approach

This section presents a more detailed overview of how AIR approached the evaluation in New Jersey. The section begins with a summary of AIR's conceptual framework for how change happens in 21st CCLC. This framework provides the structure within which the rest of the evaluation can be understood. Second, we present the specific research questions we sought to answer as part of the evaluation. Third, all data sources are described, followed by, fourth, the methods we used to analyze the data collected. Finally, the section concludes with a description of known limitations and challenges.

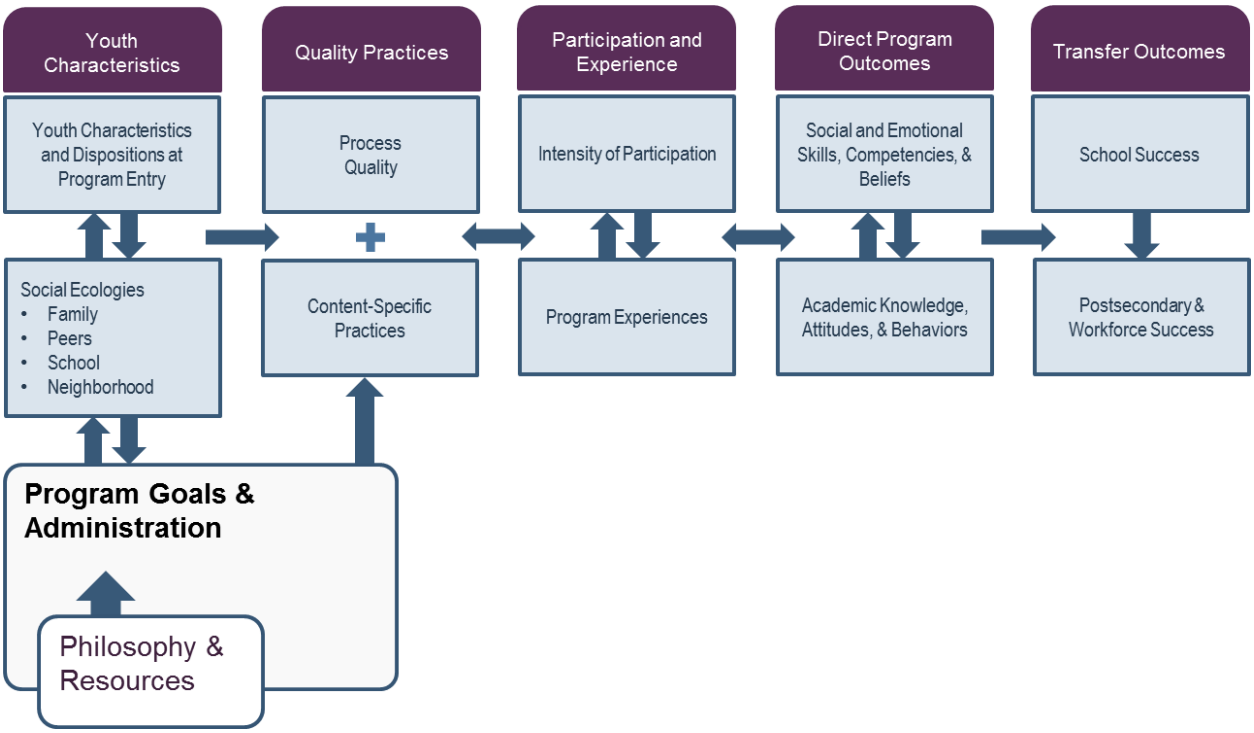
Conceptual Framework

Before presenting the results of AIR's evaluation, it is important to frame AIR's entire approach by detailing AIR's theory of change. This section, therefore, presents an overview of AIR's understanding regarding how change happens in 21st CCLC programming. This model helps contextualize and situate the data shown in Sections 3, 4, 5, and 6.

Theory of Change

How does change happen in 21st CCLC programming? That is, from a theoretical standpoint, what elements are important to consider from an evaluation perspective, and how do they fit together? Exhibit 2 presents the elements AIR considers essential for understanding the 21st CCLC causal story, along with the interrelations of these elements.

Exhibit 2. How Change Happens in 21st CCLC Programming



Youth Characteristics

To read the figure, begin at the far left, starting with "Youth Characteristics" and "Program Goals & Administration." The framework starts with the youth themselves and how they are influenced and supported by the environments in which they live and go to school. Past programming experiences, relationships with peers and teachers, the level of interest in programming topics and content, expectations regarding program experience, and the level of choice in attending all have a bearing on how youth will engage in and experience 21st CCLC programming (Durlak, Mahoney, Bohnert, & Parente, 2010).

Program Goals and Administration

From the perspective of NJDOE, programs receiving 21st CCLC funding from the state should "supplement the education of students in Grades 4–12 and ... assist students in attaining the skills necessary to meet New Jersey's Core Curriculum Content Standards" (State of New Jersey Department of the Treasury, 2013, p. 1). Overall, New Jersey has defined objectives that outline what is to be achieved in this regard and what this means:

- Goal 1: To provide high-quality educational and enrichment programs that will enable students to improve academic achievement and promote positive behavior and appropriate social interaction with peers and adults
- Goal 2: To implement activities that promote parental involvement and provide opportunities for literacy and related educational development to the families of participating students
- Goal 3: To measure participants' progress and program effectiveness through monitoring and evaluating

NJDOE has defined multiple objectives for each of these goals, which the programs themselves work to implement according to their resources and particular contexts. Each site in New Jersey, therefore, has its own tailor-made goals based on the state's goals but specific to its own population. Each center, likewise, adjusts its overall administration depending on the student population and the specifics of what it hopes to accomplish. That is, the population to be served, the goals of the program, and the administration of the program (including staffing, professional development, planned activities, recruitment, and the like) will all share a type of dialogical relationship, interacting with one another to give each 21st CCLC program its particular character. The approach of a given 21st CCLC program necessarily takes into consideration its general philosophy (e.g., notions of civic virtue) and the available resources when determining how to structure the program.

Quality Practices

In addition to the predispositions and contextual factors influencing youth before they even enter a program, as well as the program goals and administration, various factors influence the experiences youth have after they are in the program. One such factor is the quality of the 21st CCLC programming. Programs must be of high quality to have an impact (Auger et al., 2013; Naftzger et al., 2014; Naftzger & Sniegowski, 2018; Pierce et al., 2010; Smith et al., 2018; Tracy et al., 2016). Two categories of quality exist: (a) process quality and (b) content-specific practices.

Process quality refers to the adoption of practices and approaches to service delivery that result in the creation of a developmentally appropriate setting for youth, in which participants feel safe and supported and opportunities exist to form meaningful relationships, experience belonging, and be active participants in their own learning and development. These practices are universal because they are applicable to any type of youth programming, regardless of content, approach, grade level, or setting.

Content-specific practices, in contrast, are program practices that intentionally cultivate a specific set of skills, beliefs, or knowledge in a given youth. Often, such practices closely align with the direct outcomes a program is seeking to cultivate in participating youth. For example, content-specific practices include specific approaches to cultivating literacy skills, formal curricula for social and emotional learning, or methods of teaching technology skills. Given the broad nature of 21st CCLC goals in general and the contextual variance of specific center-level programs, individual program practices vary broadly.

Participation and Engagement

It is not enough that high-quality programming is offered or that youth are present for each session. To benefit from a program, youth also need to cognitively *engage* in the activities that are offered as indicated in the third component of the logic model. Studies have found that the needs of youth and how they should be engaged and motivated vary depending on whether the youth are in elementary school or high school (Hutchinson, Naftzger, & Miller, 2006; Naftzger et al., 2012).

Direct Program Outcomes

If youth engage in quality activities over multiple sessions, they are likely to change in ways that are a *direct consequence* of 21st CCLC participation. These more immediate *direct program outcomes* can fall within a wide spectrum of categories, including social-emotional learning, critical thinking and decision making, and initiative and self-direction (Wilson-Ahlstrom, Yohalem, DuBois, & Ji, 2011). In addition, the youth are likely to acquire specific, content-related skills in areas such as reading and mathematics, particularly if there has been an effort to build specific skills in individual students.

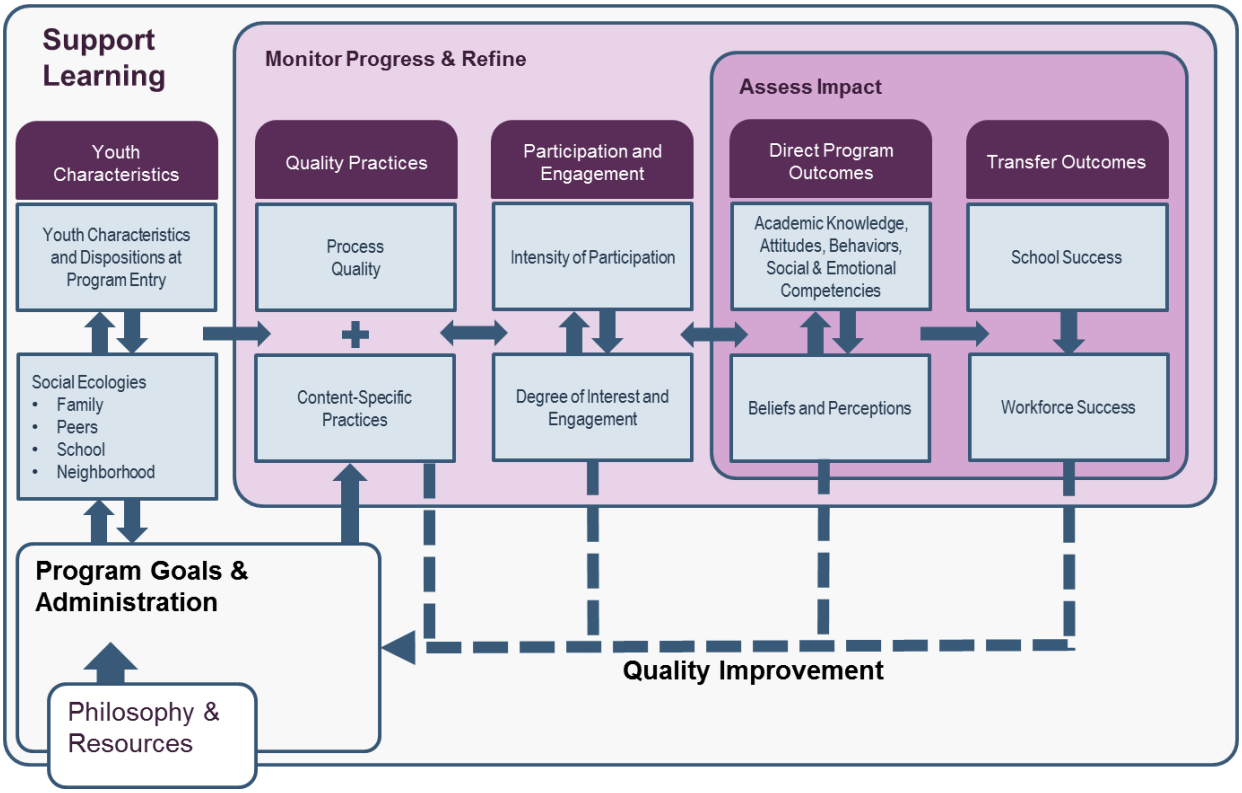
Transfer Outcomes

The final phase of the conceptual framework posits that if youth continually participate in high-quality, structured programming, the direct program outcomes seen in youth will eventually lead to greater school success and, in turn, greater workforce success than if they had not participated in the program. These gains, especially at the school level, can be mediated by chronic absenteeism and frequent disciplinary infractions, as well as poor grades and lower statewide assessment scores. These transfer outcomes related to long-term school or workforce successes remain an underexplored domain of research.

AIR and the Theory of Change

Exhibit 3 presents the same theory of change as Exhibit 2 but with added components showing the role of an evaluator.

Exhibit 3. Evaluation and the Theory of Change



Four additional elements bear explanation, and each of them reflects a different type of evaluation-related work. First, taking into consideration all components of the theory of change, the evaluator should explore *impact*. That is, what effect does participation in the 21st CCLC program actually have on participating youth? This is a causal question and is usually the component that most outside observers think of with respect to evaluation's role. However, as Exhibit 3 shows, *assess impact* is focused on the far-right two columns in the theory of change, and their components relate to outcomes.

More broadly—and with respect to program goals, program implementation, youth participation, and outcomes data—evaluation includes *monitoring progress and refining.* That is, it is especially important to view data from the four right-hand columns to assess program performance relative to goals. These types of data can be presented as basic descriptive statistics or, in response to the U.S. Department of Education's new focus as part of the latest

Elementary and Secondary Education Act (ESEA) authorization, as program or performance indicators. Programs themselves or NJDOE can use these types of data to determine valuable questions for subsequent evaluation efforts, to identify areas of program weakness or need, and to assess whether earlier improvement efforts are on track. It is important to note, however, that data associated with monitoring progress and refining are suggestive and are not presented as program effects—even if the data in question are outcomes data.

Similarly, none of the data analyses implied by "assess impact" and "monitor progress and refine" are of much use if they are not used to improve programming. That is, both indicator-type data and impact analyses should be folded into quality improvement efforts. This can be done at both statewide and program levels, although these efforts will look different given their scale. At the state level, such efforts likely drive refinements to requests for proposals, grantee training opportunities, instructional materials, and similar guidance, whereas program-level improvement efforts should be more tailor-made and intentional in their logic. In this latter respect, however, the state may helpfully provide structure for grantees to use their data in quality improvement systems.

Finally, with respect to the entire conceptual framework, the evaluator should enable and support learning. This should be interpreted broadly. For example, with respect to outcomes, interpretation of evaluation results in user-friendly terms is important; for monitoring progress and refining, presenting data in a way that is useful for reflection and project planning relative to goals may be most important; and providing structure around quality improvement may be critical for ensuring data analyses are incorporated into a continuous improvement process. Many aspects to this process, however, typically evolve over the course of a multiyear evaluation. However, AIR considers this to be an important element of evaluation work.

Research Questions

Based on the conceptual framework as presented in the preceding subsection, AIR focused on two evaluation questions for this evaluation report:

1. What were the primary characteristics of programs funded by 21st CCLC, along with the characteristics of the students served?
2. To what extent is there evidence that students participating in 21st CCLC program services and activities demonstrate better outcomes compared with students not participating in the program, specifically with respect to the following:
    a. Higher academic achievement in English language arts (ELA) and mathematics
    b. Lower unexcused absences

In addition, AIR explored the relationships between, on the one hand, program participation or program experience (as conveyed via youth survey) to, on the other hand, pre-to-post changes in terms of youth survey outcomes. Answers to the first question generally are presented in Sections 3, 4, and 5 of this report, and Section 6 directly addresses the second research question.

Data Sources

To address the evaluation questions, data were collected from the following sources during the course of 2016–17:

- **Program Activity and Review System (PARS21).** PARS21 is a Web-based data collection system developed and maintained by NJDOE. PARS21 collects data directly from grantees on a broad array of program characteristics, along with individual student information in the form of demographics and 21st CCLC program attendance (including activity session-level participation data). Notably, the system collected state student identifiers that can be linked to state warehouse outcome data (i.e., NJ SMART data, detailed later).
- **Youth Survey.** AIR collected two youth surveys during 2016–17, a preadministration and a postadministration version of the Youth Motivation, Engagement, and Beliefs survey. This survey was developed by Youth Development Executives of King County in Washington state in conjunction with AIR. The survey has been tested, revised, and validated by AIR. The presurvey and postsurvey include the same set of youth outcome questions, whereas the postsurvey includes an extra set of program experience questions. A full copy of the youth survey, with clear markings regarding which questions appeared on each survey, is provided as Appendix B.
- **New Jersey Standards Measurement and Resource for Teaching (NJ SMART) Data Warehouse.** In early 2017, the research team obtained access to New Jersey assessment test scores and unexcused absence data for the 21st CCLC participants served during the 2016–17 school year. These data came from the NJ SMART data warehouse maintained by NJDOE for students in Grades 4 through 12. Similar data also were obtained for students attending the same schools as the 21st CCLC participant population who did not participate in the program during these periods. The research team used these nonparticipant data to conduct an analysis of the program impact outcomes.

