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# **New Jersey 21st Century Community Learning Centers Year 4 Evaluation Report**

**Neil Naftzger**

**Matthew Vinson**

**Feng Liu**

JUNE 2013



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*Neil Naftzger*

*Matthew Vinson*

*Feng Liu*



1000 Thomas Jefferson Street NW  
Washington, DC 20007-3835  
202.403.5000 | TTY 877.334.3499

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## Executive Summary

Information summarized in this report is based on data collected and analyzed by American Institutes for Research (AIR) as part of a statewide evaluation of the New Jersey 21st Century Community Learning Centers (21st CCLC) programs, including data from 49 sub-grantees and 94 centers. Results represent findings based on activities delivered during the 2011–12 school year. The purpose of this executive summary is to (1) set the context for the evaluation design with regard to a primary focus on program quality, (2) outline the evaluation questions and methods, and (3) summarize key findings within each of the identified evaluation questions. To set the context for the evaluation design, a brief discussion on program quality, AIR’s framework for understanding afterschool program quality, and the leading indicators of afterschool program quality developed in collaboration with the New Jersey Department of Education (NJDOE) are provided. Following the discussion on program quality, the evaluation questions and methods are outlined and a summary of key findings within each of the identified evaluation questions is presented.

### NJDOE Goals and Objectives and Program Quality

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 Curriculum Content Standards and Common Core State Standards” (State of New Jersey, Department of the Treasury, 2013, p. 1). The staff members at NJDOE responsible for administering the 21st CCLC program have taken steps to further operationalize this goal by specifying a series of objectives that outline what is to be achieved in this regard and by what means. Collectively, the domain of goals and objectives established by NJDOE either directly or indirectly reinforce the primacy of student achievement and behavioral change as the outcomes of greatest interest and suggest that programs can take steps to realize these outcomes as follows:

- Establish and maintain partnerships and collaborative relationships within the community.
- Adopt strategies and practices support student skill building and mastery, both academically and from a youth development perspective.
- Implement activities that promote parental involvement and provide opportunities for the development to the families of participating students.
- Ensure measure and approaches are in place to assess program quality and effectiveness, and use this information to support quality improvement.

Each of these operational elements and approaches are represented in recent efforts in the field of afterschool education to identify the features of high-quality afterschool program (Granger, Durlak, Yohalem, & Reisner, 2007; Little, 2007; Wilson-Ahlstrom & Yohalem, 2007; Vandell et al., 2005; Yohalem & Wilson-Ahlstrom, 2009). Generally, many of the measures developed and adapted for use in carrying out this evaluation are meant to assess how 21st CCLC grantees are performing across the operational elements and attributes embedded in NJDOE’s goals and objectives for the program and in those characteristics that the current best-practices literature

suggests are associated with program features likely to affect positively student achievement and related outcomes.

## 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. 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<sup>1</sup> 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.

The leading indicators were first organized into three overarching domains defined by program level:

- *Organizational Processes* relate to practices that are defined for the full program and that provide an infrastructure to support implementation of effective practice in the design, delivery, and evaluation of afterschool programming.
- *Quality at the Point-of-Service* relates to practices that occur at the point-of-service, where staff members and youth directly interact during the provision of an activity or offering. The focus at this level is on the instructional practice of individual staff members.
- *Participation and Engagement* refers to the level of participation by youth and adults in activities provided by 21st CCLC programs. Participants cannot be expected to be positively impacted by the program unless they actually participate in program offerings and activities.

The leading indicators also can be organized into more specific domains of *quality practice*:

- Strategies and practices that support the academic development of participating youth
- Strategies and practices that support the development of participating youth from a youth development perspective

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<sup>1</sup> 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.

- Strategies and practices that support the engagement and development of parents and adult family members
- Strategies and practices that support the utilization and engagement of partners
- Strategies and practices that support program improvement efforts

The information collected and analyzed in relation to the 2011–12 school year was meant to answer four primary evaluation questions related to the implementation of the New Jersey 21st CCLC program and related to the impact of the program on desired student outcomes:

1. What were the primary characteristics of programs funded by 21st CCLC and the students served?
2. How did centers perform on the leading indicators defined for the program, and how is this level of performance relevant to thinking about what additional supports, training, and professional development NJDOE should potentially invest in?
3. To what extent is there evidence of a relationship between select program and student characteristics and the likelihood that students demonstrated the following:
  - a. Higher levels of attendance in 21st CCLC
  - b. An improvement in behaviors likely to be supportive of better academic achievement
  - c. Higher academic achievement in reading/language arts and mathematics

To what extent is there evidence that students participating in services and activities funded by 21st CCLC demonstrated better performance on state assessments in reading and mathematics compared with similar students not participating in the program?

## Data Sources

To address the aforementioned evaluation questions, data were collected from the following sources:

- **Program Activity and Review System (PARS21).** PARS21 is a Web-based data collection system developed and maintained by the NJDOE that collects directly from grantees a broad array of program characteristic, student demographic, attendance, and outcome data throughout the program year.
- **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.
- **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 at

two time points: (1) midyear through a given school year and (2) at the end of a given programming cycle.

**New Jersey Standards Measurement and Resource for Teaching (NJ SMART) Data Warehouse.** Steps also were taken in fall 2012 and in early 2013 to obtain access to New Jersey Assessment of Skills and Knowledge (NJASK) scores in reading and mathematics from the NJ SMART data warehouse maintained by NJDOE for 21st CCLC participants served during the course of the 2011–12 school for students in Grades 4 to 8. Similar scores also were obtained for 21st CCLC students in Grade 11 that took the High School Proficiency Assessment (HSPA) in spring 2012. Similar data also were obtained for those students attending the same schools as the 21st CCLC participant population that did not participate in the program during these periods.

## **Analysis**

Descriptive analysis of PARS21 data on grantee, center, and student characteristics along with cluster analysis techniques were used to provide an overall description of New Jersey 21st CCLC operating in the 2011–12 school year. Both descriptive analysis and Rasch analysis of PARS21, ETRS, and staff survey responses were used to assess the extent to which centers implement research-supported best practices aligned with the previously described leading indicator system. To assess relationships among student and center characteristics and student outcomes, hierarchical linear modeling (HLM) was used to explore direct and indirect associations. Finally, to evaluate the impact of 21st CCLC programming on students' academic outcomes, propensity score matching was used to first identify a viable group on nonparticipating students and propensity scores (the probability of a student to participate in 21st CCLC programming) were used in HLM models comparing NJASK and HSPA reading and mathematics performance for 21st CCLC participants and nonparticipants.

## **Summary of Key Findings**

A summary of key evaluation findings is provided below.

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

#### *Grantee Characteristics*

- A majority of grantees (75 percent) were in their third, fourth, or fifth year of program operation.
- Grantees were roughly split between the categories of school-based (57 percent) and non-school-based (43 percent) grantee.

#### *Center Characteristics*

- Centers were grouped into staffing clusters based on staffing configuration. A plurality of centers, 36 percent, were identified as employing mostly school day teachers; the next highest group of centers employed a mix of mostly school-day teachers, program staff members, and nonacademic staff members (31 percent of all centers).

- The average student-to-staff ratio was eight students for each program staff member.
- Centers mainly served children in elementary and middle schools exclusively (72 percent of centers).
- The majority of centers chose career exploration (41 percent) or science, technology, engineering, and mathematics (STEM)(34 percent) as their primary activity theme.