- **Staff Survey.** The purpose of the online staff survey was to obtain information from staff members working directly with youth in programs funded by 21st CCLC about the extent to which they engage in practices suggested by the afterschool research literature as likely to be supportive of both positive academic and youth development outcomes. Scales appearing on the survey included the following:
  - Collective staff efficacy in creating interactive and engaging settings for youth
  - Intentionality in activity and session design
  - Practices supportive of academic skill building, including linkages to the school day and using data about student academic achievement to inform programming
  - Practices supportive of positive youth development
  - Opportunities for youth ownership
  - Staff collaboration and communication to support continuous program improvement
  - Practices supportive of parent involvement and engagement

  Staff members were selected as part of the survey sample if they were actively providing services at the site that directly served students participating in the program. The 21st CCLC project directors were instructed to select staff members who worked in their program the most frequently and delivered activities that were most aligned with their centers' objectives for student growth and development. The goal was to have project directors identify a minimum of 12 staff members per center to take the survey. In cases in which centers had fewer than 12 active staff members, all staff members working with students at the center were directed to take the survey. This data collection took place during December 2015 and January 2016. In all, complete surveys were obtained from 67[5] centers active during the 2015–16 school year, an average of approximately eight completed surveys per site. Appendix A contains the staff survey questions.
- **New Jersey 21st CCLC ETRS.** The 21st CCLC ETRS is a Web-based data collection application designed to obtain center-level information about the characteristics and performance of afterschool programs funded by 21st CCLC, based on information garnered from local evaluation efforts. The system is designed to collect information midyear through a given school year. ETRS data are primarily used in creating values for the program leading indicators.

[5] Many programs concluded during 2014–15; consequently, many programs had just started in 2015–16. Programs that were brand new were not required to administer the staff survey.

Methods

The findings in this report are purely quantitative, with methods as follows:

1. **Descriptive Analyses.** Data related to grantee, center, and student characteristics obtained from PARS21, NJ SMART, and the youth surveys were analyzed descriptively.
2. **Analyses to Create Scale Scores.** Many questions appearing on the staff and youth surveys and that were represented in the ETRS reports were part of a series of questions designed to assess an underlying construct/concept, resulting in a single scale score summarizing performance on a given area of practice or facet of afterschool implementation (e.g., practices that support linkages to the school day). An example is shown Exhibit 4, which outlines the questions making up the *Intentionality Program Design* scale that appeared on the staff survey.

Exhibit 4. Example of a Survey Scale Calibrated Using Rasch Techniques

How often do you lead or participate in program activities that are...	Rarely	Sometimes	Frequently	Always
a. Based on written plans for the session, assignments, and projects?	○	○	○	○
b. Well planned in advance?	○	○	○	○
c. Tied to specific learning goals?	○	○	○	○
d. Meant to build upon skills cultivated in a prior activity or session?	○	○	○	○
e. Explicitly meant to promote skill building and mastery in relation to one or more state standard?	○	○	○	○
f. Explicitly meant to address a specific developmental domain (e.g., cognitive, social, emotional, civic, physical, etc.)?	○	○	○	○
g. Structured to respond to youth feedback on what the content or format of the activity should be?	○	○	○	○
h. Informed by the expressed interests, preferences, and/or satisfaction of participating youth?	○	○	○	○

For scales like this, Rasch scale scores were created using responses to the whole series of questions to create one overall score. These scale scores ranged from 0 to 4, where higher scores were indicative of a higher level or more frequent adoption of a specific quality practice or set of practices. Depending on the type of survey data involved, these scores could be left as individual scores (e.g., for use in analyzing youth survey data) or averaged to the center, grant, or state level (e.g., staff survey data). AIR used Rasch scale scores in calculating many of the leading indicator values and also for analyzing outcomes relating to the youth survey results.

3. **Correlational Multilevel Modeling Techniques.** A multilevel model was run to explore the relationship between, on the one hand, participation levels (in terms of days) or youth program experiences and, on the other hand, student outcomes as measured by pre-to-post youth survey changes (using Rasch scale scores). Note that this method is not sufficient to indicate *cause.*
4. **Propensity Score Matching.** In contrast to the multilevel modeling techniques just described, propensity score matching approaches were employed to estimate the causal impact of 21st CCLC program participation on student performance in terms of achievement (reading and mathematics) and unexcused absences. Given that 21st CCLC program participants were not randomly assigned to participate in the program, the problem of selection bias was an issue that needed to be addressed before program impact could be explored from a causal perspective. It is likely that students who participated in 21st CCLC programming were different from those students attending the same schools who did not enroll in 21st CCLC. These differences can bias estimates of program effectiveness because they make it difficult to disentangle preexisting differences between participants and nonparticipants from program impact. Propensity score matching was used to mitigate that existing selection bias in program effect.

Additional information concerning use of propensity score matching, including lists of the variables used, is included in Appendix A.

Limitations and Challenges

It is important to note that there are limitations associated with the types of data collected by AIR during 2016–17 and limitations intrinsic to the methods employed to support the evaluation. Without attempting to be exhaustive, the primary limitations are as follows:

- **Youth surveys were administered by grantees themselves.** AIR asked grantees in New Jersey to administer youth surveys themselves (although all surveys took place online). Given this, it was up to the grantees to determine which youth should participate in the survey, on what day the survey should be administered, at what time of day, and so on. Because of this, there may be considerable variance in survey administration one site to the next, and the proportion of youth taking the survey could vary significantly across sites.

- **Youth surveys can be subject to bias**. With respect to youth surveys, Duckworth and Yeager (2015) identify three sources of potential bias: social desirability (answering a question based on what is deemed acceptable or wanted rather than on what is true); desire to be agreeable (answering positively to a question, or high on an agreement scale, not because that answer is true but because the respondent tends to be agreeable); and reference bias (basing responses on a comparison to one's immediate peers, a standard that varies from center to center and school to school).
- **Attendance and participation data are self-reported by grantees.** In New Jersey, 21st CCLC grantees are responsible for collecting and tracking youth attendance and participation data using New Jersey's PARS21 system. How well grantees do this likely varies. Some grantees may have provided more accurate data than others did.
- **Propensity score matching is not as strong as random assignment.** The ideal way to compare 21st CCLC youth participants with nonparticipants is to randomly assign youth either to participate or not participate in a 21st CCLC program. However, youth across the state of New Jersey were not selected at random to participate or not participate; instead, parents and families could self-select to enroll (or not) their children into one of the publicly available community learning centers.

  In any evaluation of a program where participants are not randomly assigned to participate in the program or not, the issue of selection is paramount. It is likely that youth who participate in 21st CCLC programming are different from those who do not attend. If that is true, then these differences can bias estimates of program effectiveness because they make it difficult to disentangle preexisting differences between youth who attended the program and those who did not from the effect of attending the program.

  We used propensity score matching as a method for mitigating this bias. However, because each community learning center is independently run and given autonomy on what activities and supports are offered (despite working within the parameters of a given pathway), any differences found could potentially be attributed to other variables such as the extent or quality of professional development trainings offered to center staff or the types of additional or external academic supports an individual youth may receive during the school day. As a result, findings should be interpreted with caution.

- **Nonparticipants in the comparison group could have participated in non-21st CCLC programming**. Similar to the preceding limitation, one significant unknown in this evaluation is the extent to which nonparticipants used to create some of the comparison groups participated in 21st CCLC program alternatives (e.g., team sports, competing non-21st CCLC afterschool programs at other sites). That is, a youth who is demographically similar to a participant (and attending the same school) might be included in the comparison group as a nonparticipant; but if that particular youth participated in other *non*-21st CCLC afterschool programming, then the effects of 21st CCLC programming may be more difficult to discern (i.e., the comparison in that case would not be "treatment versus nontreatment" but more akin to "treatment A versus treatment B"). Because we do not possess exhaustive information concerning nonparticipants' non-*21st CCLC* afterschool activities, this unknown must be kept in mind while reviewing the impact results.

  Despite these potential error sources, the analyses in this report used the data available, and researchers attempted to continuously improve the quality of the data received. During the past several years, AIR and NJDOE staff have worked with grantees to emphasize the importance of submitting and maintaining high-quality data to help increase the overall accuracy and completeness of the evaluation data. This effort is ongoing.

Section 3. Grantee, Center, and Student Characteristics

Programs funded by 21st CCLC grants are often characterized by a wide diversity of approaches, student populations, and types of organizations involved in providing 21st CCLC programming. This chapter summarizes the characteristics of grantees, centers, and students associated with 21st CCLC programs active during the 2016–17 school year. Overall, 57 grantees (compared with 52 grantees during 2015–16) operated 134 centers (compared with 130 centers during 2015–16). In all, these 134 centers served 17,715 youth (compared with 15,449 during 2015–16).[6]

Grantee Characteristics

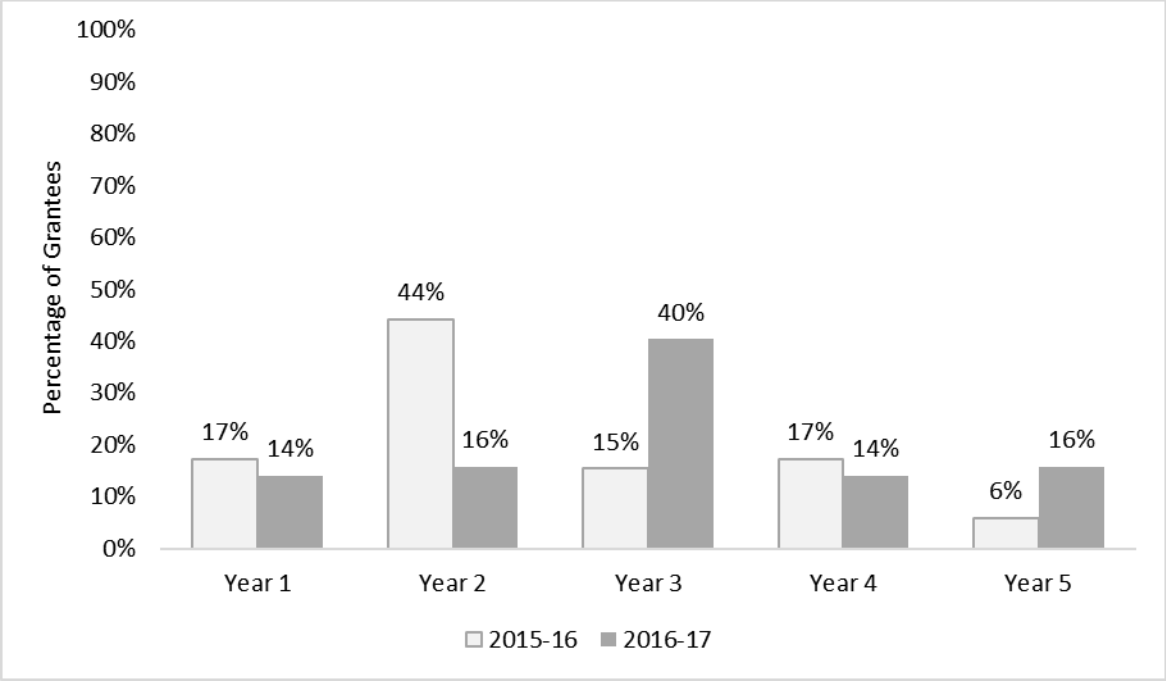
This section contains information on key grantee characteristics. In this report, the term *grantee* refers to the organization that serves as the fiduciary agent on the grant in question, whether it is a school district, community-based organization, or other entity and whether it is ultimately responsible for administering grant funds at the program level.

Grantee Maturity

Programs evolve across the grant period. For example, grantees may find themselves needing to emphasize some elements of their programs and reducing or eliminating others in response to changes in the students served. In addition, it would be optimal for grantees, over time, to be learning how to (a) provide more effective and engaging programming for youth and (b) more meaningfully embed academic content in their program offerings in ways that address the needs of the students they are serving. As Exhibit 5 shows, the majority of the grants active during the 2016–17 school year were in Year 3 of funding (not surprising, given that in 2015–16 the majority were in Year 2). New Jersey's 21st CCLC grants are for five years, so programs active during Year 3 could be considered mid-cycle. Note, however, that relatively few grants were in Year 5 last year compared to this year, meaning more grants were active during 2016-17 than may be typical in most years because only a small number of grants became inactive between 2015–16 and 2016–17 while more new grants were added.

[6] Note that the number of sites and centers include those that may not have operated the full year. Only 123 centers provided school-year attendance data.

Exhibit 5. Number of Grantees by Year of Operation, 2015–16 and 2016–17



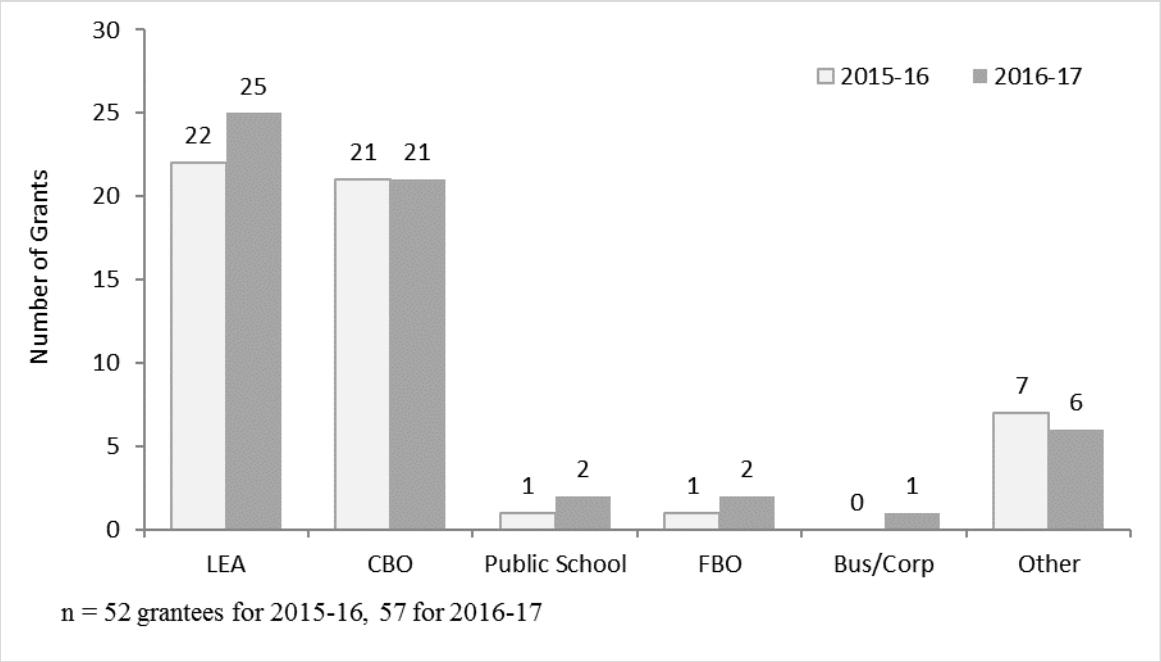
Source. PARS21.

Grantee Organization Type

An important element of the 21st CCLC program is that all types of organizations are eligible to apply for and receive 21st CCLC grants. As Exhibit 6 shows, 44% of grants active during the 2016–17 school year were held by school districts (up slightly from 43% the previous year, which in turn was an increase from 40% the year before), whereas community-based organizations accounted for 37% of the grants active during this period (down from 40% the previous year). Public schools and faith-based organizations each accounted for only about 4%, whereas all other categories accounted for roughly 13%.[7] Grant types therefore remained about the same between 2015–16 and 2016–17, with minor changes year to year.

[7] School Districts and Public Schools are separate categories for grant entities as recorded in PARS21.

Exhibit 6. Number of Grantees by Organization Type



Source. PARS21.

Key Center Characteristics

This section presents key center-characteristic data. In this report, the term *center* refers to the physical location where 21st CCLC–funded services and activities take place. Each center has defined hours of operation, dedicated staff members, and a site coordinator to manage operations. Each 21st CCLC grantee in New Jersey has at least one center; many grantees have more than one center.

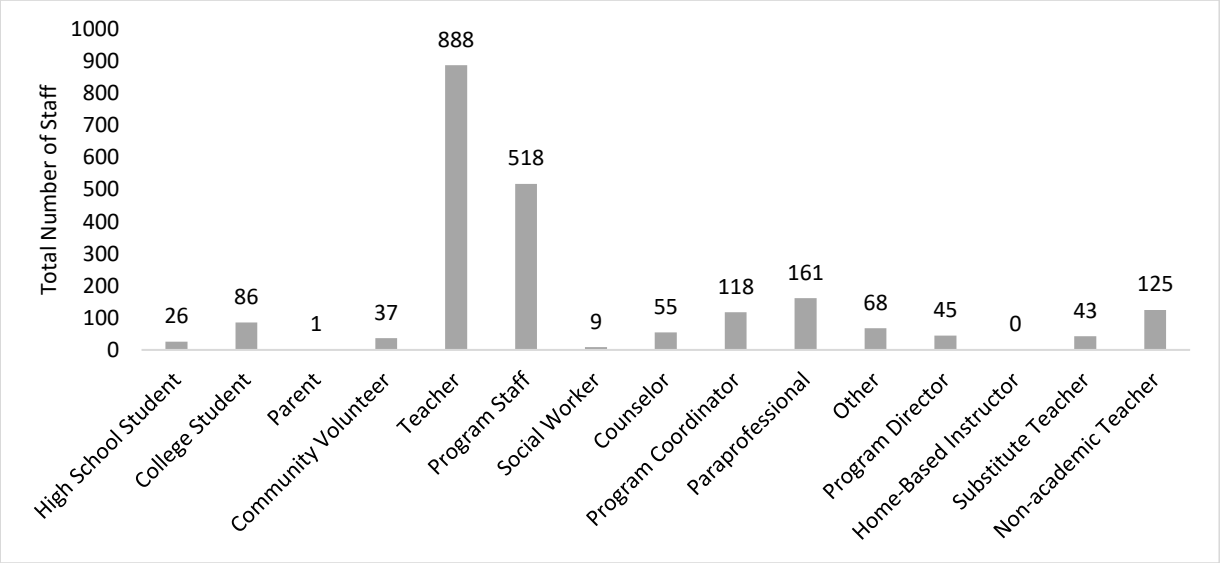
Center characteristics can be described either as indicative of research-supported best practices or as innate attributes of the center in question without a strong connection to the afterschool quality practice literature. Center characteristics indicative of the latter might include the grade level served, program maturity, and organizational type. For example, identifying a program as one that serves only elementary students says nothing about the quality of that program.

Other characteristics of a site, such as the staffing model, are still somewhat ambiguous when viewed from a quality practice standpoint, with the literature unclear on the superiority of certain staffing approaches. From a policy standpoint, NJDOE considers certain approaches to staffing for certain types of activities to be appropriate from a quality standpoint—namely, that certified teachers should staff academic programming provided in the afterschool program.

Staffing

Grantees in New Jersey report staff information in PARS21, linking each staff member to activities provided during 21st CCLC programming. Staff can be categorized in a number of different ways, such as "parent" and "college student." Counting only those staff who were in some way associated with the provision of actual activities, a total of 2,180 staff were reported by grantees for school year 2016–17 across all programs. In terms of classification of these staff, by far the most commonly reported staff types were "teacher" (40.7% of all staff) and "program staff" (23.8% of all staff), with a distant third being "paraprofessional" (7.4%) followed by "nonacademic teacher" (5.7%) and "program coordinator" (5.4%). Exhibit 7 shows the total number of staff across New Jersey by staff type.

Exhibit 7. Total Number of Staff by Staff Type



Note. Based on activity staff data for 134 centers.

Overall, centers had an average of 16.3 total staff for the school year, with a median of 14 (again, only counting staff who actually participated in activity offerings). However, as Exhibit 8 shows, there was some variation in total staff, with a standard deviation of 10.4 staff members.

Exhibit 8. Overall Statistics on Number of Center Staff

	N	Mean	Median	Minimum	Maximum	Standard Deviation
Total Staff	134	16.3	14	1	51	10.4

Looking at individual staff categories, all median values were zero except for teachers (median four), program staff (median two), and program coordinators (median one). On average, programs had about seven teachers and four program staff, along with one or two other types of support staff (e.g., a coordinator). A total of 44 programs (32.8%) reported relying very heavily on teachers, with 50% or more of school-year activity providers being teachers. For comparison, only 27 programs (20.1%) reported that 50% or more of their activity staff were program staff. A small number of programs, five total (3.7%), reported a heavy reliance on college students, with more than 50% of their staff as college students.

In addition to exploring the number of staff employed by centers during the 2016–17 school year, researchers calculated the average student-to-staff ratio associated with activity sessions provided during the span of the school year in question. As Exhibit 9 shows, the average student-to-staff ratio was approximately one staff member for every 12 or so youth participating in activities, although across centers, the span of ratios was quite broad, ranging from just under three students to approximately 39. These ratios, however, did not change much between 2015–16 and 2016–17; the exhibit shows both years for ease of comparison.

Exhibit 9. Average Student–Teacher Ratio per Center, 2016–17

	N	Minimum	Maximum	Mean	Standard Deviation
2016–17 student-staff ratio	134	2.48	39.21	11.83	5.90
2015–16 student–staff ratio	123	3.88	36.49	11.14	5.11

Source. PARS21.

Grade Levels Served

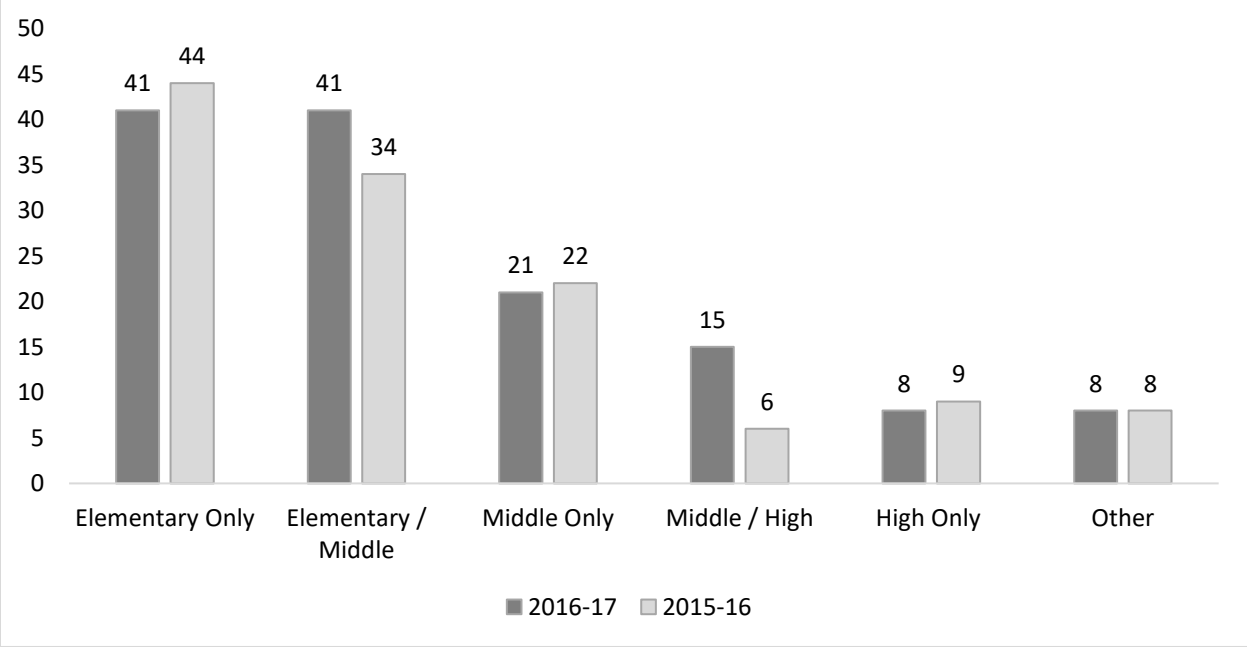
A topic garnering increasing attention on the federal stage relates to the role grade level plays in (a) how 21st CCLC programs should structure their operations and program offerings and (b) the domain of outcomes they should be accountable for through performance indicator systems. Using student-level data on the grade levels of students attending centers, centers active during the 2016–17 school year were classified as follows:

- Elementary Only, serving students up to Grade 6
- Elementary/Middle, serving students up to Grade 8
- Middle Only, serving students in Grades 5–8
- Middle/High, serving students in Grades 5–12
- High Only, serving students in Grades 9–12

A sixth category, called Other, includes centers that do not fit one of the five categories and includes centers that serve students across all three grade levels or some other combination of grade levels.

The High Only category is especially important to analyze because afterschool programming for older students often looks considerably different from programming for elementary or middle school students (Naftzger et al., 2007). In addition, high school students have different needs from younger students, and they often have other afternoon obligations, such as jobs or extracurricular activities. The bulk of the centers active during the 2015–16 school year served elementary or middle school students in some capacity (constituting 88.1% of all sites), whereas not quite two thirds of all sites served elementary students in some capacity (61.2% of all sites). These figures are not substantially different from those observed the previous year, as Exhibit 10 shows (note the slightly lower overall center count for 2015–16, however).

Exhibit 10. Number of Centers by Grade Level Served



Note. Based on 123 centers for 2015–16 and 134 centers for 2016–17.

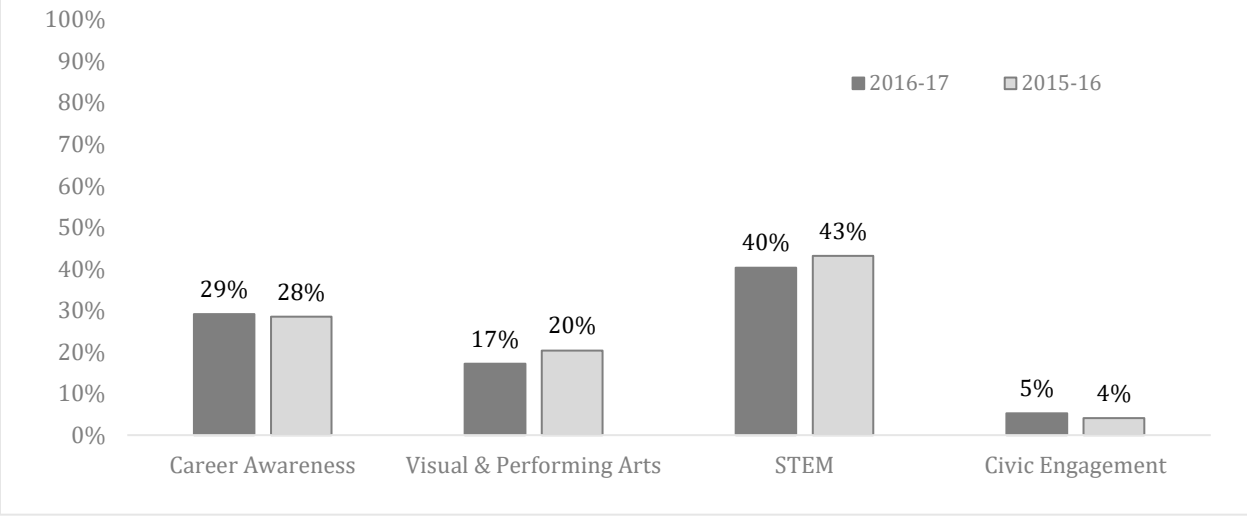
Activity Themes

For the 2016–17 school year, grantees were required to adopt one or more themes when providing activities. The grantees were to select a theme based on the students' needs, interests, and developmental age and were meant to further support targeted skill building and development through the provision of activities youth would especially find engaging. Themes included the following:

- Science, technology, engineering, and mathematics (STEM)
- Career awareness and exploration
- Civic engagement
- Visual and performing arts

Prior to 2014–15, grantees were not required to select a theme. Over time, however, it is likely that the percentage of sites offering activities consistent with a theme will increase as older grants that do not have a theme become inactive. This is, in fact, what seems to be taking place; in 2015–16, 95.9% of active centers provided activities associated with a theme, whereas in 2016–17, 91.8% of centers did so (based on data reported in PARS21). As Exhibit 11 shows, 29% of centers reported a career awareness theme, 17% visual and performing arts, 40% STEM, and 5% civic engagement. Themes were derived for centers based on (a) whether they offered any activities associated with a given theme and (b) how many total activity minutes were associated with each theme the center reported (with the theme designation going to the theme that had the highest minutes).

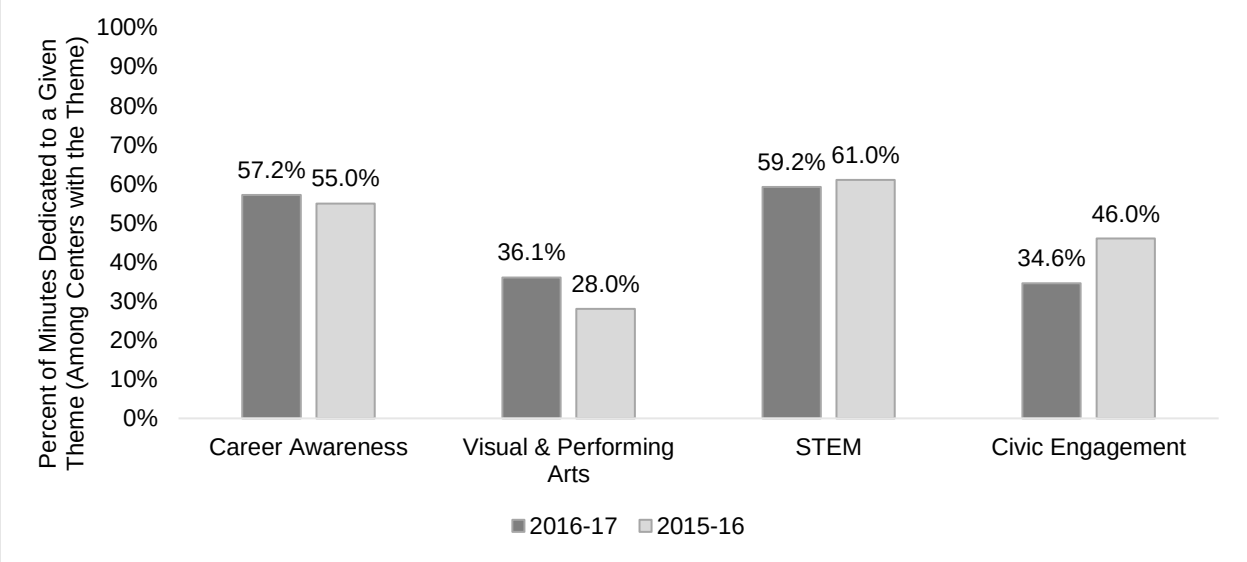
Exhibit 11. Percentage of Centers Offering Activities Linked to a Given Theme



Source. PARS21.

As Exhibit 12 shows, centers with a career awareness theme spent, on average, about 57% of their total activity minutes on career awareness. Centers with a visual and performing arts theme spent 36% on such activities. Centers focusing on STEM spent about 59% of their time on such activities, and centers with a civic engagement focus spent about 35% of their time on the theme. The biggest changes year to year were observed in visual and performing arts (increase in percentage time) and civic engagement (decrease in percentage time). However, basic programmatic changes also are possible and should be considered as an explanation.

Exhibit 12. Percentage of Total Activity Minutes Dedicated to Activity Themes, Among Centers With Each Theme



Source. PARS21.

Student Characteristics

During the 2016–17 school year, 17,715 students participated at some level (i.e., attended programming for at least one day during the school year) in 21st CCLC programming at 134 active centers for which the researchers had data during this period.[8] This population was diverse in terms of ethnicity, gender, grade level, and economic level, as Exhibit 13 shows. Generally, students served during the 2016–17 school year were Black and Hispanic/Latino, were enrolled in elementary or middle school, especially in Grades 4–6, and were eligible for the free or reduced-price lunch programs. In terms of year-to-year changes, most statistics remained stable year to year, with only modest changes evident.

[8] During the 2014–15 school year, 116 active centers had student-level attendance records in PARS21, confirming participation in actual activity sessions during the span of the school year.

Exhibit 13. Summary of Demographic Information for Students, 2016–17

	Demographic Category	2016–17		2015–16	
		Number of Students	Percentage	Number of Students	Percentage
Race/ Ethnicity	White	2,076	11.7%	1,713	11.1%
	Black	5,997	33.9%	5,393	34.9%
	Hispanic/Latino	8,131	45.9%	6,936	44.9%
	Asian	405	2.3%	343	2.2%
	Native American	46	0.3%	28	0.2%
	Pacific Islander	28	0.2%	20	0.1%
	Unknown	1,032	5.8%	1,016	6.6%
Gender	Male	8,893	50.2%	7,876	51.0%
	Female	8,822	49.8%	7,573	49.0%
Grade Level	4	3,615	20.4%	3,051	19.7%
	5	3,031	17.1%	2,664	17.2%
	6	3,013	17.0%	2,739	17.7%
	7	2,003	11.3%	1,960	12.7%
	8	1,636	9.2%	1,661	10.8%
	9	1,631	9.2%	1,097	7.1%
	10	923	5.2%	702	4.5%
	11	777	4.4%	554	3.6%
	12	371	2.1%	252	1.6%
Free or Reduced-Price Lunch	Reduced-Price	1,652	9.3%	1,261	8.2%
	Free	11,899	67.2%	10,347	67.0%
	Not Available	4,164	23.5%	3,841	24.9%

Source. PARS21.