### *Student Characteristics*

- A total of 13,752 students attended 21st CCLC programming for at least one day.
- Slightly more than two-thirds of the students (71.6 percent) attended 30 days or more, and slightly more than one third (38.2 percent) participated for 90 days or more.
- The typical student attended an average of 25 hours of reading activities and 20 hours of mathematics activities.
- Thirty-one percent of students attended 21st CCLC programming for two consecutive years or more.
- The most common activity profiles were associated with youth who spent the majority of their time participating in academic enrichment activities (28 percent) or tutoring (30 percent).
- A majority of 21st CCLC participants were Hispanic (46 percent) or African American (34 percent). Most attendees (77 percent) qualified for free or reduced-price lunch.

### *Leading Indicator Results*

Steps were taken in preparation of the 2011–12 report to summarize center performance relative to each of leading indicators adopted by NJDOE. Primary findings are summarized by each of the five quality domains underpinning the indicator system. Note: Excepting the scale titles, language in italics indicates survey response categories as provided to respondents.

*Leading indicators related to strategies and practices that support the academic development of participating youth.* Centers operating 21st CCLC programming during the course of the 2011–12 school year demonstrated the following practices:

- Widespread adoption of specific instructional strategies to support academic skill building among participating students (leading indicator 1), with a statewide mean scale score of 70.0 (aligning with *Significant Strategy Usage*). (Note: Language in italics indicates survey response categories as provided to respondents.)
- Access to school-based data on student academic functioning and needs (leading indicators 2 and 3). For leading indicator 2, there was a statewide mean scale score of 66.8, meaning student academic information was *somewhat accessible*, there was *common* use of linking to the school day as a strategy, and communication with school-day teachers happened about *monthly or once per grading period*. Eighty-six percent of centers indicated they were able to measure student academic functioning of participating youth in core academic areas (leading indicator 3).

- Regular lines of communication with school-day teachers (leading indicator 2, as outlined in the preceding bullet point).
- *Frequent* intentionality in designing activity sessions to impart skills and knowledge to participating youth (leading indicator 18), with a statewide mean scale score of 60.81. (Note: Language in italics indicates survey response categories as provided to respondents.)

Less common was the offering of academic-related sessions and participation in academic-related activities in accordance with the performance targets specified for indicators 5 and 21.<sup>2</sup>

*Leading indicators related to strategies and practices that support the development of participating youth from a youth development perspective.* Centers operating 21st CCLC programming during the course of the 2011–12 school year were characterized by the following levels of performance on the indicators associated with this quality domain:

- Roughly half of centers were (a) taking steps to assess youth functioning on social and emotional competencies (leading indicators 7 and 8), with 51 percent and 40 percent of centers respectively meeting the performance threshold and (b) meeting goals for the infusion of components meant to support youth development-related behaviors and social-emotional learning (SEL) functioning of participating youth and actual youth participation targets for the fall semester of 2011 (indicators 9 and 20), with 58 percent and 59 percent of centers respectively meeting the performance threshold. In the case of the latter set of findings (pertaining the indicators 9 and 20), the performance thresholds are perhaps questionable. However, little is known regarding what is an appropriate dosage for youth participation in youth development-related behaviors and SEL and how best to assess implementation of these efforts outside direct observation (though NJDOE believes SEL should be infused throughout the program). Although many questions remain regarding how centers are infusing youth development and SEL components into programming, the leading indicators related to this quality domain seem to suggest a significant portion of the New Jersey 21st CCLC programs are dedicating meaningful effort to the design and delivery of this type of programming.
- 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 (leading indicator 16) and the *Practices Supportive of Positive Youth Development and Opportunities for Youth Ownership* scales of the staff survey (with both scales' items composing leading indicator 17) suggest staff adoption of such practices are more common than not: for leading indicator 16, the mean statewide scale score was 62.3 (the *Agree* portion of the scale), indicating staff members believe their peers largely are providing interactive and engaging settings for youth; for leading indicator 17, the mean statewide scale score was 62.1, indicating that select opportunities for youth development were available *occasionally* and that staff largely *agree* that youth

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<sup>2</sup> For indicator 5 to be met, fifty percent or more of a given program's activity sessions had to have been intended to support student growth and development in either mathematics and/or reading/language arts. For indicator 21 to be met, 75 percent of participants attending 15 days or more during the first semester had to have participated in activities that intentionally support growth in mathematics and/or reading/language arts for at least 50 percent of their total time in the program.

ownership opportunities are provided. However, for each of these indicators, 29 percent and 26 percent of centers (respectively) had an average scale score which indicated these practices were only occurring *occasionally* to largely *not at all*. It is this set of programs that could likely benefit from additional technical assistance on how best to implement these types of supports and opportunities for participating youth.

*Leading indicators related to strategies and practices that support the engagement and development of parents and adult family members.* Centers operating 21st CCLC programming during the course of the 2011–12 school year were characterized by the following levels of performance on the indicators associated with this quality domain:

- In terms of engaging in practices to support and cultivate parent involvement and engagement (leading indicator 14), most centers were found to do so just *sometimes* (75 percent of centers fell within this range of the scale), as opposed to *never* (7 percent of centers) or *frequently* (19 percent).
- Fifty percent of centers indicated adopting measures to assess the program’s impact on parent education and involvement (leading indicator 15).
- Only a small percentage of programs (6 percent) were able to engage parents or other adult family members in activities for at least 15 percent of the students served in the program during the fall semester of 2011.

Many of these findings are consistent with previous leading indicator results and demonstrate the ongoing challenges of reaching out to an engaging parents and adult family members of participating 21st CCLC students.

*Leading indicators related to strategies and practices that support the utilization and engagement of partners.* Centers operating 21st CCLC programming during the course of the 2011–12 school year were characterized by the following levels of performance on the indicators associated with this quality domain:

- In terms of engaging partners in collaborative efforts to promote a shared vision and understanding of the work (leading indicator 12), the mean statewide scale score was 43.0, indicating that most centers engaged in such practices *informally* (as opposed to doing such things with partners on a *formal* basis) or *not at all*, and that partner staff members were *moderately* involved in the provision of select activities.
- A small percentage of activity sessions (less than one percent) delivered during the fall semester of 2011 were provided by staff members employed directly by a partner (leading indicator 13). It is not clear if this low percentage is the failure of proper data entry in PARS21 or if partner involvement in the delivery of activities was truly such a small proportion of overall activity delivery.

It is our sense that a clearer articulation of what effective partnerships may look like in relation to the design and delivery of 21st CCLC programming may be warranted, particularly in terms of using partners strategically to expand the domain and diversity of activities that can be offered to participating youth.

*Leading indicators related to strategies and practices that support program improvement efforts.* Centers operating 21st CCLC programming during the course of the 2011–12 school year were characterized by the following levels of performance on the indicators associated with this quality domain:

- Eighty-two percent of centers reported engaging in some form of self-assessment process employing a specific tool or instrument during the 2011–12 school year (leading indicator 10).
- The average statewide scale score for internal communication (leading indicator 11) was 55.5, which indicates collaborative efforts were undertaken *a couple of times per year/once a month*. Scale response options included *never, a couple of times per year, about once a month, and nearly every week*. This suggests that collaborative efforts were somewhat frequently implemented during the 2011-12 programming period.

Within the afterschool field, self-assessment processes have become one of the primary mechanisms of supporting quality improvement efforts. There are new opportunities to capitalize on this approach in New Jersey as well with the development of a self-assessment tool by the New Jersey School-Age Care Coalition aligned with the state’s newly adopted state afterschool standards. Finding ways to make use of this tool to support 21st CCLC implementation efforts will be an important task to undertake in the future.

### ***Relationship between Leading Indicator Status and Outcomes***

Indicators associated with each of the five quality domains were analyzed using hierarchical cluster analysis to create quality profiles that triangulated data from the multiple indicators to sort 21<sup>st</sup> CCLCs into a given quality type. Three types of situations are believed to be of particular interest:

1. When all indicators suggest a high level of implementation in relation to a given quality domain.
2. When all indicators suggest a low level of implementation in relation to a given quality domain.
3. Mismatches in indicators in relation to a given quality element, with some indicating a high level of implementation and others indicating a low level of implementation.