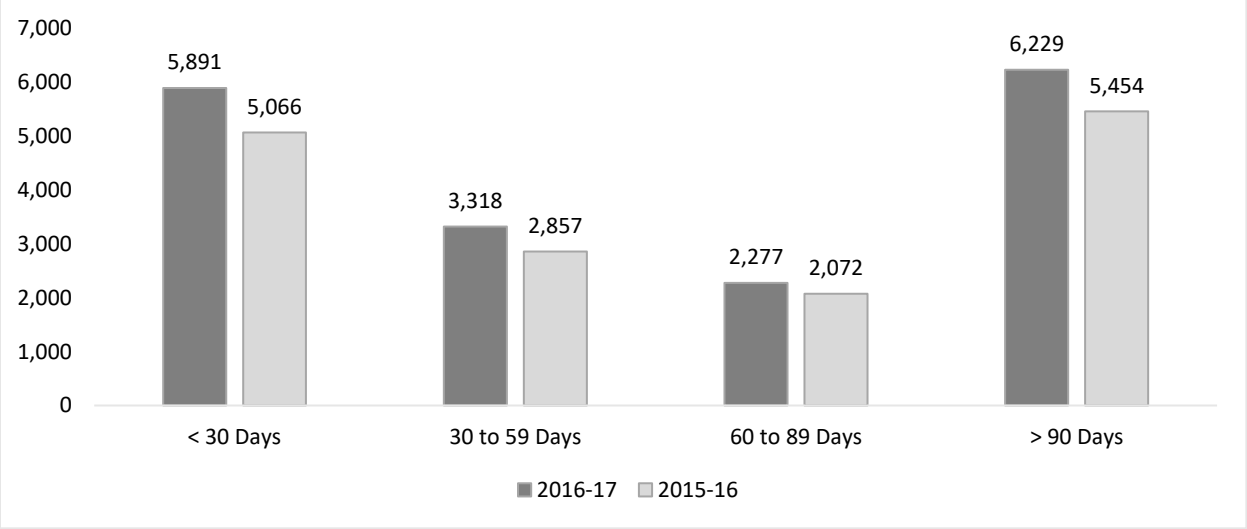
Student Attendance Levels

Attendance is an intermediate outcome indicator that reflects the potential breadth and depth of exposure to afterschool programming. In this regard, attendance can be considered in terms of the (a) total number of students who participated in the center's programming throughout the course of the year and (b) frequency and intensity with which students attended programming when it was offered. The former number can be used as a measure of the breadth of a center's reach, whereas the latter can be construed as a measure of how successful the center was in retaining students in center-provided services and activities.

Among students participating in activities during the 2016–17 school year, the average number of days attending 21st CCLC programming was 66—the same as the past two years. Exhibit 14 shows the student population served during the 2016–17 school year broken into four attendance gradations: the percentage of students attending fewer than 30 days, students attending 30 to 59 days, students attending 60 to 89 days, and students attending 90 or more days. As Exhibit 14 shows, one third of the students (33.3%, compared with 32.8% the previous year) attended fewer than 30 days, a level consistent with previous years, and slightly more than one third participated for 90 or more days (35.2%, about the same as last year's 35.3%). These attendance levels are fairly consistent with previous year attendance levels (a larger total number of attendees was reported in 2016–17 than in 2015–16, but the relative distribution of attendees by attendance level did not greatly change).

To demonstrate program impact, one would hope that there would be a positive relationship between higher levels of attendance in the program and the likelihood of gains in student achievement and behavioral outcomes. For this reason, attendance rate is incorporated into the impact models presented in Section 5.

Exhibit 14. Number of Students Served in 21st CCLC by Attendance Gradation



Source. PARS21.

In addition to levels of program attendance during the 2016–17 school year, the research team was interested in exploring the extent to which students participating during this period had been attending the program at a given center beyond the school year in question. Hypothetically, it would be expected that a higher number of years of continuous participation in the program would be associated with a greater degree of improvement on the outcomes of interest in this report. However, as Exhibit 15 shows, for the vast majority of students (nearly

65%), the 2016–17 school year represented the first year in which they participated in 21st CCLC programming at the center in question; approximately 25% were in their second year of participation during the 2016–17 school year. Three or more years of continuous participation was found to be relatively rare. The results were very similar to the same analysis conducted with the previous year's data.

Exhibit 15. Continuous Years of Student Participation, 2016–17

Years of Participation	2016–17		2015–16	
	Number of Students	Percentage	Number of Students	Percentage
1 year	11,494	64.9%	10,706	69.3%
2 years	4,440	25.1%	3,385	21.9%
3 years	1,349	7.6%	906	5.9%
4 years	319	1.8%	355	2.3%
5 years	112	0.6%	98	0.6%
6 years	3	0.0%	2	0.0%
7 years	1	0.0%	0	0.0%
8 years	0	0.0%	0	0.0%

Note. Prior-year records were matched to current-year records using participant identifiers. One year of continuous participation, for example, indicates that a given student is either in his or her first year of programming during the 2016–17 school year or that there was an interruption in participation prior to the 2016–17 school year.
Source. PARS21.

Student Attendance by Activity Types

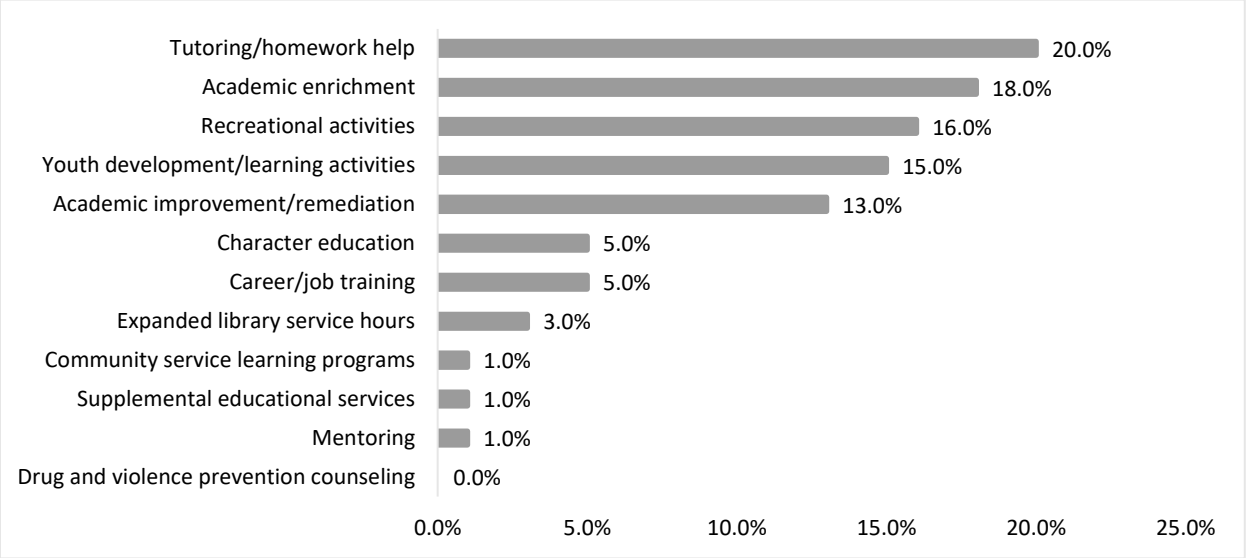
An effort was made to determine how much time 21st CCLC participants spent in activities of different types. Within PARS21, activities in which attendees participated can be classified according to the following different types:

1. Academic improvement/remediation
2. Academic enrichment
3. Tutoring/homework help
4. Mentoring
5. Drug and violence prevention counseling
6. Expanded library service hours
7. Recreational activities
8. Career/job training

9. Supplemental educational services
10. Community service learning programs
11. Character education
12. Youth development/learning activities

Using these activity categories, participant attendance records, and activity session duration data, a total number of minutes for each activity type was calculated for each participant. This information was then used in conjunction with total participation minutes to derive student-level percentage statistics concerning each attendee's time spent in each type of activity. Averages of these percentages were then taken to determine, on average, how much time participants spent in each activity category. Exhibit 16 shows the results.

Exhibit 16. Proportion of Time Each Participant Spends on Activities of a Given Type (Averages)



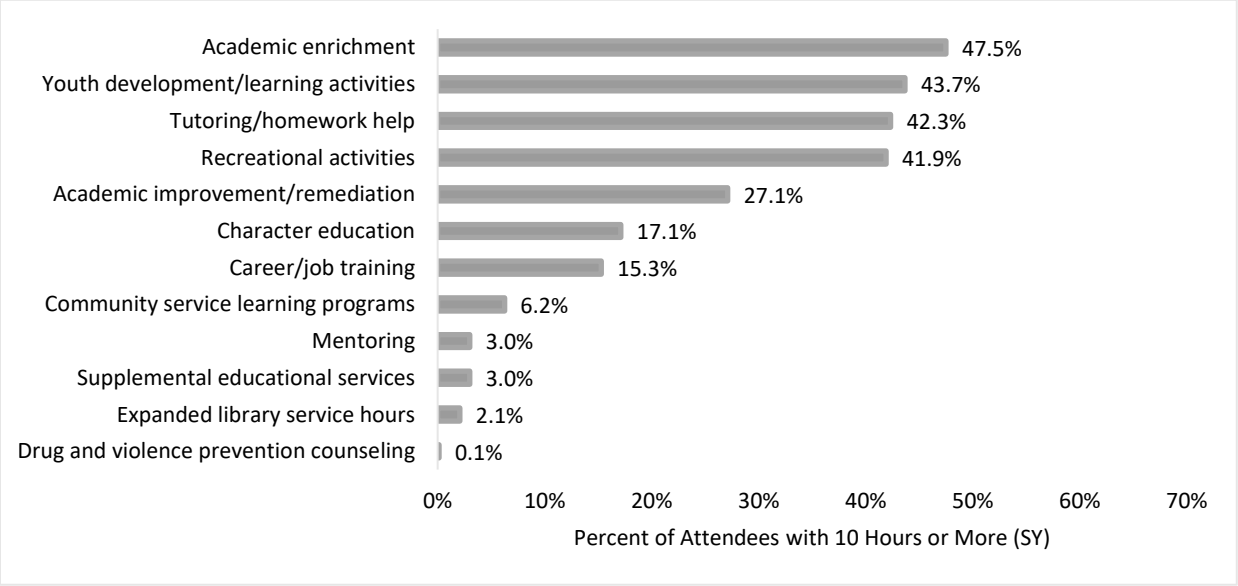
General statistics were also run for total participant hours (school year) by activity type, calculating the average and median number of total hours for each type of activity alongside a minimum, maximum, and standard deviation (see Exhibit 17). Tutoring, again, was highest in terms of the average number of total hours, with 33 school-year hours. However, the median value for tutoring was only 2 hours (with a high standard deviation of 49), indicating that this average was driven by a smaller number of youth with very high hour allotments for tutoring. In terms of median values, academic enrichment had the most hours (8), followed closely by youth development/learning activities (5) and recreational activities (5). These median values indicate that a larger proportion of youth participated at higher levels in enrichment, youth development, and recreation activities than in tutoring.

Exhibit 17. Total School-Year Hours of Attendee Participation, by Activity Type

	Mean	Minimum	Maximum	Median	SD
Academic improvement/remediation	16.9	0	354	0	37.9
Academic enrichment	26.9	0	318	8	42.4
Tutoring/homework help	33.0	0	263	2.25	48.5
Mentoring	1.3	0	396	0	9.4
Drug and violence prevention counseling	0.1	0	25	0	0.7
Expanded library service hours	0.9	0	134	0	7.3
Recreational activities	20.7	0	264	5	34.5
Career/job training	6.3	0	414	0	19.7
Supplemental educational services	1.0	0	83	0	5.4
Community service learning programs	2.0	0	54	0	6.9
Character education	6.2	0	219	0	15.2
Youth development/learning activities	22.9	0	276	5	37.5

To explore the intensity of youth participation in each activity category type, a simple calculation was made to identify youth participating in at least 10 hours in each activity type (again, counting total hours for the entire school year). Exhibit 18 shows the percentage of youth participating for at least 10 hours. As indicated, academic enrichment was the highest, with nearly 48% of all youth participating for 10 hours or more during the year, followed closely by youth development/learning activities (44%) and tutoring/homework help (about 43%). Approximately 42% of youth participated in recreation activities for 10 hours or more.

Exhibit 18. Percentage of Attendees With 10 or More Hours in a Given Activity Type (School Year)



Participation in Reading and Mathematics Activities

Another approach to examining students' participation in 21st CCLC programming offered during the 2016–17 reporting period is to explore the extent to which students participated in activities meant to support skill building in mathematics and reading, regardless of activity type (e.g., enrichment, tutoring, academic remediation). As mentioned earlier, one of the central goals of the 21st CCLC program is to support student growth and development in reading and mathematics. As Exhibit 19 outlines, students on average participated in approximately 58 hours of reading/literacy programming during the 2016–17 reporting period and 55 hours of mathematics programming. In comparison with 2015–16, these hour averages are modestly higher.

Exhibit 19. Average Number of Hours in Reading and Mathematics per Student, 2016–17

	N	Minimum	Maximum	Mean	Standard Deviation
2016–17 ELA education activities	17,504	0	456.5*	57.5	67.0
2016–17 mathematics education activities	17,504	0	476.8*	54.5	65.7
2015–16 ELA education activities	15,452	0	671	54.0	68.3
2015–16 mathematics education activities	15,452	0	661	49.5	66.0

Source. PARS21. Note that the method of activity data reporting changed in 2015–16 to allow for activity records to target multiple subjects.

*These values are fairly extreme outliers, as was the case last year. For 2016–17, only 38 students had more than 400 hours total of either mathematics or reading. For more context, the median mathematics and reading values are 30 hours and 34 hours, respectively (for 2016–17).

Section 4. Leading Indicators

A primary goal of the statewide evaluation was to provide 21st CCLC grantees with data to inform program improvement efforts regarding their implementation of research-supported best practices. AIR and NJDOE worked collaboratively to define a series of leading indicators predicated on data collected as part of the statewide evaluation. The leading indicators were meant to enhance existing information and data available to 21st CCLC grantees regarding how they fared in the adoption of program strategies and approaches associated with high-quality afterschool programming. Specifically, the leading indicator system was designed to

- summarize data collected as part of the statewide evaluation in terms of how well the grantee and its respective sites are adopting research-supported best practices;
- allow grantees to compare their level of performance on leading indicators with similar programs and statewide averages; and
- facilitate internal discussions about areas of program design and delivery that might warrant additional attention from a program improvement perspective.

Predicated on the data collected from staff surveys, the ETRS midyear reports, and PARS21, the leading indicator system is focused on *quality program implementation* as opposed to youth or program outcomes. The midyear report is designed to consolidate and report on the data collected as part of the basic operation of the program (like PARS21 data, for example). The report is also designed to provide information on the data describing program evaluation efforts regarding the adoption of research-supported practices so that programs can identify strengths and weaknesses and reflect on areas of program design and delivery in need of further growth and development. More consistent implementation of research-supported best practices will theoretically support the attainment of desired youth and program outcomes.

In the following sections, statewide levels of leading indicator performance are summarized. The indicators are divided into two general domains, one pertaining to general program operation and those pertaining to specific activity offerings at each center. The indicator values shown in each section are based on center-level indicator values, aggregated to the state level. The hope is that these aggregate values will provide useful information concerning areas of common strength or weakness.

General Program Indicators

General program indicators are those that relate to program practices at the general or program level, but that may have a strong effect on participant experience. Programs characterized by a supportive and collaborative climate permit staff to engage in self-reflective practice to improve overall program quality, and as noted by Smith (2007), Glisson (2007), and Birmingham et al. (2005), an organizational climate that supports staff in reflecting on and continually improving program quality is a key aspect of effective youth-development programs. Further, research suggests that youth achievement outcome improvement can be supported by simply paying attention to *how* programming is delivered (Birmingham et al., 2005; Durlak & Weissberg, 2007). These indicators, therefore, provide information on program internal communication, links to the school day, collaboration with school partners, and staff commitment to quality at the point of service. The indicator values are presented in Exhibit 20.

Overall, the results presented in Exhibit 20 show:

- The average statewide scale score for internal communication fell within the once-a-month response category (scale response options included never, a couple of times per year, about once a month, and nearly every week), suggesting that the assessed collaborative efforts were frequently implemented during the 2016–17 programming period (Leading Indicator 1).
- Centers tended to have at least some access to school-based data on youth academic functioning and needs (Leading Indicator 2).
- In terms of program staff collaborating with school personnel to adopt practices that are supportive of academic skill building, including linkages to the school day and using data on youth academic achievement to inform programming, the statewide average was 2.8, which indicates that staff agree that linkages exist (Leading Indicator 3).
- In terms of activities provided at the point of service meant to support youth development, statewide averages on the Staff Capacity to Create Interactive and Engaging Environment scale (the source for Leading Indicator 4) suggest that staff adoption of such practices is more common than not.