Variables summarizing a center’s status relative to five quality clusters<sup>3</sup> were then included in a series of correlational, multilevel models to explore if cluster membership was associated with teacher-reported improvement in student behaviors, the NJ ASK reading and mathematics results, and attendance in the 21st CCLC program. It was expected that cluster membership indicating a high level of performance would be positively associated with outcomes and that cluster membership indicating a low level of performance would be negatively associated with

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<sup>3</sup> The five clusters are divided according to strategies and practices that support: 1) the academic development of participating youth, 2) the development of participating youth from a youth development perspective, 3) the engagement and development of parents and adult family members, 4) the utilization and engagement of partners, and 5) program improvement efforts.

outcomes. The latter hypothesis was more likely to be supported by the results yielded from these models, particularly in the following instances:

- *Academic Development—Most means below average.* Centers were assigned to this cluster if the center’s scores on five of the six leading indicators under consideration were below average. Centers in this cluster would be considered to have a lower degree of implementation on strategies and practices that support academic development relative to the other two cluster types. There were 48 centers assigned to this cluster. Membership in this cluster was negatively associated with mathematics assessment results ( $p < .01$ ) and teacher assessment of student behavior improvement in terms of *Participating in Class* ( $p < .05$ ). (Note: *Participating in Class* is a teacher survey item.)
- *Youth Development (YD)—YD/SEL offerings and participation below average.* Thirty-seven centers were assigned to this cluster where scores on indicators related (a) to the offering of programming with components infused to support youth development-related behaviors and SEL functioning and (b) to the degree of student participation in these offerings were found to be below average. Center membership in this cluster was found to be negatively related to teacher assessment of student behavior improvement in terms of *Participating in Class* ( $p < .10$ ) and *Behaving Well in Class* ( $p < .10$ ). In terms of state assessment outcomes, membership in this cluster also was negatively associated with mathematics state assessment results ( $p < .10$ ). (Note: *Participating in Class* and *Behaving Well in Class* are teacher survey items.)
- *Parent Involvement—Both means below average.* Thirty-one centers were assigned to this cluster where scores on indicators related (a) to the extent to which center staff members engaged in practices supportive of parent involvement and engagement and (b) to the degree of parent and family member participation in center offerings were both found to be below average. Center membership in this cluster was found to be negatively associated with teacher assessment of student behavior improvement in terms of *Participating in Class* ( $p < .05$ ), *Behaving Well in Class* ( $p < .10$ ), and school-year 21st CCLC attendance ( $p < .01$ ). (Note: *Participating in class* and *Behaving Well in Class* are teacher survey items.)

## Program Impact Estimates

The evaluation team employed a quasi-experimental research design to examine the impact of 21st CCLC program participation on reading and mathematics achievement as measured by the NJ ASK and HSPA assessments. Key findings from these analyses follow.

For reading achievement, there was no significant impact of 21st CCLC program participation on students pooled across grade levels (at the 0.10 significance level). This was true in relation to both NJ ASK and HSPA scores, when participation in the program was defined at either 30+ days or 70+ days, and when results for students scoring below proficiency in 2010–11 were solely considered. However, significant positive effects were found for students in Grades 6 and 7 when participation was defined at 70+ days. These effects were small, with 21st CCLC participants achieving 0.075 and 0.116 standard deviations units higher than the comparison group, respectively. A small negative effect of  $-0.065$  standard deviation units also was associated with students in Grade 4 attending programming for 30+ days.

For mathematics, there was a statistically significant positive impact of 21st CCLC program participation for 70+ day participants (looking at students pooled across all grades levels at all 94 sites). This group achieved .049 standard deviation units higher than the comparison group. These findings indicate that there was a small, significant impact of 21st CCLC participation on mathematics achievement. When students scoring below proficiency in 2010–11 were solely considered, there was a statistically significant positive impact of 21st CCLC program participation at both the 30+ day (0.061 standard deviation units) and 70+ day thresholds (0.054 standard deviation units). The largest effects were in relation to mathematics performance in Grade 7, which ranged from 0.086 to 0.144 standard deviations units depending upon the population examined.

## **Recommendations**

Analyses conducted during the course of 2011–12 evaluation suggest some of the leading indicators require revisiting, particularly in relation to the timing of when leading indicator data are collected and analyzed and how best to make use of data related to the provision of certain types of offerings like those targeting reading and mathematics and student participation in them. Because there is some indication that some clusters performing at lower levels on the indicators are related negatively to student outcomes, it may make sense to examine the practices articulated in these quality domains; to refine measurement approaches; to work through a process of defining what constitutes proficient levels of practices in each; and to collaborate with the state’s technical assistance provider to find ways to build capacity in these areas.

These matters will be taken up in the next evaluation contract, providing specific program improvement areas for investigation and follow up. During 2013-14, the first year of the next contract, the evaluation team will begin holding discussions with NJDOE and the Evaluation Advisory Group (EAG) regarding overall revision to the leading indicators based on actual use, available data, and potential or desired use in the future. The timing of data-collection activities that support the population of the leading indicators will also be considered. Further, feedback on the use of leading indicator reports will be collected from the grantees during the summer data session in 2014.

Based on findings in this evaluation report, discussions with NJDOE and the EAG, and grantee feedback regarding the leading indicators, the evaluation team will create a plan for revision of the leading indicators during late 2014. Pending revision and NJDOE or EAG decisions, the goal will be to implement the revision plan during the first half of 2015 in time for data collection activities in the second half of 2015.

## Chapter 1. Introduction

For almost a decade, 21st Century Community Learning Centers (21st CCLC) operating across the state of New Jersey have provided students in high-poverty communities the opportunity to participate in academic enrichment programs and other youth development and support activities designed to enhance their academic well-being. The primary purpose of this report is to highlight how well afterschool programs funded by 21st CCLC have fared relative to the goals and objectives specified for the program by the New Jersey Department of Education (NJDOE) in terms of supporting student growth and development. In particular, this report seeks to explore how the characteristics of both programs funded by 21st CCLC and the students participating in afterschool activities and services at these sites may be related to the achievement of desired program outcomes. For example, are certain program or student characteristics more apt to be associated with gains in student achievement and related outcomes than others are? How does center functioning on key quality indicators relate to student outcomes? How do the academic outcomes of students who participated in the 21st CCLC program compare with the results of similar students not participating in the program?

In addition, this report outlines how well New Jersey 21st CCLC grantees performed in relation to a set of *leading* and *summative* indicators defined for the program that are meant to assess how well grantees are (a) implementing programming that is likely to support the achievement of the goals and objectives specified by NJDOE for the 21st CCLC program and (b) obtaining desired student outcomes. It is intended that this information will provide additional guidance and insight to NJDOE and grantees currently providing programming about the steps that should be taken to further support and undertake meaningful program improvement efforts.

The information contained in this report is the result of data collected and analyzed as part of a statewide evaluation, currently being conducted by American Institutes for Research (AIR) of the 21st CCLC program in New Jersey. The majority of the results outlined in this report are associated with 21st CCLC-funded activities and services delivered during the course of the 2011–12 school year.

The report has been organized around a series of chapters each addressing a major topic or theme. In Chapter 1, a summary of the evaluation questions is provided and an explanation of why these questions are important to the field. In addition, a description of the methods used to carry out the evaluation also is provided in Chapter 1, including data sources and analytic techniques to address the primary evaluation questions. Following an overview of the evaluation methods, key grantee, center, and student characteristics are summarized in Chapter 2, with a particular emphasis on characteristics that have been to be related to improving student academic achievement and attaining desired program outcomes. In Chapter 3, the leading indicator system is then summarized and explained with regard to how information relates to future evaluation and technical assistance efforts. Finally, in Chapters 4 and 5, respectively, analyses for evaluating the impact of 21st CCLC participation on student-level outcomes are summarized and preliminary conclusions and recommendations to guide future evaluation and program improvement efforts are provided.

## Chapter 2. Evaluation Questions and Methods

The information collected and analyzed in relation to the 2011–12 school year was meant to answer four primary evaluation questions related to implementation of the New Jersey 21st CCLC program and the impact of the program on desired student outcomes:

1. What were the primary characteristics of programs funded by 21st CCLC and the students served?
2. How did centers perform on the leading indicators defined for the program, and how is this level of performance relevant to thinking about what additional supports, training, and professional development NJDOE should potentially invest in?
3. To what extent is there evidence of a relationship between select program and student characteristics and the likelihood that students demonstrated the following:
  - a. Higher levels of attendance in 21st CCLC
  - b. An improvement in behaviors likely to be supportive of better academic achievement
  - c. Higher academic achievement in reading/language arts and mathematics
4. To what extent is there evidence that students participating in services and activities funded by 21st CCLC demonstrated better performance on state assessments in reading and mathematics compared with similar students not participating in the program?

Collectively, this domain of evaluation questions is representative of both the goals and objectives NJDOE has specified for the 21st CCLC program and of some of the more pressing questions currently before the afterschool field nationally. 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 and Common Core State Standards” (State of New Jersey Department of the Treasury, 2013, p. 1). The staff members at NJDOE responsible for administering the 21st CCLC program have taken steps to further operationalize this goal by specifying a series of objectives that outline what is to be achieved in this regard and by what 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.
  - Objective 1.1: The grantee will establish and maintain partnerships and collaborative relationships with schools, families, youth, and the community to enhance students’ access to a variety of learning opportunities.
  - Objective 1.2: The grantee will adopt intentional strategies and research-based practices designed to support student skill building and mastery, both academically and from a youth development perspective.

- Objective 1.3: The grantee will adopt practices to support the orientation, training, and development of afterschool staff members in the adoption and use of intentional strategies and research-based practices to ensure program quality.
- Objective 1.4: Students regularly participating in the program will be positively impacted in terms of performance on state assessments in reading and mathematics.
- Objective 1.5: Students regularly participating in the program will demonstrate improved school-day attendance, decreased disciplinary actions or other adverse behaviors, improved social emotional functioning, and the development of 21st century skills.

The five objectives can be further broken down into two primary types. Objectives 1.1 (establishing and maintaining partnerships), 1.2 (intentional adoption of strategies and practices), and 1.3 (supports to ensure program quality) detail operational elements that are seen by the state as being supportive of the academic achievement and behavioral outcomes central to the 21st CCLC program. Objectives 1.4 and 1.5 are more summative in nature, providing more detail about what constitutes improvement in academic achievement and behavior outcomes.

Additional insight into how staff members responsible for the administration of 21st CCLC at NJDOE see programmatic characteristics and attributes leading to the achievement of desired youth outcomes can be gleaned from the other two goals, and their associated objectives, which are formally identified by NJDOE for the program:

- Goal 2: To implement activities that promote parental involvement and provide opportunities for literacy and related educational development to the families of participating students.
  - Objective 2.1: The agency will establish collaborative relationships that offer opportunities for literacy and related educational activities to the families of participating students.
  - Objective 2.2: Parents participating in grant-funded activities will increase their involvement in the education of children under their care.
  - Objective 2.3: Grantees will adopt intentional strategies to communicate to parents and adult family members about program goals and objectives, activities, and their child's experience in the program.
- Goal 3: To measure participants' progress and program effectiveness through monitoring and evaluating.
  - Objective 3.1: Throughout the grant period, the grantee will continually assess program quality and effectiveness and use this information to support quality improvement.
  - Objective 3.2: The grantee will work to obtain data on students' in-school progress in the areas of academic achievement, behavior, and social development and use this information to inform the design and delivery of programming.
  - Objective 3.3: Throughout the grant period, the grantee will adopt measures as needed within the program when data are not available from other sources to assess

(a) youth engagement in program activities, (b) the academic or social emotional needs of participating youth, and (c) program impact.

- Objective 3.4: The grantee will measure the impact of the program on family members of participating students.

The objectives associated with Goals 2 and 3 pertain (a) to engaging parents and other adult family members of 21st CCLC students in programming directly and keeping them apprised of how the program is serving their children or (b) to ensuring measures and practices are in place to assess the quality of program implementation and impact to inform program improvement efforts.

Collectively, then, the domain of goals and objectives established by NJDOE appear to directly or indirectly reinforce the primacy of student achievement and behavioral change as the outcomes of greatest interest and suggest that programs can take steps to realize these outcomes as follows:

- Establish and maintain partnerships and collaborative relationships within the community.
- Adopt strategies and practices that support student skill building and mastery, both academically and from a youth development perspective.
- Implement activities that promote parental involvement and provide opportunities for the development to the families of participating students.
- Ensure measure and approaches are in place to assess program quality and effectiveness and use this information to support quality improvement.

These operational elements and approaches are represented in recent efforts in the field of afterschool education to identify the features of high-quality afterschool program (Granger et al., 2007; Little, 2007; Wilson-Ahlstrom & Yohalem, 2007; Vandell et al., 2005; Yohalem & Wilson-Ahlstrom, 2009). Generally, many of the measures developed and adapted for use in carrying out this evaluation are meant to assess how 21st CCLC grantees are performing across the operational elements and attributes embedded both in NJDOE's goals and objectives for the program and in those characteristics that the current best-practices literature suggests are associated with program features likely to affect positively student achievement and related outcomes.

## **Methods, Data Sources, and Analysis**

Data collected and analyzed to carry out the 2011–12 evaluation effort was obtained from four primary sources, which included administrative data systems, surveys, and a data collection application designed to collect more standardized local evaluation data. Each source and how it contributed to the project is outlined in greater detail in the following section.

### **Program Activity and Review System (PARS21)**

PARS21 is a Web-based data collection system developed and maintained by the NJDOE that collects directly from grantees a broad array of program characteristic, student demographic,

attendance, and outcome data throughout the program year. Data extracted from PARS21 were used to construct variables summarizing the activity and staffing models employed by sites, program maturity and organization type, levels of program attendance, and teacher survey-based outcome data in relation to the 2011–12 school year. Several variables employed in analyses oriented toward assessing the relationship between program and student characteristics and behavioral outcomes were derived from PARS21 data. Data extracted from PARS used to carry out analyses summarized in this report were obtained during the spring and fall semester of 2012 and early in 2013.

## **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. 21st CCLC project directors were directed to select those staff members that worked most frequently in their program and delivered activities that were most aligned with their center’s 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. Survey data collection took place between December 2011 and February 2012. In all, 694 complete surveys were obtained from 106 centers<sup>4</sup> active during the 2011–12 school year, an average of approximately seven completed surveys per site. Questions asked on the staff survey can be found in Appendix A.