Exhibit 20. Summary of Statewide Leading Indicator Performance on General Program Indicators

Leading Indicator	Description and Calculation	Source	Indicator Value, 2016–17
Leading Indicator 1: Internal Communication—Staff communicate with other program staff to enhance internal collaboration toward continuous program improvement.	Each site received a score on a 1 to 4 scale, based on mean responses provided to questions related to the degree of communication and collaboration reported in relation to questions on the staff survey.	Responses to questions, which appear in the *Internal Communication and Collaboration* scale of the staff survey.	The statewide mean scale score was 2.5, which was within the *once a month* portion of the scale.
Leading Indicator 2: Link to School Day—Program staff take steps to establish effective linkages to the school day that inform the design and delivery of program activities meant to support youth academic growth and development.	Each site received a score on a 1 to 4 scale, based on responses provided to questions related to the degree to which strategies were adopted to support the academic development of participating youth that appeared on the midyear version of the evaluation template.	Responses to the following questions, which appeared in the *Improve Student Academic Achievement* section of the ETRS: • How did the program obtain student information? How accessible was this information, and how often was it used? • What strategies did you use to link the program to the regular school day? • What strategies were your staff members using to communicate with classroom teachers, and how frequently were they being used?	The statewide mean scale score was 2.0, which meant the following: • Information on student academic performance was rarely or occasionally used. • Linking with the school day was somewhat of a strategy to a major strategy. • Communication with school-day teachers occurred once per grading period to monthly.
Leading Indicator 3: Collaboration with school partners—Program staff collaborate with school personnel to adopt practices that are supportive of academic skill building, including linkages to the school day.	Each site will receive a score on a 1 to 4 scale, based on mean responses provided to questions related to linkages to the school day to inform programming that appeared on the staff survey.	Responses to questions, which appear in the *Linkages to the School Day* section, to inform programming scales of the staff survey.	The statewide mean scale score was 2.8, which meant the following: • Staff *agree* that linkages to the school day exist.
Leading Indicator 4: Quality at Point of Service—Staff are committed to creating interactive and engaging settings for youth.	Each site received a score on a 1 to 4 scale, based on responses provided to questions related to the degree of *Staff Capacity to Create Interactive and Engaging* settings for youth.	Responses to questions, which appear in the *Staff Capacity to Create Interactive and Engaging Environment* scale of the staff survey.	The statewide mean scale score was 3.1, which was within the *Agree* portion of the scale, indicating that staff believe their peers largely provide these opportunities to participating youth.

Activity-Related Indicators

Activity-related indicators relate to actual activity provision and as such relate directly to participant experience in 21st CCLC programming. These indicators are subdivided into three groups:

1. Indicators related to mathematics and language arts
2. Indicators related to social and emotional development
3. Indicators related to parent or guardian involvement

The state-level indicator results are presented in this section according to these categories, with an exhibit and summary points provided for each subset.

With respect to mathematics and language arts activity provision, each of the programs funded by a 21st CCLC grant of course has the express goal of improving youth achievement outcomes. As already noted, general program practices are important to achieving this goal, but program sites will be more apt to accomplish this goal if the 21st CCLC staff working directly with youth provide activities intentionally meant to support academic learning in some way and if youth actually attend such activities on a consistent and ongoing basis. The indicators in this section, therefore, focus on such activity provision as well as participation in these activities.

- A statewide average of about 31.7% of activity sessions had either a mathematics or a language arts focus (Leading Indicator 5).
- Statewide, nearly three quarters of regular attendees participated in mathematics or language arts activities for at least half their activity time (Leading Indicator 7).
- Frequent intentionality was used in the design of activity sessions in terms of the skills and knowledge staff were trying to impart to participating youth (Leading Indicator 6).

See Exhibit 21 for complete indicator results relating to mathematics and ELA activities.

Exhibit 21. Summary of Statewide Leading Indicator Performance on Activity-Related Indicators Associated With Mathematics and Language Arts

Leading Indicator	Description and Calculation	Source	Indicator Value, 2016–17
Mathematics and ELA			
Leading Indicator 5: 21st Century Skills—A meaningful level of activity sessions delivered during the first semester of the school year are intentionally meant to support youth growth and development in either mathematics or ELA and are led by a certified teacher.	Using data collected in PARS21 in relation to student attendance in activities with either a mathematics or reading/English focus, what proportion of activity sessions delivered during the school year were intentionally meant to support student growth and development in either mathematics or ELA and are led by a certified teacher?	Activity detail and attendance pages in PARS21.	Statewide, 31.7% of activity sessions offered during 2016–17 met these criteria. A total of 109 centers (82.0% of centers with indicator data) had at least some activities that intentionally targeted mathematics or language arts.
Leading Indicator 6: Common Core—Staff design and deliver intentional and relevant activities designed to support youth growth and development in mathematics and ELA.	Each site received a score on a 1 to 4 scale, based on mean responses provided to questions related to the degree of intentionality in activity and session design that appeared on the staff survey.	Responses to questions, which appeared in the *Intentionality in Activity and Session Design* scale of the staff survey.	The statewide mean scale score was 2.9, which was in the *Frequently* portion of the scale indicating that the adoption of these practices by staff is common.
Leading Indicator 7: Common Core Skills—Youth enrolled in the program participate in a meaningful level of activities designed to support youth growth in ELA and mathematics achievement.	Using data collected in PARS21 in relation to student attendance in activities with either a mathematics or ELA focus, students participating in 21st CCLC programming for more than 30 days during the school year will have participated in activities that were intentionally meant to support student growth and development in mathematics and ELA for at least 50% of their total time in the program.	Activity detail and attendance pages in PARS21.	Statewide, 71.0% of students participating in programming during the 2016–17 school year for more than 30 days met these criteria.

The second set of activity-related indicators have to do with social and emotional youth development. Youth development is a multifaceted construct consisting of a series of positive developmental experiences youth have when key supports and opportunities are afforded throughout their participation in youth-serving programs. In high-quality programs, environments are supportive and interactive, and they provide youth with opportunities to experience engagement and ownership of the setting (Eccles & Gootman, 2002; Smith & Hohmann, 2005). In addition, social and emotional learning (SEL) is also an integral component of youth growth and achievement that has been shown to be positively impacted in afterschool settings that promote the development of these skills through the creation of specific conditions for learning (Durlak & Weissberg, 2007). Afterschool programs that have been shown to be successful in supporting the development of SEL skills integrate opportunities for participants to build on their social and emotional competencies through sequenced activities that are actively engaging and focused on the development of social skills. Ideally, these strategies are based on an understanding of participants' assets and needs garnered through ongoing formal and informal assessment.

As shown in Exhibit 22, the sites operating 21st CCLC programs during the course of the 2016–17 school year were characterized by the following levels of performance on the indicators associated with social and emotional development:

- Statewide, an average of approximately 83.8% of activity sessions offered infused components that were meant to support youth development-related behaviors and SEL (Leading Indicator 8).
- An average of about 84.0% of regular attendees participated for at least 20% of their time in activities meant to support youth development-related behaviors and SEL (Leading Indicator 9).
- The *Practices Supportive of Positive Youth Development* and *Opportunities for Youth Ownership* scales of the staff survey (the sources for Leading Indicator 10) suggest, as in previous years, that staff adoption of such practices is more common than not.

See Exhibit 22 for Leading Indicator values.

Exhibit 22. Summary of Statewide Leading Indicator Performance on Activity-Related Indicators Associated With Social and Emotional Development

Leading Indicator	Description and Calculation	Source	Indicator Value, 2016–17
Leading Indicator 8: SEL—Staff infuse components that are meant to support the social and emotional development of participating youth.	Fields exist in PARS21 that allow users to specify whether an activity is characterized by an infusion of components that are meant to support youth-development-related behaviors and SEL functioning. Users specify what areas of youth development and SEL functioning are being targeted, if any. The goal is to have 20% of activity sessions delivered during the school year be characterized by an infusion of components that are meant to support youth development-related behaviors and SEL.	Responses to the following fields in PARS21: Is this activity intentionally designed to support the improvement of youth-development-related behaviors and social-emotional functioning in any of the following areas (check all that apply)?	Statewide, 83.8% of activity sessions offered during the 2016–17 school year met these criteria. Nearly all programs (127, or 95.5% of centers with indicator data) had at least some activity sessions relating to youth-development-related behaviors and SEL.
Leading Indicator 9: 21st Century Skills—Youth enrolled in the program participate in a meaningful level of activities designed to support youth development and social and emotional competencies.	Using data collected in PARS21 in relation to student attendance in activities that infused youth development-related and social-emotional components, 50% of students participating in 21st CCLC programming for more than 30 days will have participated in activities infused with components that are meant to support youth-development-related behaviors and social-emotional functioning for at least 20% of their total time in the program.	Responses to the following fields in PARS21: Is this activity intentionally designed to support the improvement of youth-development-related behaviors and social-emotional functioning in any of the following areas (check all that apply)?	Statewide, 84.0% of students participating in programming during the 2016–17 school year for more than 30 days met these criteria.
Leading Indicator 10: Youth Development—Staff develop activities that are meant to support youth ownership and other opportunities for positive youth development.	Each site received a score on a 1 to 4 scale, based on responses provided to questions related to the degree to which staff reported adopting practices designed to support youth development and ownership.	Responses to questions, which appear in the *Practices Supportive of Positive Youth Development* and *Opportunities for Youth Ownership* scales of the staff survey.	The statewide mean scale score was2.9, which meant the following: ▪ Select opportunities for youth development were made available *regularly*. ▪ Staff largely *agree* that youth ownership opportunities are provided.

The third set of indicators relating to activity provision has to do with parent or guardian involvement. Engaging families in programming and providing family learning events is an important component of the 21st CCLC program. Programs can engage families by communicating with them about site programming and events, collaborating to enhance their child's educational success, and providing intentional activities meant to both support family involvement and the cultivation of family literacy and related skills. Historically, 21st CCLC programs have witnessed some of their greatest challenges in terms of getting parents and adult family members meaningfully engaged in program offerings and events (Naftzger et al., 2011).

Indicators 11 and 12 relate to programs' efforts to involve parents or guardians in 21st CCLC programming.

- In terms of engaging in practices to support and cultivate parent involvement and engagement (Leading Indicator 11), most sites were found to do so sometimes (58.2% of sites falling within the sometimes range of the scale) as opposed to never (3.4% of sites) or frequently (15.8%).
- Only a very small percentage of programs (5.3%) were able to engage parents or other adult family members in activities for at least 15% of the youth served in the program during the 2016–17 school year, with adult family members of only 5.3% of all program participants attending at least one 21st CCLC activity (Leading Indicator 12). Overall, only 37 centers (27.8%) reported activities of this sort.

See Exhibit 23 for a summary of Leading Indicators 11 and 12.

Exhibit 23. Summary of Statewide Leading Indicator Performance on Activity-Related Indicators Associated With Family Involvement

Leading Indicator	Description and Calculation	Source	Indicator Value, 2016–17
Leading Indicator 11: Staff and Family Connections—Staff actively engage in practices supportive of parent involvement and engagement meant to support youth growth and academic development.	Each site received a score on a 1 to 4 scale, based on mean responses provided to questions related to the extent to which staff engage in practices supportive of parent involvement and engagement.	Responses to questions, which appear in the *Practices Supportive of Parent Involvement and Engagement* scale of the staff survey.	The statewide mean scale score was 2.2, which was within the *did sometimes* portion of the scale.
Leading Indicator 12: Family Involvement—Parents and family members of enrolled youth participate in activities designed to support family engagement and skill building.	Using data collected in PARS21 in relation to parent and adult family member attendance in activities, 15% of youth attending programming during the school year had at least one parent or adult family member participate in at least one activity meant to support parental or adult family member involvement or skill building.	Activity detail and attendance pages in PARS21.	Overall, only 5.3% of all program participants had at least one parent or adult family member participate in at least one activity. Only 37 programs, or 27.8% of all programs with indicator data, reported activities of this sort.

Determining Program Improvement Priorities From the Leading Indicators

One goal of the leading indicator system is to help NJDOE make a determination regarding where efforts should be invested to support programs in the adoption of quality afterschool practices. This section therefore focuses on areas where it seems there is room for growth, based on overall percentages or averages.

Generally, two indicators show consistent room for growth:

- Leading Indicator 5, offering activities meant to support student growth in either mathematics or language arts that are led by a certified teacher. Statewide, 31.7% of activity sessions offered targeted mathematics or ELA. However, most centers offered at least *some* activities of this sort (109, or 82.0% of all centers with indicator data). It should be stressed, however, that no specific "ideal" threshold has been set for this indicator, and it is likely that the proportion of activities incorporating mathematics or ELA will vary site to site based on youth needs and program design.
- Leading Indicator 12, parent or family member involvement in activities. Statewide, only 5.3% of youth program participants had a parent or family member participate in an activity. Overall, only 37 centers, or 27.8% of centers with indicator data, reported activities of this sort.

Note that these particular indicators have been identified as areas for growth for multiple years. However, it is important to stress that these indicators both rely on PARS21 data; these values may to some degree reflect a data-reporting issue rather than a program offering issue. For instance, if a center offers an activity that in fact embeds language arts, but does not report the activity as such, the activity simply would not be counted for Leading Indicator 5. This stresses the importance of ongoing data quality discussions held between NJDOE and the New Jersey 21st CCLC grantees.

Section 5. Youth Experiences

During 2016–17, AIR collected two youth surveys from 21st CCLC participants in New Jersey: a preadministration youth outcomes survey (collected in fall 2016) and a postadministration youth outcomes survey (collected in spring 2017). The second survey, the postsurvey, included items relating to youth experiences in the program. Although pre-to-post changes on outcomes will be included in the next section of this report (Section 6), this section presents the results of those postsurvey-specific experience questions.

This section is divided into three parts. First, youth responses concerning youth choice are presented. Second, youth responses concerning their relationships with staff and other youth in the program are presented. Third, youth responses about how the 21st CCLC program has helped them are presented. Note that none of the material in this section speaks to program outcomes, per se, at least in a causal manner; the data in this section merely present what youth responded on the postsurvey experience-related questions.

Overall, 5,169 postsurveys were completed during spring 2017. Note that centers serving more than 100 youth were asked to survey a representative sample of 100 youth, not all attendees. This was done to reduce the data-reporting burden for centers serving a high number of youth.

Questions Relating to Youth Choice

Especially with older youth, allowing opportunities for real, meaningful choices is an important part of program quality. Giving youth a sense of control and real choice in activities can help youth be more engaged and can help youth experience a sense of agency (Beymer, Rosenberg, Schmidt, & Naftzger, 2018; Larson & Angus, 2011; Naftzger & Sniegowski, 2018; Nagaoka, 2016). Youth perceptions concerning their opportunities for real choices, then, provides a window into one aspect of program quality in addition to conveying youth perceptions of their own experience in 21st CCLC programs.

For this reason, the youth postsurvey included questions concerning youths' perceptions about their opportunities for choices in the 21st CCLC program. The exact wording of the prompt was: "**Now think about this program in particular. When you are at this program, how often….**" This stem was followed by seven items that youth could answer by selecting *never*, *rarely*, *sometimes*, or *often*. The full domain of questions, along with responses (by percentage of all responses received for each item), is presented in Exhibit 24.

Exhibit 24. Youth Responses to Questions Concerning Opportunities for Choice

	Never	Rarely	Sometimes	Often	*n*
Do you get to choose how you spend your time?	5.0%	12.9%	49.0%	33.1%	5,149
Can you suggest your own ideas for new activities?	5.5%	13.4%	43.9%	37.1%	5,132
Do you get to choose which activities you do?	6.7%	15.0%	42.2%	36.0%	5,101
Do you get to help plan activities for the program?	18.2%	18.0%	37.1%	26.7%	5,097
Do you get the chance to lead an activity?	19.0%	20.1%	37.2%	23.6%	5,124
Do you get to be in charge of doing something to help the program?	23.2%	19.6%	36.5%	20.6%	5,120
Do you get to help make decisions or rules for the program?	30.1%	19.6%	30.2%	20.0%	5,116

To help visualize these responses, Exhibit 25 shows the combined percentage of respondents indicating *sometimes* or *often* for each item. Generally, youth felt they either sometimes or often were able to choose how they could spend their time, could choose what activities to do, and suggest ideas for new activities. Conversely, youth were less likely to indicate they sometimes or often were able to make decisions or rules for the program, were in charge of something to help the program, or had a chance to lead an activity.

Exhibit 25. Percentage of Youth Respondents Answering *Sometimes* or *Often* in Response to Each Question Related to Opportunities for Choice

Questions Relating to Relationships With Adults and Youth

For youth to have a positive experience in 21st CCLC programming, centers need to foster positive relationships between youth and adults (Auger et al., 2013; Durlak & Weissberg, 2007; Kauh, 2011; Miller, 2007; Naftzger & Sniegowski, 2018; Traill et al., 2013) as well as relationships among the participants themselves (Akiva, Cortina, Eccles, & Smith, 2013; Larson & Dawes, 2015). Creating these positive relationships is therefore an essential aspect of program quality and can facilitate important youth outcomes.