## **New Jersey 21st CCLC Evaluation Template and Reporting System**

Newly developed by AIR as part of the statewide evaluation, 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

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<sup>4</sup> Centers operating during summer 2011 only were not included in this data collection activity.

programs funded by 21st CCLC, based on information garnered from local evaluation efforts. The system is designed to collect information at two time points: (1) midyear through a given school year and (2) at the end of given contract year. The system is composed of the following sections:

- Program operations
  - Enrollment and recruitment
  - Policies and procedures
  - School-day links
  - Program staff members
  - Monitoring tools
  - Summer programs
- Goals
  - Goal A: Improve student academic achievement
  - Goal B: Improve student behavior and attitudes.
  - Goal C: Improve parent education and involvement
  - Goal D: Improve community partnerships
- Conclusions and Recommendations

Completion of both the midyear (December 2011 to February 2012) and end-of-year reports (August to November 2012) was undertaken by project directors, oftentimes in conjunction with their local evaluators. The ETRS went into full production during spring 2011 and was used to collect midyear and end-of-year evaluation report information from each of the 106 21st CCLC-funded centers active during the 2011–12 school year.

### **New Jersey Standards Measurement and Resource for Teaching (NJ SMART) Data Warehouse**

Steps also were taken in fall 2012 and early 2013 to obtain access to New Jersey Assessment of Skills and Knowledge (NJ ASK) scores in reading and mathematics from the NJ SMART data warehouse maintained by NJDOE for 21st CCLC participants served during the course of the 2011–12 school year for students in Grades 4–8. Similar scores also were obtained for 21st CCLC students in Grade 11 that took the High School Proficient Assessment (HSPA) in spring 2012. Similar data also were obtained for those students attending the same schools as the 21st CCLC participant population who did not participate in the program during these periods. These data were used to conduct an analysis of the impact of the program on mathematic and reading achievement, predicated on comparing program participants with nonparticipants.

### **Analytic Approach and Methods**

Although previous reports prepared by the AIR evaluation team as part of this project have included findings predicated on both qualitative and quantitative approaches, the findings

outlined in this report are purely quantitative. This approach was largely driven by both the evaluation questions being answered and the resources available to carry out the project during the latter two years of the project. Analyses highlighted in this report fall within five general categories:

1. *Descriptive Analyses.* Information related to grantee, center, and student characteristics obtained from PARS, NJ SMART, the staff survey, and the ETRS reports were analyzed descriptively to explore the range of variation on a given characteristic. Some of the leading indicator also were calculated employing descriptive analysis techniques.
2. *Analyses to Create Scale Scores.* Many questions appearing on the staff 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 Figure 1, which outlines the questions making up the *Intentionality Program Design* scale that appeared on the staff survey.

**Figure 1. An Example of a Survey Scale Calibrated Using Rasch Techniques**

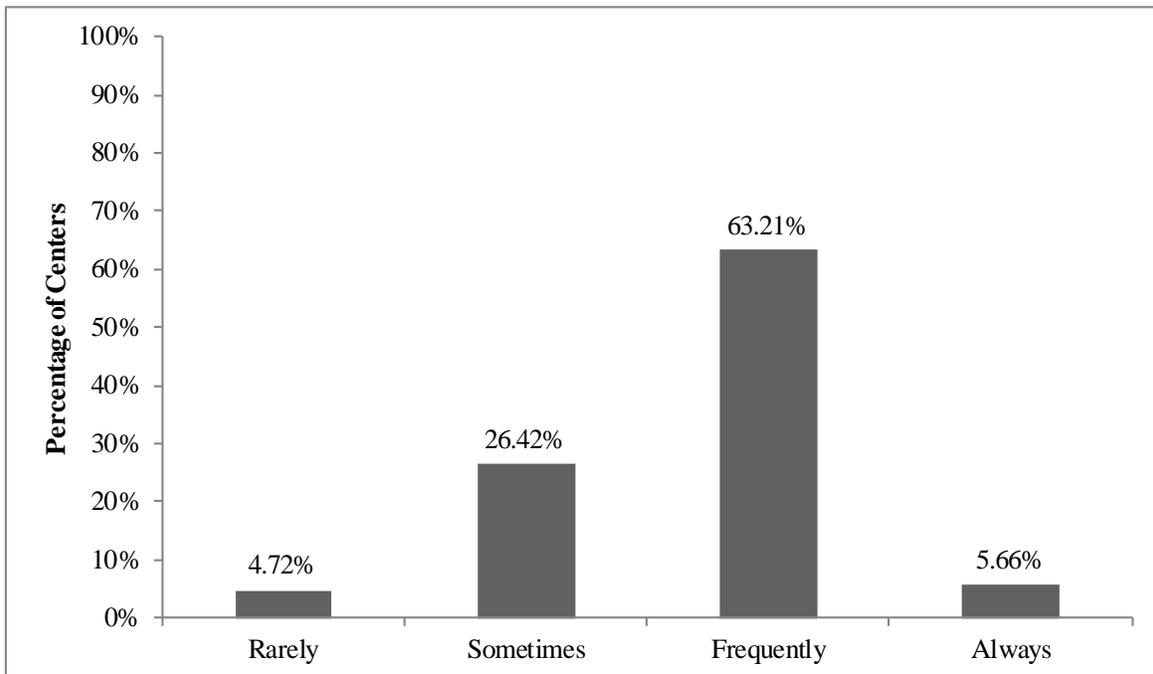
<b>How often do you lead or participate in program activities that are...</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Frequently</b>	<b>Always</b>
a. Based on written plans for the session, assignments, and projects?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b.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

For scales like this, Rasch scale scores were created using staff member and project director responses to a series of questions to create one overall score. These scale scores ranged from 0 to 100, where higher scores were indicative of a higher level or more frequent adoption of a specific quality practice or set of practices. Center-level scale scores derived from the ETRS reports represented responses from one respondent, most likely the project director, while scale score based on staff survey data represented the

average of scale scores for all staff respondents who took the survey associated with a given center.

Scale scores resulting from the application of Rasch approaches also can be used to classify what portion of the rating scale the average scale score fell within. For example, the statewide mean value for the *Intentionality in Program Design* scale highlighted in Figure 1 was 60.81, which put the statewide average in the *frequently* range of the scale, indicating the typical staff member responding to the survey reported engaging in these practices on a frequent basis. As shown in Figure 2, this approach also allowed the evaluation team to explore the distribution of centers in light of what response option their average scale score put them in. As shown in Figure 2, 63 percent of centers had an average scale score, which put them in the *frequently* range of the scale.

**Figure 2. Distribution of Average Center Scale Score on the Intentionality in Program Design Scale by Response Option**



Source: Data from 693 staff survey responses associated with 106 centers were used.

The primary benefit of this approach is the capacity to distill responses from several questions down into one overall score for the center, simplifying the process of interpreting how a center did on a given element of quality, particularly in relation to other programs in the state.

3. Hierarchical Cluster Analysis. Hierarchical cluster analysis was employed to combine centers into groups based on how well they scored on the leading indicator data collected during the 2011–12 school year. Cluster analysis is typically employed to combine cases (or, in this case, centers) into groups using a series of variables as criteria to determine the degree of similarity between individual cases and is particularly well suited when there is a desire to classify a large number of cases into a smaller domain of discrete

groupings. Employing this approach allowed the evaluation team to synthesize the full domain of leading indicator data into a series of more discrete and meaningful quality profile types, making it easier to describe how centers active during the 2011–12 school year performed relative to the indicators overall and to create variables that could more easily be added to the multilevel models described later.

4. **Correlational Multilevel Modeling Techniques.** Several multilevel models were run to explore the relationship between center-level and student-level characteristics associated with sites funded by 21st CCLC and student level outcomes, including attendance in 21st CCLC programs, teacher-reported improvement in academic-related behaviors, and performance on state assessments in reading and mathematics. Although these analyses afford the capacity to say if a significant relationship existed between a center- or student-level characteristic and a given outcome like mathematics achievement, these approaches cannot indicate that a given characteristic caused a given outcome. In this sense, these analyses are correlational, but not causal, in nature.
5. **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 participation on student performance in reading and mathematics using NJ ASK and HSPA scores obtained from NJDOE. 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 do 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.

In Table 1, a summary is provided of what methods were employed to answer a given evaluation question.

**Table 1. Summary of Methods by Evaluation Question**

	<b>Descriptive Analysis</b>	<b>Rasch Analysis</b>	<b>Hierarchical Cluster Analysis</b>	<b>Correlational Multilevel Modeling</b>	<b>Propensity Score Matching</b>
What were the primary characteristics of programs funded by 21st CCLC and the students served?	✓				
How did centers perform on the leading indicators defined for the program, and how is this level of performance relevant to thinking about what additional supports, training, and professional development NJDOE should potentially invest in?	✓	✓	✓		
To what extent is there evidence of a relationship between select program and student characteristics and the likelihood that students demonstrated:					
Higher levels of attendance in 21st CCLC?				✓	
An improvement in behaviors likely to be supportive of better academic achievement?				✓	
Higher academic achievement in reading/language arts and mathematics?				✓	
To what extent is there evidence that students participating in services and activities funded by 21st CCLC demonstrated better performance on state assessments in reading and mathematics compared with similar students not participating in the program?					✓

## Limitations and Challenges

It is important to note that there are a number of limitations associated with the methods employed to support the evaluation. The primary limitation of the results highlighted in this report relate to the fact that most of the data sources employed to answer the first four evaluation questions outlined in Table 1 are predicated to some extent on self-reported data provided by 21st CCLC grantee staff members. This characteristic of most of the data analyzed to prepare likely led to the introduction of some level of error into the process predicated on the following:

- **Imperfect Recall and Motivation.** The staff survey, ETRS reports, and even PARS21 contained items that required respondents to mentally review events, conversations, practices, and experiences that took place during the 2011–12 school year and then decide which rating scale option best summarized their perceptions. It is likely that some respondents were more adept at this than others and that some responses were better than others. Similarly, some respondents were likely more motivated than others were to be diligent as they selected a response—investing time and making more efforts to recall events.
- **Social Desirability.** Anyone reading the items appearing on each of the measures employed as part of the evaluation could quite easily select a response that would indicate a high level of functioning on the program implementation element under consideration. Respondents motivated to put their program's best foot forward may have been apt to choose a favorable response—one that reported a higher level of functioning than was actually the case—thereby biasing the estimate of 21st CCLC program implementation derived from their responses.

To partially account for these two concerns, data were triangulated across source to look for consistent evidence of implementation. This was especially done when analyzing leading indicator data as described further in Chapter 4.

For both the correlational multilevel and propensity score-based impact models described in this report, the primary limitation is the likely existence of other nonobserved variables that have an important impact on the relationship between student participation in 21st CCLC and youth outcomes. Our approach to addressing this limitation is based on theory, with the evaluation team taking steps based on the set of resources available to measure those characteristics of programs and students that are theoretically likely to have an impact on the student outcomes under consideration.

## Chapter 3. Grantee, Center, and Student Characteristics

21st CCLC programs 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 2011–12 school year.

### Grantee Characteristics

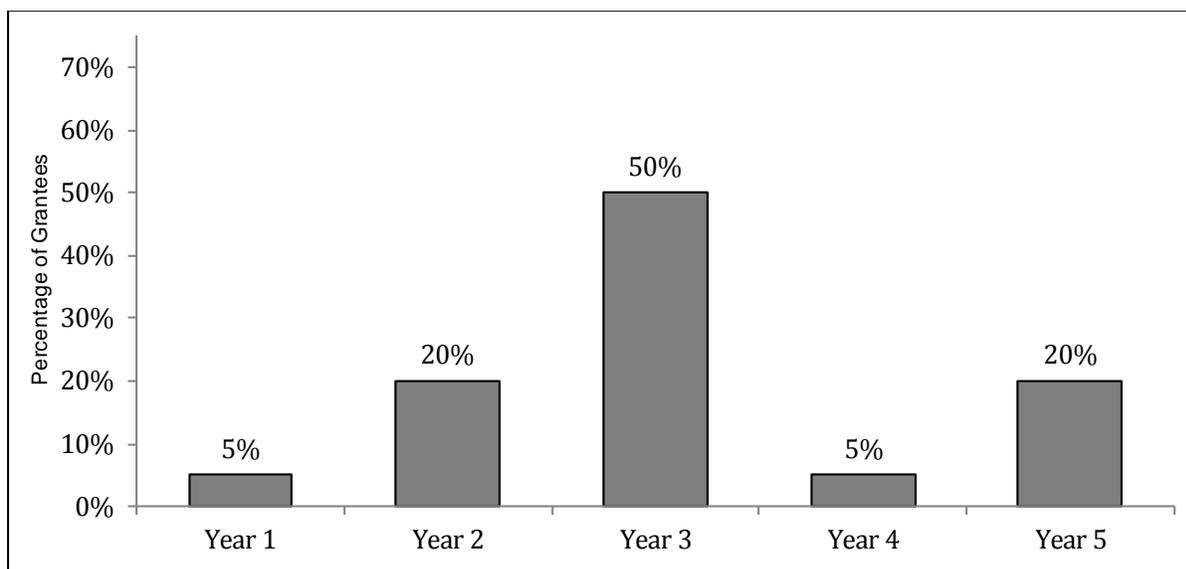
There are some elements associated with the design of the 21st CCLC program that make grantee-level characteristics (e.g., maturity and the type of organization serving as the grantee) worth examining when trying to ferret out which characteristics are likely to be associated with positive youth outcomes. In this instance, 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 entities and whether it is ultimately responsible for administering grant funds at the local level.

### Grantee Maturity

Two elements of how 21st CCLC programs function that are increasingly receiving attention in terms of exploring issues related to program quality relate to how programs evolve during the grant period to enhance the likelihood of program sustainability after the grant period is over and how they adjust to a step down in grant funding as they mature. 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 or the changes in funding levels. In addition, the hope is that grantees over time would learn (1) how to provide more effective and engaging programming for youth and (2) how to more meaningfully embed academic content into their program offerings in ways that address the needs of the students they are serving. As shown in Figure 3, the majority of the grants active during the 2011–12 school year were in Year 3 of funding. Given that 21st CCLC grants can be made for a maximum of five years, many of the programs active during this period could be considered to be mature, having had the opportunity to work out the kinks in their program delivery strategies with two years of programming remaining.

In the correlational, multilevel outcome models outlined later in this report, the year of funding associated with each grantee is applied to each center funded under the auspices of the grant in question as a way to explore the relationship between program maturity and the likelihood that desired youth outcomes were achieved.

**Figure 3. Number of Grantees by Year of Operation**

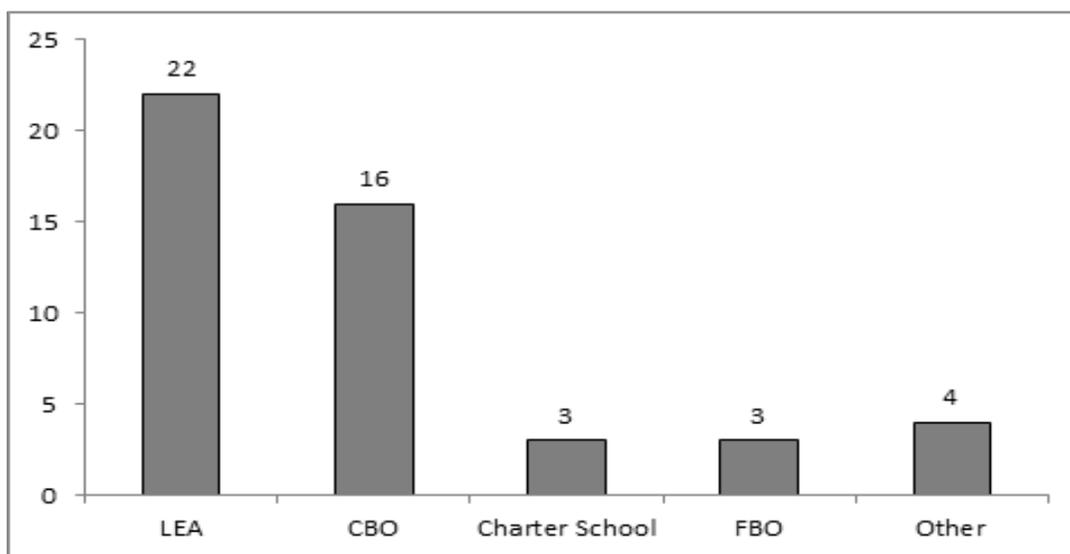


Source: PARS21.