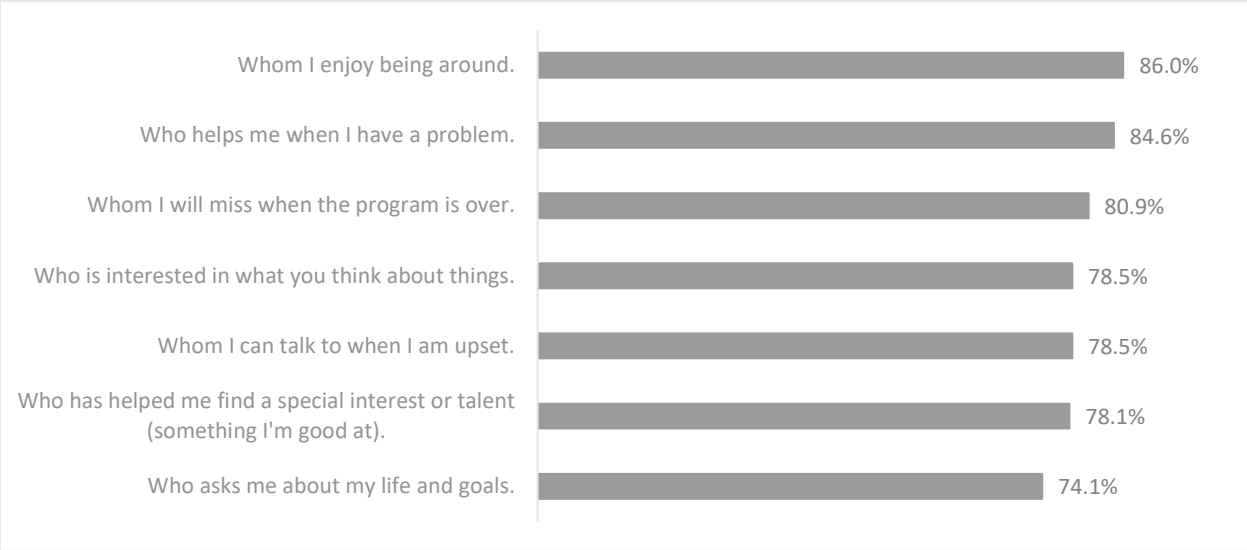
For this reason, we also asked youth about their perceptions of their relationships with adults, along with questions concerning relationships with their peers. Concerning adults, we asked: "**In this program, there is an ADULT….**" Seven items followed this stem, with response options of *not at all true*, *somewhat true*, *mostly true*, and *completely true*. See Exhibit 26 for a presentation of all questions and response rates, by response category. Note that only a small proportion of respondents indicated *not at all true* for any item, though the statement "who asks me about my life and goals" received the most *not at all true* responses (10% of responses).

Exhibit 26. Youth Responses to Questions Concerning Relationships With Adults in the Program

Thinking about the adults present for this program, how true are these statements for you? In this program, there is an adult here…	Not at All True	Somewhat True	Mostly True	Completely True	*n*
Who is interested in what you think about things.	5.2%	16.2%	40.4%	38.1%	5,124
Whom I can talk to when I am upset.	6.6%	14.8%	31.3%	47.2%	5,103
Who helps me when I have a problem.	4.1%	11.2%	31.9%	52.7%	5,078
Whom I enjoy being around.	3.0%	10.8%	30.6%	55.4%	5,082
Who has helped me find a special interest or talent (something I'm good at).	8.4%	13.3%	32.0%	46.1%	5,106
Who asks me about my life and goals.	10.1%	15.6%	33.1%	41.0%	5,097
Whom I will miss when the program is over.	7.3%	11.6%	26.8%	54.1%	5,077

To help visualize these responses and clarify areas of greatest strength and relative weakness, Exhibit 27 presents combined response percentage rates for *mostly true* and *completely true*. Generally, youth responded to all items positively, with the lowest *mostly true* and *completely true* response rate calculated at 74.1% ["Who asks me about my life and goals"]. About 86% responded that the statement "Whom I enjoy being around" was *mostly true* or *completely true*, and nearly 85% responded *mostly true* or *completely true* to the statement "Who helps me when I have a problem."

Exhibit 27. Percentage of Youth Respondents Answering *Mostly True* or *Completely True* in Response to Each Question With Stem "In This Program, There Is an ADULT…"



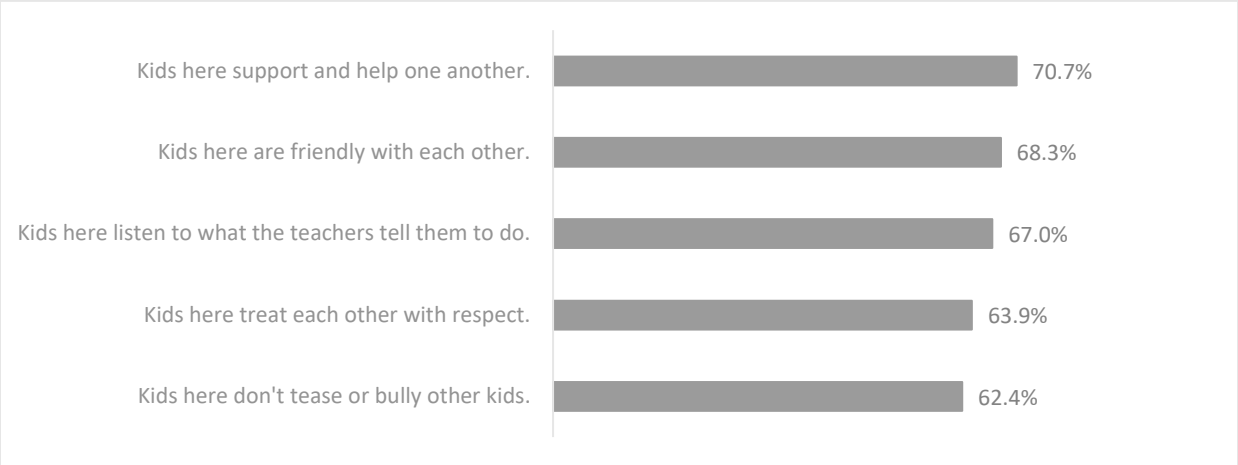
Concerning relationships among the youth themselves, we used the same response categories for five separate items. Youth were prompted, "**At this program, how do kids get along? Indicate how true each statement is based on your own experience in this program.**" All five questions, along with responses by percentage responding in each category, are presented in Exhibit 28. Note that the item "Kids here don't tease or bully other kids" received the highest *not at all true* response rate, at 15.0%, but was negatively worded and might have confused some respondents. Overall, response patterns were similar item to item, with lower proportions of answers falling in the *mostly true* or *completely true* range than was the case for questions about relationships with adults.

Exhibit 28. Youth Responses to Questions Concerning Relationships Among Participants

At this program, how do kids get along? Indicate how true each statement is based on your own experience in this program.	Not at All True	Somewhat True	Mostly True	Completely True	*n*
Kids here are friendly with each other.	8.9%	22.7%	43.8%	24.5%	5,141
Kids here treat each other with respect.	10.7%	25.3%	41.3%	22.6%	5,136
Kids here listen to what the teachers tell them to do.	7.5%	25.3%	41.1%	25.9%	5,127
Kids here don't tease or bully other kids.	15.0%	22.5%	35.0%	27.4%	5,124
Kids here support and help one another.	8.1%	21.1%	39.4%	31.3%	5,114

As with the other two item sets, Exhibit 29 presents response rates for *mostly true* and *completely true* together as a way to visualize the data.

Exhibit 29. Percentage of Youth Respondents Answering *Mostly True* or *Completely True* to Each Question Related to YOUTH RELATIONSHIPS in the Program



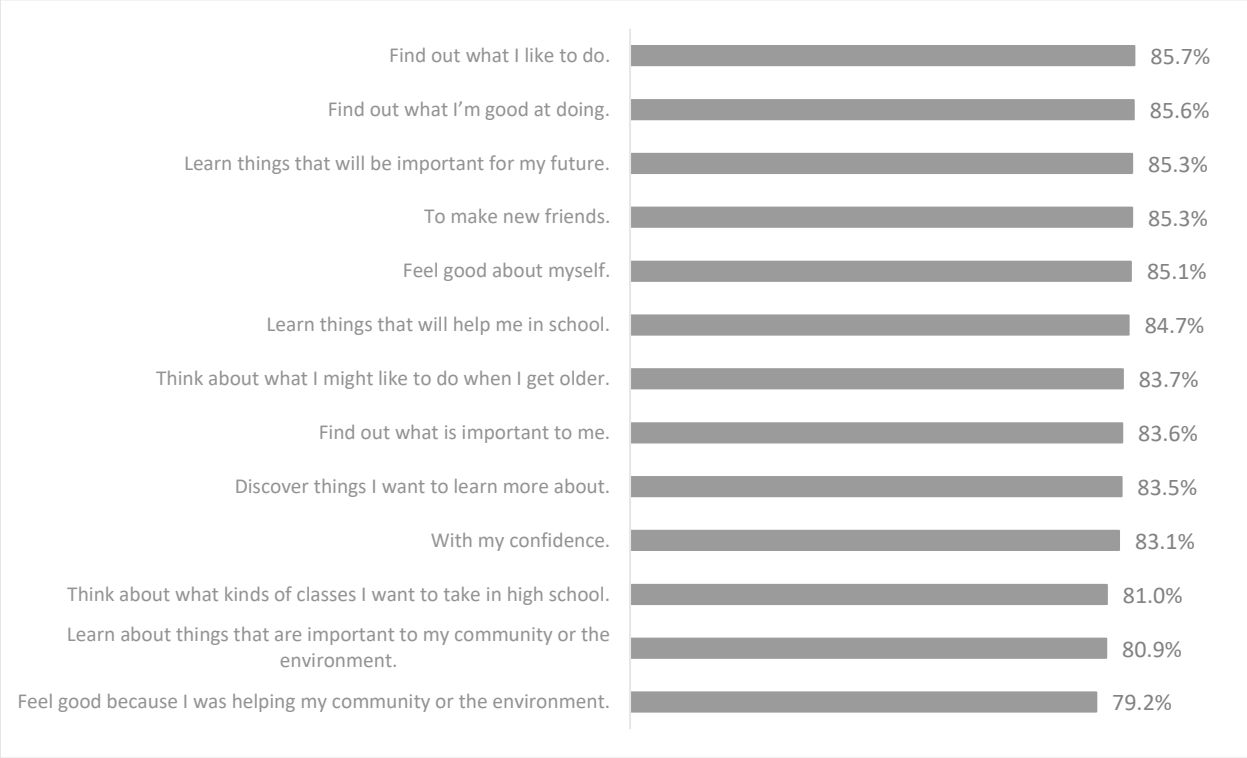
Questions Relating to How 21st CCLC Programming Has Helped Youth

Finally, we asked youth a set of questions concerning how they think the 21st CCLC program has helped them. We used the same four truthfulness response options that were used for questions concerning relationships but included more items. In total, we asked youth to respond to 13 different items using the stem, "This program has helped me…." Overall, youth responded positively to these items, with more than three fourths of all respondents answering mostly true or completely true to all items. Items receiving the highest proportion of mostly true or completely true responses were "find out what I like to do" and "find out what I'm good at doing." Interestingly, however, the highest proportion of items receiving a completely true response (i.e., looking only at *completely true* rather than combining *completely true* and *mostly true*) were "to make new friends" and "feel good about myself." See Exhibits 30 and 31.

Exhibit 30. Youth Responses to Questions Concerning How the Program Has Helped Them

How has this program helped you specifically? For each line, indicate how true each statement is for you. This program has helped me…	Not at All True	Somewhat True	Mostly True	Completely True	*n*
Feel good about myself.	5.1%	9.7%	28.1%	57.0%	5,131
With my confidence.	5.6%	11.1%	31.0%	52.1%	5,119
To make new friends.	4.9%	9.6%	27.5%	57.8%	5,106
Find out what is important to me.	5.2%	11.1%	30.3%	53.3%	5,103
Find out what I'm good at doing.	5.0%	9.2%	29.2%	56.4%	5,101
Find out what I like to do.	4.1%	10.1%	29.8%	55.9%	5,110
Discover things I want to learn more about.	5.4%	11.0%	32.6%	50.9%	5,113
Learn things that will help me in school.	4.8%	10.4%	32.1%	52.6%	5,093
Learn things that will be important for my future.	4.5%	10.2%	30.1%	55.2%	5,103
Think about what kinds of classes I want to take in high school.	7.0%	11.8%	31.4%	49.6%	5,092
Think about what I might like to do when I get older.	5.5%	10.7%	29.4%	54.3%	5,070
Learn about things that are important to my community or the environment.	5.8%	13.2%	34.1%	46.8%	5,100
Feel good because I was helping my community or the environment.	8.1%	12.6%	30.4%	48.8%	5,068

Exhibit 31. Percentage of Youth Respondents Answering *Mostly True* or *Completely True* in Response to Each Question With Stem "This Program Has Helped Me…"



Section 6. Assessing 21st CCLC Program Outcomes

This section presents AIR's analyses of 21st CCLC outcomes in New Jersey, specifically as they relate to 2016–17 program participation. The analyses are of two types: quasi-experimental and correlational. The quasi-experimental outcomes assessed include mathematics and ELA assessment scores (using Partnership for Assessment of Readiness for College and Careers [PARCC] scale scores as provided by NJDOE) and unexcused school-day absences (as a proportion of total days enrolled, as also provided by NJDOE). Outcomes assessed in a correlational manner are those derived from the preadministration to postadministration youth outcomes survey changes.

Quasi-Experimental Method of Analysis

In any evaluation of a program where participants are not randomly assigned to participate or not participate, the problem of selection is paramount. We know that it is likely that students who participate in 21st CCLC programming are different from those who do not attend. These differences can bias estimates of program effectiveness because they make it difficult to disentangle preexisting differences between students who attended the program and those who did not from the effect of attending the program. The quasi-experimental approach outlined here, propensity score matching, is a method for mitigating that existing bias in program effect (i.e., if one were to simply compare the students who attended and those who did not).

Propensity score matching is a two-stage process designed to address this problem. In the first stage, the probability that each student participates in the 21st CCLC program was modeled on available observable characteristics. (See Appendix A for lists of variables used in this stage.) By modeling selection into the program, this approach allowed us to compare participating and nonparticipating students who would have had a similar propensity to select into the program based on observable characteristics that were available in the data received from the State of New Jersey. In the second stage, the predicted probability of participation was used to model student outcomes while accounting for selection bias.

The AIR evaluation team defined treatment in three different ways, with nontreatment matched to each treatment group through a separate propensity score matching process. First, students who attended at least 30 days were compared to nonparticipating students. Second, students who attended at least 60 days were compared to nonparticipating students. Third, participants who reached at least a 45-day threshold were compared with participants who attended less than 15 days. These definitions of treatment were determined to ensure

that the comparison of program effect was based on students who received a significant dose of 21st CCLC programming and, notably with respect to the third comparison, to help mitigate any possible uncontrolled selection effects.[9]

In terms of the outcomes investigated, the evaluation team examined the effect of participating in 21st CCLC programming on reading and math state assessment performance, and on school-day unexcused absence rate. Students' reading and math achievement outcomes were measured by New Jersey state exam (PARCC) for grades 4-11, whereas unexcused school-day absences were derived from attendance and enrollment data provided by NJDOE. All outcome data were matched to individual youth via state student identifiers.

The goal of the quasi-experimental analyses was to answer the following evaluation questions:

- To what extent is there evidence that students participating in services and activities funded by 21st CCLC demonstrated better performance on reading and math assessments as compared with similar students not participating in the program?
- To what extent is there evidence that there are differences between students participating in services and activities funded by 21st CCLC and similar students not participating in the program in terms of unexcused school-day absence rate?

The rest of this sub-section seeks to provide data that directly address these two research questions.

English Language Arts State Assessment Scores

AIR examined the impact of 21st CCLC participation on ELA scores, using PARCC ELA scale scores as the outcome in question. Prior-year academic performance was included in the matching models in order to better ensure apples-to-apples comparisons, along with demographic factors, as described in Appendix A. AIR ran three separate comparisons in order to explore impact on ELA scores: 1) Participants versus non-participants, with 30 days or more of 21st CCLC participation defined as treatment; 2) participant versus non-participant, with 60 days or more defined as treatment; and high-attending participants versus low attending participants,

[9] In propensity score matching, treatment and nontreatment groups are matched using available demographic, performance, and school variables in order to mimic random assignment. However, it is still possible that significant differences between participants and nonparticipants are not accounted for in the variables available for inclusion in the models. (This is why random assignment is superior to a method like propensity score matching.) Comparing high-attending youth with low-attending youth—that is, comparing one group of 21st CCLC participants with another—may help control for factors that predict participation but that are unavailable in the data.

with high attendance defined as 45 days or more and low attendance as less than 15 days. Results of each comparison are presented in this subsection.

What Are Standard Deviation Units?

All Next Generation test results are shown with effect sizes included in the tables. The effect size in these cases is expressed in terms of standard deviation units. A standard deviation (SD) is a measure of how widely dispersed data are: Low SD values indicate scores tightly grouped around the mean; high SD values indicate scores widely distributed. On a typical bell curve, one SD up and one SD down from the mean score will cover about two thirds of all scores reported. Standard deviation units are a presentation of difference in terms of SDs. For example, a 0.303 SD difference, in this case, means the treatment group was 0.303 SDs higher as a group than the matched comparison set. For context, Hill et al. (2008) found that, on average, the effect of a whole year of learning on assessment results (counting time in and out of school) averaged 0.31 standard deviation units for reading and 0.42 standard deviation units for mathematics.

The first comparison looked at participants (30 days of participation or more) versus similar nonparticipants. For ELA score outcomes, AIR also defined treatment as consisting of 30 hours or more participation in ELA instruction within 21st CCLC activities, as reported in PARS21. Also, the analysis included only youth who needed to improve from the prior year (i.e., those who were not proficient in the prior year, as defined by state definitions of proficiency in ELA on the PARCC).

For this analysis, little difference was observed between participants and nonparticipants for ELA scale scores. The only statistically significant result was for 11th grade, which showed an effect size of 0.163 standard deviations higher than the comparison group. However, the *n* size for 11th grade was somewhat small, meaning this effect was driven by relatively few youth participants. See Exhibit 32.

Exhibit 32. ELA Score Outcome Among Students Who Needed to Improve From Prior Year, Participants (30+ Days and 30+ Hours 21st CCLC ELA Instruction) Versus Nonparticipants

Grade	*N*	Effect Size	S.E. of Effect Size
4	4,715	–0.013	0.022
5	2,496	–0.020	0.032
6	3,086	0.003	0.025
7	3,256	–0.004	0.026
8	1,571	0.021	0.034
9	656	0.065	0.057
10	555	0.045	0.066
11	296	0.163*	0.081
All	**21,380**	**0.012**	**0.010**

Notes: *$p < 0.05$

The second comparison concerning ELA outcomes was very similar to the first, the only difference being that treatment was defined as 60 days or more rather than 30. Note that the treatment definition still included 30 hours or more of ELA activity participation in 21st CCLC, and that only youth below proficient in the prior year were considered.

Results for this comparison were very similar to those of the first comparison. Again, the only statistically significant result was for 11th grade, with participants showing 0.396 standard deviation unit difference compared to nonparticipants (a substantial difference). Again, however, this particular result was based on a small number of youth, meaning generalizability is limited. See Exhibit 33.

Exhibit 33. ELA Score Outcome Among Students Who Needed to Improve From Prior Year, Participants (60+ Days and 30+ Hours of 21st CCLC ELA Instruction) Versus Nonparticipants

Grade	*N*	Effect Size	S.E. of Effect Size
4	4,268	–0.020	0.023
5	3,132	0.019	0.030
6	2,531	–0.001	0.028
7	2,637	0.010	0.030
8	1,321	0.034	0.040
9	250	0.141	0.105
10	186	0.091	0.080
11	117	0.396**	0.130
All	**21,740**	**0.014**	**0.011**

Notes: **$p < 0.01$

The final comparison for ELA outcomes involved only 21st CCLC participants, looking at high-attending youth versus low-attending youth. Again, treatment in this case was defined as 45 days of participation or higher and nontreatment as 15 days or less of participation.[10] Interestingly, the only statistically significant result in this analysis concerned eighth grade, with high-attending youth 0.181 standard deviation unit higher than low-attending youth in terms of ELA scale scores.[11] As with results for 11th grade in the previous comparisons, however, the *n* size on which this result is based is somewhat small. See Exhibit 34.

[10] Unlike with the previous comparisons relating to ELA scores, hours of ELA instruction were not included as a criterion for treatment in the high-attending versus low-attending participant comparison due to the fact that doing so led to very low *n* sizes.

[11] As shown in the table, results for sixth grade were also marginally significant, at the 0.10 level (i.e., a 10% chance the result was due to chance).

Exhibit 34. ELA Score Outcome, High-Attending Participants (45+ Days and 30+ Hours 21st CCLC ELA Instruction) Versus Low-Attending Participants (<=15 Days and < 10 Hours 21st CCLC ELA Instruction)

Grade	*N*	Effect Size	S.E. of Effect Size
4	1,547	0.019	0.048
5	1,657	–0.050	0.043
6	1,421	0.075+	0.040
7	1,169	–0.025	0.043
8	921	0.058	0.048
9	314	0.181**	0.060
10	361	0.016	0.071
11	243	0.044	0.075
All	7,785	0.027	0.016

Notes: +$p < 0.10$, **$p < 0.01$

Overall, the analyses relating to ELA scale scores revealed only limited, isolated impact of 21st CCLC on ELA scores.

Mathematics State Assessment Scores

AIR's evaluation team performed the same three types of analyses for mathematics assessment scale scores, looking at participants versus nonparticipants (with treatments defined as 30 days or more and 60 days or more) and high-attending participants versus low-attending participants. As with ELA scores, AIR further defined treatment in all three cases as including 30 hours or more of participation in 21st CCLC activities that targeted mathematics instruction.

The only statistically significant result from the first analysis (defining treatment as 30 days of participation or more, along with 30 hours or more of mathematics in 21st CCLC activities) related to eighth grade. For eighth grade, participants had mathematics scores that were 0.150 standard deviation unit higher than nonparticipants. See Exhibit 35.

Exhibit 35. Mathematics Score Outcome Among Students Who Needed to Improve From Prior Year, Participants (30+ Days and 30+ Hours 21st CCLC Mathematics Instruction) Versus Nonparticipants

Grade	*N*	Effect Size	S.E. of Effect Size
4	4,712	0.011	0.021
5	3,909	–0.034	0.026
6	3,357	–0.009	0.026
7	2,577	–0.031	0.030
8	956	0.150*	0.067
All	19,976	0.004	0.011

Notes: *$p < 0.05$.
Also, few youth in ninth grade or higher had data sufficient for inclusion in the impact models and are therefore not included here in this exhibit or subsequent exhibits.

Defining treatment at the higher level of 60 days or more (while retaining 30 hours of mathematics activity participation as part of the treatment definition), AIR found statistically significant impacts for both fourth grade and eighth grade, with scores 0.048 and 0.108 standard deviation unit higher respectively. See Exhibit 36.

Exhibit 36. Mathematics Score Outcome Among Students Who Needed to Improve From Prior Year, Participants (60+ Days and 30+ Hours 21st CCLC Mathematics Instruction) Versus Nonparticipants

Grade	*N*	Effect Size	S.E. of Effect Size
4	4,016	0.048*	0.022
5	3,288	–0.021	0.028
6	2,706	–0.016	0.029
7	2,079	–0.020	0.034
8	1,484	0.108*	0.052
All	16,560	0.013	0.012

Notes: *$p < 0.05$

The third comparison relating to mathematics outcomes was between high-attending participants (45 days or more) and low-attending participants (less than 15 days).[12] In this case, results for fourth and eighth grades were marginally statistically significant (i.e., at the 0.10 level), but the result for all grades together was statistically significant, showing high-attenders with a mathematics scale score 0.037 standard deviation unit higher than low-attending participants. See Exhibit 37.

[12] Unlike with the previous comparisons relating to mathematics, hours of mathematics instruction were not included as a criterion for treatment in the high-attending versus low-attending participant comparison due to the fact that doing so led to very low *n* sizes.

Exhibit 37. Mathematics Score Outcome, High-Attending Participants (45+ Days) Versus Low-Attending Participants (<=15 Days)

Grade	*N*	Effect Size	S.E. of Effect Size
4	1,466	0.092+	0.047
5	1,734	–0.009	0.040
6	1,562	0.059	0.040
7	1,341	0.002	0.042
8	986	0.094+	0.055
All	7,089	0.037*	0.018

Notes: *$p < 0.05$, + $p < 0.10$

Summary of State Assessment Results

The impact analyses concerning ELA assessments showed few statistically significant results. The exception to this was youth in 11th grade, who performed at a statistically significant higher level than the nonparticipant comparison groups. In addition, high-attending youth in 11th grade performed at a statistically significant higher level than matched low-attending youth. Furthermore, effects sizes related to ELA did follow the conceptual framework, in that effect sizes generally were higher with higher attendance, even if not statistically significant.

In terms of mathematics assessment outcomes, statistically significant impacts were observed for fourth and eighth grades. In addition, when comparing high-attending youth with low-attending youth, the high-attending youth collectively performed 0.037 standard deviation units higher than low-attending youth (a statistically significant result). As with ELA results, impact and effects related to mathematics also followed the conceptual framework, in that effect sizes were again generally larger with higher attendance in the 21st CCLC program, even if not statistically significant.

Unexcused School-Day Absences

In addition to examining state assessment results, the AIR evaluation team analyzed the impact of 21st CCLC program participation on unexcused school-day absences. To do this, AIR first converted unexcused school-day absences into unexcused absence ratios by dividing unexcused absences (in days) by total days enrolled (also in days). Then, AIR performed the same three types of comparisons as were done with the assessment data: (a) participants versus nonparticipants, defining treatment as 30 days or more; (b) participants versus nonparticipants, defining treatment as 60 days or more; and (c) high-attending youth (45 days or more) versus low-attending youth (less than 15 days).

Understanding Unexcused Absence Rates

A rate difference of 1.0% or less may not seem like much, but unexcused absence rates are based on overall school year attendance (i.e., days unexcused absent divided by total days enrolled). Most youth do not have many unexcused absences, so the rates are generally low for both treatment and comparison groups. Across a full school year of 180 days enrolled, however, an absence rate of 3.5% is around 6 days of unexcused absence (3.5% × 180), whereas 2.5% might be a little more than 4 days (2.5% × 180). Expressed in terms of actual days absent, a rate of 2.5% is about three quarters to two thirds a 3.5% rate—that is, a 1.0% drop in this hypothetical example indicates a quarter to a third lower number of days absent.

The first comparison involving participants and nonparticipants (defining treatment as participation of at least 30 days or more) revealed reduced average unexcused absence rates for participants at nearly every grade level and for participants overall (i.e., with all grades pooled together). The exception was 12th grade, which showed a statistically significant increase in the average unexcused school day absence rate for participants compared to similar nonparticipants. However, the *n* size for 12th grade was somewhat small. In general, average unexcused absence rate reduction among participants was not large—under a percentage point—but these are average rates across many individual students. See Exhibit 38.

Exhibit 38. School Absent Rate Outcome, Participants (30+ Days) Versus Nonparticipants

Grade	Comparison		Treatment		Effect Coefficient	Standard Error
	N	Mean Absence Rate	*N*	Mean Absence Rate		
4	111	6.3%	56	5.5%	–0.144*	0.061
5	1,829	5.0%	1,829	4.8%	–0.027**	0.008
6	4,500	3.6%	1,500	3.5%	–0.026**	0.008
7	3,762	4.6%	1,254	4.4%	–0.030**	0.008
8	2,218	3.8%	1,109	3.6%	–0.050**	0.011
9	1,005	2.8%	335	2.7%	–0.047*	0.023
10	703	3.1%	235	3.0%	–0.003	0.025
11	514	2.7%	173	2.4%	–0.108**	0.033
12	232	3.5%	116	4.0%	0.126**	0.035
All	13,358	4.2%	6,679	4.0%	–0.030**	0.004

Notes: *$p < 0.10$, **$p < 0.01$

The second analysis, comparing higher-attending participants with nonparticipants (with treatment defined as participating 60 days or more), yielded results similar to the first comparison, in that participants generally had lower average unexcused school-day absence rates than did the nonparticipants. The average unexcused absence rate was lower for every grade level, with all analyses statistically significant save those for 12th grade. See Exhibit 39.

Exhibit 39. School Absent Rate Outcome, Participants (60+ Days) Versus Nonparticipants

Grade	Comparison		Treatment		Effect Coefficient	Standard Error
	N	Mean Absence Rate	*N*	Mean Absence Rate		
4	77	6.1%	53	5.3%	–0.149*	0.071
5	3,494	4.7%	1,300	4.6%	–0.026**	0.008
6	2,298	5.2%	1,149	5.0%	–0.040**	0.009
7	2,844	5.2%	948	5.0%	–0.037**	0.009
8	2,463	9.6%	821	9.0%	–0.069**	0.013
9	616	0.8%	154	0.7%	–0.079*	0.035
10	400	3.2%	100	2.9%	–0.081*	0.036
11	252	7.8%	63	7.2%	–0.096*	0.045
12	306	0.5%	41	0.5%	–0.001	0.044
All	9,786	3.8%	4,893	3.7%	–0.042**	0.004

Notes: *$p < 0.05$, **$p < 0.01$

The third comparison undertaken by AIR looked at high-attending youth (45 days of participation or more) compared with low-attending youth (less than 15 days of participation). Students participating in the CCLC program for 45 days or more had lower average school unexcused absence rate than did students participating for 15 days or less for Grades 5, 7, and 8, and the difference is statistically significant. Pooling all grades together, students with higher 21st CCLC participation likewise had lower average unexcused school-day absence rates, and the result was statistically significant. See Exhibit 40.

Exhibit 40. School Absent Rate Outcome, High-Attending Participants (45+ Days) Versus Low-Attending Participants (<=15 Days)

Grade	Comparison		Treatment		Effect Coefficient	Standard Error
	N	Mean Absence Rate	*N*	Mean Absence Rate		
4	*[Too few treatment cases to analyze]*					
5	270	3.8%	1,651	3.6%	–0.057**	0.013
6	330	3.3%	1,311	3.3%	–0.010	0.012
7	352	3.8%	1,093	3.7%	–0.035**	0.013
8	344	2.8%	903	2.5%	–0.092**	0.014
9	176	0.1%	235	0.1%	0.008	0.025
10	204	7.9%	128	7.5%	–0.048+	0.027
11	146	4.6%	99	4.5%	–0.020	0.030
12	192	33.8%	54	34.1%	0.011	0.046
All	2,300	2.4%	5,551	2.3%	–0.034**	0.005

Notes: +$p < 0.10$, **$p < 0.01$

Summary of Unexcused School-Day Absences

Overall, the results from AIR's analysis of 21st CCLC program impact on unexcused school-day absences are much clearer than those for assessment scores. For most grade levels, and for 21st CCLC attendees overall (when all grade levels are pooled together), 21st CCLC participants have lower unexcused school-day absence rates than do nonattending peers. Likewise, higher attending 21st CCLC participants have lower school-day unexcused absence rates than do lower-attending 21st CCLC youth. The exception to this was 12th grade, where 21st CCLC participation yielded *higher* unexcused absence rates. This is, however, an effect of a relatively small number of programs.

For a complete summary of unexcused absence rate ratios for all comparisons, see Appendix C.

Correlational Method of Analysis

As first described in Section 5 of this report, AIR collected preadministration and postadministration youth outcome surveys during 2016–17. Whereas Section 5 presented descriptive data taken from the experience-related questions included on the postsurvey (and only on the postsurvey), this subsection will present pre-to-post changes on the youth outcome questions as they correlate to youth program attendance and as they correlate to the answers provided in response to the experience questions included on the postsurvey.

Essentially, then, this subsection answers the questions:

1. Did youth outcomes measured by the pre-to-post surveys increase more for higher-attending youth?
2. Did youth outcomes as measured by the pre-to-post surveys increase more for youth reporting better program experiences?

Note that the answers to these questions as presented here are entirely correlational and are *not* quasi-experimental. Because of that, it is not possible to say that the outcomes observed here were actually caused by the 21st CCLC program.

Collection and Preparation of Survey Data

Youth surveys were administered directly to 21st CCLC attendees by centers using AIR's online survey platform. The preadministration survey was collected in the fall, and the postadministration survey was collected in the spring. Both the youth pre- and postsurveys included questions aligned with the following constructs:

- Academic identity
- Interpersonal skills
- Mindsets
- Self-management

A full list of all questions with their associated constructs is presented in Appendix B (as a full copy of the youth postsurvey). As an example, however, the Mindsets scale included items such as "I finish whatever I begin," "I don't give up easily," and "I stay positive when things don't go the way I want," which the youth were instructed to answer by indicating *not at all true*, *somewhat true*, *mostly true*, or *completely true*.

Responses to these items were converted into construct scale scores using Rasch analytic techniques. The scale scores were placed on a 1 to 4 scale roughly corresponding to the response options. To isolate those youth with room to grow, AIR focused survey analyses on those youth where the presurvey scale score was a 3.0 or lower, corresponding to a value of *somewhat true* or lower response on the presurvey questions.

There were on average 167 calendar days between the youth pre- and postsurvey administrations, with a minimum of 125 days and a maximum of 199 days (standard deviation of 10 days). In all, AIR collected matched sets of presurveys and postsurveys from 2,788 youth. This accounts for approximately 17.5% of all attendees in the 21st CCLC program in New Jersey.[13]

Results

Interestingly, little in the way of correlation was found between 21st CCLC program attendance level and changes on the pre-to-post youth outcome constructs. Even where statistically significant findings were discovered between attendance and the outcome areas, the effects were small—on the order of 0.001 scale point change for every additional day attended—and the effects were *negative*.