### Grantee Organization Type

One of the interesting elements of the 21st CCLC program is that all types of organizations are eligible to apply for and receive 21st CCLC grants. As shown in Figure 4, just less than half of grants active during the 2011–12 school year were held by school districts, and community-based organizations accounted for slightly less than one-third of the grants active during this period (an increase from 2008–09). All told, slightly more than 20 percent of the grants were held by faith-based organizations, businesses/corporations, and other entities, including units of local government and colleges and universities.

**Figure 4. Number of Grantees by Organization Type**



Source: PARS21.

Like grantee maturity, organizational classification associated with each grantee is applied to each center funded under the auspices of the grant in question. This concept is presented in the correlational, multilevel outcome models outlined later in this report as a way to explore the relationship between organization type and the likelihood that desired youth outcomes were achieved.

## **Key Center Characteristics**

One of the primary goals of this report is to examine the relationship between key center characteristics and the likelihood that centers will have a positive impact on student achievement and behavioral outcomes. It is important to note that in this report, the term *center* is used to refer to the physical location where 21st CCLC–funded services and activities take place. Centers are characterized by defined hours of operation, have dedicated staff members, and have a site coordinator to manage operations at the center. Each 21st CCLC grantee in New Jersey has at least one center; many grantees have more than one center.

In addition, 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. Although these types of variables are included in models oriented toward assessing the impact of the program on desired student outcomes, this report does not focus on them in depth.

Other characteristics at a site, such as the staffing model, are still somewhat ambiguous when viewed from a quality practice standpoint, with the literature less clear 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. The analyses contained in this report are intended to build an understanding of whether certain staffing models seem to be more often associated with positive youth outcomes and thereby warrant consideration as a quality practice worthy of emulation and replication. Like the characteristics detailed earlier, however, this report does not spend a great deal of time exploring this from a purely characteristic standpoint.

## **Staffing Clusters and Ratios**

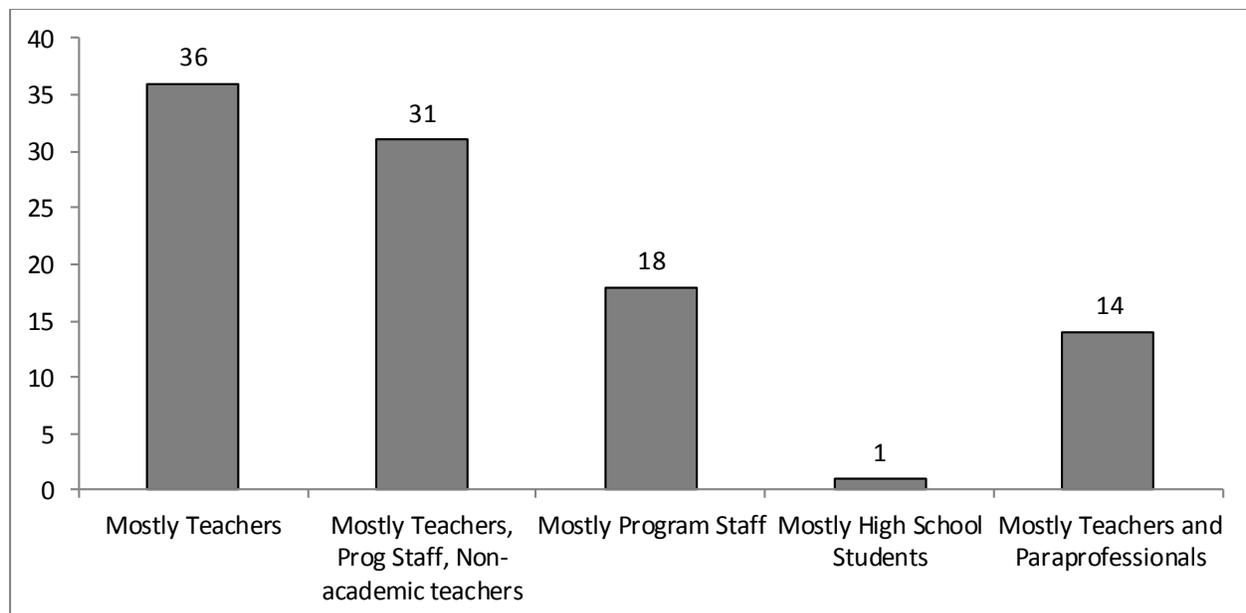
Like their counterparts nationally, programs funded by 21st CCLC in New Jersey employ a variety of staff members, including academic teachers, nonacademic teachers, college and high school students, counselors, paraprofessionals from the school day, and other program staff members with a wide spectrum of backgrounds and training. To more effectively summarize the different staffing models employed by centers during the 2011–12 school year, an effort was made to classify centers into groups or clusters using cluster analysis techniques, based on the extent to which they relied upon different categories of staff to deliver programming during the school year in question. In this instance, the variables used to create the clusters represented the percentage of total paid staff members who were academic teachers, nonacademic teachers, counselors, and other staff members working at a center during the school year. Data used to

construct these variables were obtained from PARS21. As shown in Figure 5, four primary staffing models were identified:

- *Centers staffed mostly by teachers.* On average, 71 percent of the staff members associated with centers in this cluster were academic teachers.
- *Centers staffed mostly teachers, program staff members, and nonacademic teachers.* On average, 32 percent of the staff members associated with centers in this cluster were teachers, 22 percent were program staff members, and 16 percent were nonacademic teachers.
- *Centers staffed mostly by program staff members.* On average, 59 percent of the staff members associated with centers in this cluster were classified as simply program staff members.<sup>5</sup>
- *Centers staffed by high school students.* This cluster, consisting of one center only, had 100 percent high school students provided as staff.
- *Centers staffed by teachers and paraprofessionals.* On average, academic teachers represented 29 percent of staff in this cluster, with 26 percent represented by paraprofessionals.

Overall, centers were most apt to be classified in either the Mostly Teachers or Mostly Teachers and Program Staff. Again, variables related to staffing cluster membership are included in the impact analyses that appear later in this report.

**Figure 5. Number of Centers by Staffing Cluster Type**



Source: PARS21.

<sup>5</sup> *Program Staff* is one of the options that can be selected in PARS21 when selecting the *StaffType*.

For the purposes of testing outcomes, centers were considered by whether they were identified as being in the *Mostly Teachers* cluster (a binary variable).

In addition to exploring the various approaches to staffing employed by centers during the 2011–12 school year, an effort was made to calculate the average student-to-staff ratio associated with activity sessions provided during the span of the school year in question. As shown in Table 2, the average student-to-staff ratio was found to be approximately one staff member for every eight youth participating in specific activities, although the span of ratios was quite broad, ranging from just under 1 to 52. Information on student-to-staff ratios is examined in the impact models outlined later in this report.