However, it could be the case that program attendance is a necessary but not sufficient component for increased youth outcomes as measured by the surveys. AIR found statistically significant correlations between youth *relationship* scales (both the relationships with adults scale and with relationships with peers scale) and increases on all four outcomes. For example, for every 1.0 scale point increase on the relationships with adults scale, there was an associated increase of 0.266 scale point on the academic identity scale, an increase of 0.217 scale point on the mindset scale, an increase of 0.208 scale point on the self-management scale, and 0.282 scale point on the interpersonal skills outcome scale. Similar correlations were observed for the relationships with youth scale, only with lower levels of associated increase for the four outcome areas. Further, increases on the youth choice scale were also associated with increases on three of the four outcome areas: mindsets, self-management, and interpersonal communication. See Exhibit 41.

[13] This may seem like a relatively low percentage. However, this percentage reflects only those youth for whom both a presurvey and a postsurvey were collected. Youth may attend only part of a school year, or may simply miss one of the two survey administrations. Also, as noted previously in the report, AIR instructed larger centers to survey only a representative sample of 100 youth, not all youth. In addition, 2016–17 was the first year that most grantees in New Jersey collected survey data in this fashion, at least for AIR.

Exhibit 41. Associations Between Pre-to-Post Changes on Youth Outcome Scales With Attendance and Program Experience Scales

Outcome	Variable	*N*	Effect	S.E. of Effect Size
Academic Identity	Days Attended	2,680	0.000	0.000
	Youth Choice		0.039+	0.020
	Relationships With Adults		0.266**	0.019
	Relationships With Peers		0.091**	0.016
Mindset	Days Attended	2,680	–0.001+	0.000
	Youth Choice		0.120**	0.018
	Relationships With Adults		0.217**	0.017
	Relationships With Peers		0.112**	0.015
Self-Management	Days Attended	2,680	–0.001	0.000
	Youth Choice		0.131**	0.019
	Relationships With Adults		0.208**	0.018
	Relationships With Peers		0.135**	0.016
Interpersonal Skills	Days Attended	2,680	–0.001*	0.000
	Youth Choice		0.122**	0.020
	Relationships With Adults		0.282**	0.018
	Relationships With Peers		0.142**	0.016

Notes: +$p < 0.10$, *$p < 0.05$, **$p < 0.01$

What this seems to suggest is that participation in 21st CCLC programming is not enough to move youth outcomes as measured by AIR's youth surveys. Instead, the results suggest that strong relationships, along with provision for youth choice, matter in terms of improvement on these types of youth outcomes (although again, nothing here is causal). In brief, the stronger the relationships as reported by the youth themselves, and the more opportunity for youth choice as reported by the youth themselves, the stronger the pre-to-post growth on the outcome scales tended to be.

Limitations of Results

It bears repeating that all of the results in Section 6 should be interpreted with some caution. The sample size is small for a number of analyses, notably for some grade-level specific analyses pertaining to assessment scores and unexcused absences. In cases where *n* sizes are relatively small, it becomes more difficult to detect differences between treatment and comparison students. In addition, although the propensity score matching approach employed in analyzing assessments and unexcused absences seeks to minimize the impact of selection bias on the estimates of program impact, it is simply an untestable assumption that such models can fully account for selection bias. To the extent that other variables exist (not available for this analysis) that predict student participation in 21st CCLC and are also related to student achievement or school absence, these analyses may be limited. To that end, these propensity score matching analyses, along with the correlational analyses presented concerning the youth survey data, provide only initial evidence about the impact of 21st CCLC, and should not be considered equivalent to experimental studies with strong internal validity. Additionally, note that the youth postsurvey outcome questions and program experience questions were asked on the same survey during spring 2017 (with the experience questions following the outcome questions). With both sets of questions appearing on the same survey, it is at least conceivable that youth answers to the experience-related questions were influenced by the language of the outcome questions.

Section 7. Conclusions and Next Steps

As with previous evaluation reports, this report shows that the 21st CCLC program in New Jersey seems to be serving the population intended. More than 17,000 youth were served by 21st CCLC programs in New Jersey during 2016–17, and notably, nearly four out of five of these attendees was eligible for free or reduced-price lunch. Further, the program appears to be offering activities to these attendees that are in keeping with New Jersey's 21st CCLC goals, with almost a third of all activity sessions led by a certified teacher and aimed at supporting growth in either mathematics or ELA, and nearly 84% of all activity sessions infused with components meant to support social and emotional development of participating youth. The youth themselves attended at fairly high levels, with an average attendance of 66 days. Two thirds of youth were regular attendees, participating 30 days or more during the school year. The youth attendees spent about a fifth of their activity time in tutoring/homework help, nearly another fifth in academic enrichment, and overall receiving about 55 hours of mathematics instruction and 58 hours in ELA.

Yet, the primary purpose of this report was to assess what real impact the program has had on participating youth. Were youth who attended truly helped by the program, and if so, in what way? Although the array of analyses conducted by AIR was by no means exhaustive, this report shows that the program did serve to reduce school-day unexcused absences among participants. In AIR's investigation of unexcused school-day absences, in fact, statistically significant impacts of 21st CCLC were found for nearly every grade level, and for youth participants overall as well. Further, youth who reported having strong relationships in the program—whether with other youth or with adult staff—also improved in terms of academic identity, mindsets, self-management, and interpersonal skills (although these results were correlational, not causal). (Note that this fits with other research on out-of-school-time programming concerning the importance of building relationships for achieving youth outcomes [Auger et al., 2013; Durlak & Weissberg, 2007; Kauh, 2011; Miller, 2007; Naftzger & Sniegowski, 2018; Traill et al., 2013].) Modest impacts were also observed on participants' mathematics assessment scores, although the effect was only observed in a statistically significant way for fourth and eighth grades, and when comparing high-attending youth as a group against low-attending youth as a group.

Program impact on ELA assessment scores was less clear, in that very few statistically significant impacts were observed. Youth in 11th grade performed at a statistically significant higher level than did nonparticipants, but otherwise program participation did not seem to significantly affect ELA scores. This is not, however, necessarily surprising. Per the conceptual theory for how change happens in 21st CCLC, state assessments may be a hard type of outcome to "move," at least when compared with outcomes such as unexcused absences. If this is true, then it could explain the lack of significant results relating to assessments.

In addition, Hill et al. (2008) found that, on average, the effect of a whole year of learning—including school-day learning—on assessment results averaged 0.31 standard deviation units for reading and 0.42 standard deviation units for mathematics. That is, even if a program did have an effect on assessments, the effect is likely to be very small given the amount of time youth attend 21st CCLC programs relative to all their time spent in education. Even if there is an impact, it may simply be too small to detect.

One last factor may also play a role in the inability to detect many significant impacts on assessment scores. The impact models used by the AIR evaluation team did not account for program quality. As noted previously, research indicates that program quality can have an impact on youth outcomes (Auger et al., 2013; Naftzger et al., 2014; Naftzger & Sniegowski, 2018; Pierce et al., 2010; Smith et al., 2018; Tracy et al., 2016). Looking at program effects without consideration for program quality could, therefore, muddy results and reduce detected program impact.

Recommendations

Based on the evaluation findings presented in this report, along with AIR's understanding of NJDOE's current data infrastructure, we recommend the following for NJDOE's consideration in planning their next evaluation effort:

1. **Further explore the relationship between youth experiences in the program and growth on youth outcomes.** AIR found positive correlations between the strength of youth-reported relationships in the program (whether with adults or with their peers) and increases on all four youth outcomes scales measured by AIR's pre-post surveys (academic identity, mindsets, self-management, and interpersonal skills). That is, the stronger the relationships (as reported by youth), the more youth increased on these four outcome areas from presurvey to postsurvey. Although these findings were not causal, it may make sense to dig deeper into these data in the future as part of further evaluation work. It will also be important to replicate these findings, given 2016–17 was the first year that grantees administered the pre- and postsurveys.

2. **Explore incorporation of other NJSMART data for use as outcomes.** Notably, explore inclusion of disciplinary incident data. Disciplinary data were not available from NJDOE for inclusion in this report as an outcome of interest, but indications from NJDOE were that recent data-collection efforts at the state level may make such data available in the future. Given the very modest results relating to assessment outcomes, an outcome like disciplinary incidents may be more capable of showing program impact.
3. **Plan for collecting program quality data in a way that can be incorporated into future impact analyses**. Although it was not possible to incorporate program quality data into the analysis for this report, we recommend that NJDOE consider exploring whether program quality variables could be created for use in impact models in the future. Doing so would require careful planning around program quality measurement, however, and would need to be done cautiously—ideally with grantee feedback—so as not to interfere with the low-stakes nature of program self-assessments and general improvement efforts.

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Appendix A. Further Propensity Score Matching Information, Including Variables Used

The outcome of interest in modeling propensity scores is treatment status (1 for students participating in the program, 0 for the comparison group). To account for this binary outcome, logistic regression was used to model the logit (or log-odds) of student group assignment status. Student-level variables used to fit the propensity score models included the following:

- Prior-year academic achievement
- Student demographic information, including
  - Gender
  - Age
  - Racial status
  - Limited English proficiency (LEP) status
  - Economic disadvantage status
  - Special education status

In addition to the student-level variables, the propensity score model also included school variables that added information about the school a student attended to account for school-based contextual differences, which may account for differences in the propensity for a student to participate. These school variables include the following:

- School enrollment
- School teacher-student ratio
- Percentage of female students
- Percentage of economically disadvantaged students
- Percentage of special education students
- Percentage of LEP students
- Percentage of students in different racial groups
- Percentage of teachers with advanced degree

The propensity score model was fit separately for each definition of treatment (30+ days, 60+ days). The final propensity score models were checked to ensure that the analysis sample was balanced across relevant covariates. Consistent with What Works Clearinghouse standards (Institute of Education Sciences, 2017), we considered treatment and matched comparison groups to be balanced if the standardized mean difference in baseline measures between the two groups of students was less than or equal to 0.25 standard deviation.

Appendix B. Youth Outcomes Survey (Preadministration and Postadministration Surveys)

AIR administered a preadministration youth outcome survey in fall 2016 and a postadministration survey in spring 2017. These two surveys included the same set of outcome questions so that pre-to-post changes could be analyzed. In addition, the postadministration survey included youth program experience questions. In the survey shown on the following pages, items associated with question 1 are the youth outcome questions that appeared on both the preadministration and the postadministration versions, whereas items associated with questions 2 through 5—the experience questions—appeared only on the postadministration survey.

Youth Survey for Middle and High School (4th-12th Grades)
New Jersey 21st Century Community Learning Centers

Instructions: The purpose of this survey is to find out more about 21st CCLC out-of-school programs in New Jersey. Our goal is to help make out-of-school time programs better for you and other young people. This survey should take about 15 minutes. Below are questions that ask about you and some of the things you think and feel about yourself and your out-of-school-time program. **This is <u>not</u> a test**. There are no "wrong" answers. Please choose the answer that is most true or most like you.

This survey is completely <u>voluntary</u>. You do not have to answer any of the questions if you don't want to, and you can stop taking this survey at any time. This survey is confidential to the extent permitted by law, which means that no one (not your parents, teachers, school staff or other students) will be allowed to know how you answer these questions.

[NOTE: Question 1 appeared on both the preadministration and postadministration versions of the youth survey. Responses to these items were used in AIR's pre-post analysis as presented in Section 6 of this report.]

1. Young people might describe themselves in many ways. We have listed some things youth might say or think about themselves. How true is each statement for you? Choose the answer that is most true for you for each statement.

	Not at all true	*Somewhat true*	*Mostly true*	*Completely True*
Doing well in school is an important part of who I am	○	○	○	○
Getting good grades is one of my main goals	○	○	○	○
I take pride in doing my best in school	○	○	○	○
Getting a college education is important to me	○	○	○	○
I am a hard worker when it comes to my schoolwork	○	○	○	○
It is important to me to learn as much as I can	○	○	○	○

	Not at all true	***Somewhat true***	***Mostly true***	***Completely True***
I finish whatever I begin	○	○	○	○
I stay positive when things don't go the way I want	○	○	○	○
I don't give up easily	○	○	○	○
I try things even if I might fail	○	○	○	○
I can solve difficult problems if I try hard enough	○	○	○	○
I can do a good job if I try hard enough	○	○	○	○
I stay focused on my work even when it's boring	○	○	○	○
I can stop myself from doing something I know I shouldn't do	○	○	○	○
When I'm sad, I do something that will make me feel better	○	○	○	○
I can control my temper	○	○	○	○
I can handle stress	○	○	○	○
I can calm myself down when I'm excited or upset	○	○	○	○
When my solution to a problem is not working, I try to find a new solution	○	○	○	○
I think of my past choices when making new decisions	○	○	○	○
I listen to other people's ideas	○	○	○	○
I work well with others on group projects	○	○	○	○
I feel bad when someone gets their feelings hurt	○	○	○	○
I respect what other people think, even if I disagree	○	○	○	○
I try to help when I see someone having a problem	○	○	○	○
When I make a decision, I think about how it will affect other people	○	○	○	○

[NOTE: Questions 2 through 5 appeared ONLY on the postadministration version of the youth survey. Responses to these questions were analyzed descriptively, as presented in Section 5 of this report, but were also analyzed in a correlational manner relative to youth pre-post changes as described in Section 6.]

2. Now think about this program in particular. When you are at this program, how often…

	Never	*Rarely*	*Sometimes*	*Often*
Do you get to choose how you spend your time?	○	○	○	○
Can you suggest your own ideas for new activities?	○	○	○	○
Do you get to choose which activities you do?	○	○	○	○
Do you get to help plan activities for the program?	○	○	○	○
Do you get the chance to lead an activity?	○	○	○	○
Do you get to be in charge of doing something to help the program?	○	○	○	○
Do you get to help make decisions or rules for the program?	○	○	○	○

3. Thinking about the adults in this program, how true are these statements for you? In this program, there is an adult here…

	Not at all true	*Somewhat true*	*Mostly true*	*Completely True*
Who is interested in what I think about things.	○	○	○	○
Who I can talk to when I am upset.	○	○	○	○
Who helps me when I have a problem.	○	○	○	○
Who I enjoy being around.	○	○	○	○
Who has helped me find a special interest or talent (something I'm good at).	○	○	○	○
Who asks me about my life and goals.	○	○	○	○
Who I will miss when the program is over.	○	○	○	○

4. At this program, how do kids get along? Indicate how true each statement is based on your own experience in this program.

	Not at all true	*Somewhat true*	*Mostly true*	*Completely True*
Kids here are friendly with each other.	○	○	○	○
Kids here treat each other with respect.	○	○	○	○
Kids here listen to what the teachers tell them to do.	○	○	○	○
Kids here don't tease or bully others.	○	○	○	○
Kids here support and help one another.	○	○	○	○

5. How has this program helped you specifically? For each line, indicate how true each statement is for you. This program has helped me…

	Not at all true	*Somewhat true*	*Mostly true*	*Completely True*
Feel good about myself.	○	○	○	○
With my confidence.	○	○	○	○
To make new friends.	○	○	○	○
Find out what is important to me.	○	○	○	○
Find out what I'm good at doing.	○	○	○	○
Find out what I like to do.	○	○	○	○
Discover things I want to learn more about.	○	○	○	○
Learn things that will help me in school.	○	○	○	○
Learn things that will be important for my future.	○	○	○	○
Think about the kinds of classes I want to take in the future.	○	○	○	○
Think about what I might like to do when I get older.	○	○	○	○
Learn about things that are important to my community or the environment.	○	○	○	○
Feel good because I was helping my community or the environment.	○	○	○	○

Thank you!

Appendix C. Absence Rate Ratios

Exhibit C1 provides a summary of all unexcused school-day absence findings. The values shown in the table are *rate ratios*. For example, a value of "90%" would mean that the treatment group noted in the column heading had an unexcused absence rate that was 90% that of the comparison group. This means that values below 100% indicate positive, desirable results (since sub-100% results mean the treatment group had a rate lower than the non-treatment group).

Exhibit C1. School-Day Unexcused Absence Rate Ratios

Grade Level	*30+ Days*	60+ Days	High versus Low Attenders
4	87.3%	86.9%	-
5	97.5%	97.5%	94.7%
6	97.5%	96.2%	99.0%
7	97.2%	96.5%	96.7%
8	95.3%	93.9%	91.4%
9	95.5%	92.5%	100.8%
10	99.7%	92.4%	95.6%
11	90.0%	91.5%	98.2%
12	112.9%	99.9%	100.7%
All	**97.2%**	**96.0%**	**96.8%**

Note: Grayed-out values indicate results that were not statistically significant.

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