**Table 2. Average Student-Teacher Ratio per Center, 2011–12**

	<i>N</i>	Minimum	Maximum	Mean	Standard Deviation
2011–12 Student-staff ratio	94	0.68	52.49	7.88	6.59

Source: PARS21.

### Participation in Reading and Mathematics Activities

Another approach to examining students’ participation in 21st CCLC programming offered during the span of the 2011–12 reporting period is to explore the extent to which students participated in activities that were meant to support skill building in mathematics and reading, regardless of activity type (e.g., enrichment, tutoring). 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 outlined in Table 3, students on average participated in approximately 25 hours of reading/literacy programming during the 2011–12 reporting period and 20 hours of mathematics programming. Each of these variables is included in models related to academic outcomes highlighted later in this report.

**Table 3. Average Number of Hours in Reading and Mathematics per Student, 2011–12**

	<i>N</i>	Minimum	Maximum	Mean	Standard Deviation
2011–12 reading/literacy education activities	13,752	0.00	401	24.96	45.44
2011–12 mathematics education activities	13,752	0.00	399	19.55	40.77

Source: PARS21.

### Grade Levels Served

A topic garnering increasing attention on the federal stage relates to the role grade level plays in terms of (1) how 21st CCLC programs should structure their operations and program offerings and (2) the domain of outcomes they should be accountable for through performance indicator

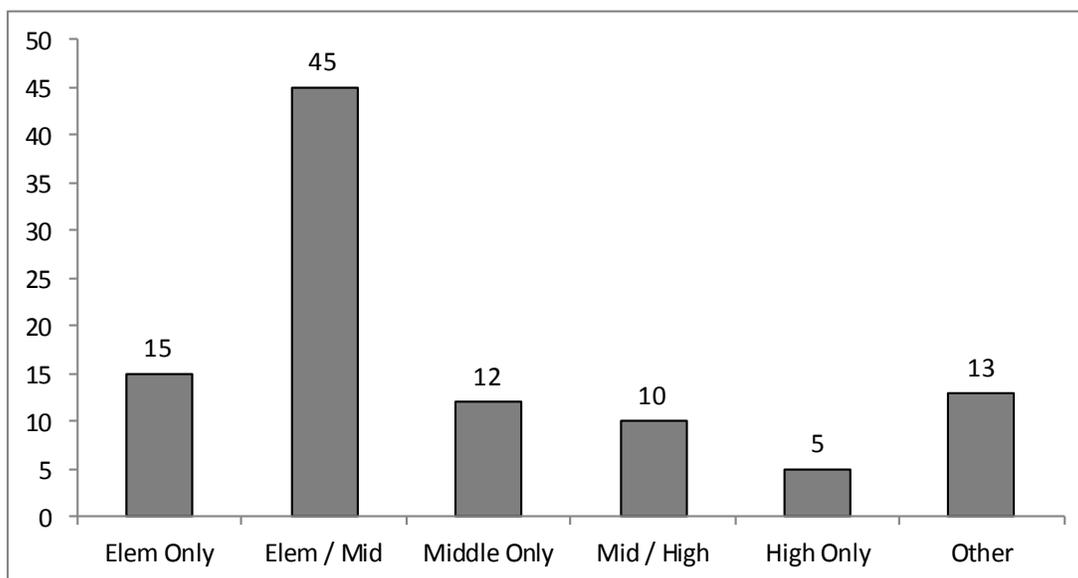
systems. Using student-level data about the grade levels of students attending centers, centers active during the 2011–12 school year were classified as follows:

- *Elementary Only*, defined as those centers serving students up to Grade 6.
- *Elementary/Middle*, defined as those centers serving students up to Grade 8.
- *Middle Only*, defined as centers serving students in Grades 5–8.
- *High Only*, defined as centers serving students in Grades 9–12.

A fifth category, called *other*, includes centers that did not fit one of the five categories and includes centers that served 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. As shown in Figure 6, the bulk of the centers active during the 2011–12 school year served elementary or middle school students in some capacity.

**Figure 6. Number of Centers by Grade Level Served**



Source: PARS21.

## Student Characteristics

During the course of the 2011–12 school year, 13,752 students participated at some level (i.e., attended programming for at least one day during the school year) in 21st CCLC programming at 100 centers active during this period.<sup>6</sup> This population was diverse, as shown in Table 4. Generally, the population of students served during the 2011–12 school year was black and Hispanic/Latino; was enrolled in elementary or middle school, especially in Grades 4–6; and was eligible for the free or reduced-price lunch programs.

**Table 4. Summary of Demographic Information for Students, 2011–12**

	Demographic Category	2011–12	
		Number of Students	Percentage
<b>Race/Ethnicity</b>	White	1,859	13.6%
	Black	4,686	34.2%
	Hispanic/Latino	6,268	45.7%
	Asian	343	2.5%
	Native American	22	0.2%
	Pacific Islander	43	0.3%
	Unknown	486	3.5%
<b>Gender</b>	Male	6,968	50.8%
	Female	6,739	49.2%
<b>Grade Level</b>	4	2,376	17.6%
	5	2,130	15.8%
	6	2,635	19.5%
	7	2,070	15.3%
	8	1,729	12.8%
	9	1,108	8.2%
	10	507	3.8%
	11	483	3.6%
<b>Free or Reduced-Price Lunch</b>	Reduced	1,369	10.0%
	Free	9,117	66.5%
	Not available	3,221	23.5%

Source: PARS21.

<sup>6</sup> One hundred centers active during the 2011–12 school year were found to have student-level attendance records in PARS21, confirming participation in actual activity sessions during the span of the school year.

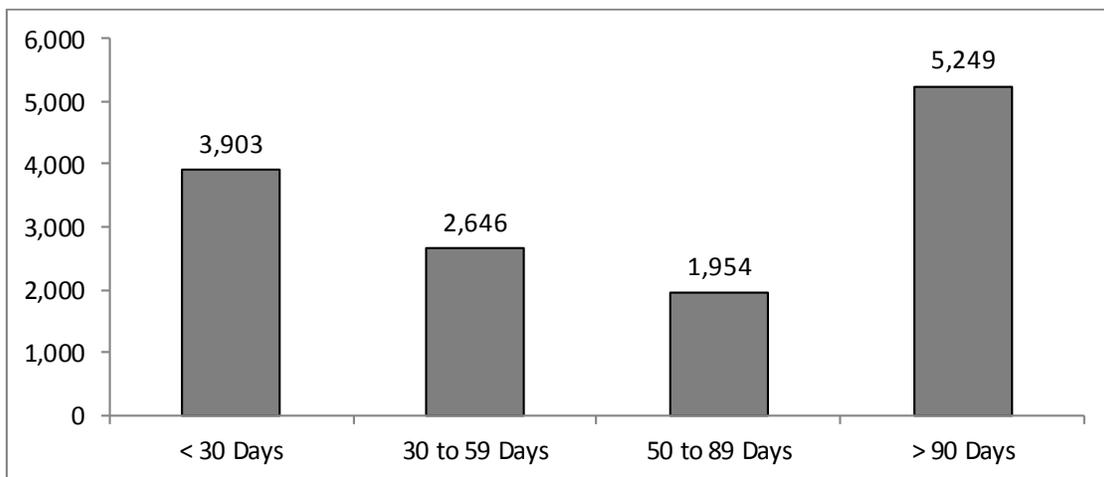
## Student Attendance Levels

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 (1) the total number of students who participated in the center’s programming throughout the course of the year, and (2) the 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 2011–12 school year, the average number of days attending 21st CCLC programming was 70. In Figure 7, the student population served during the 2011–12 school year is broken down into four attendance gradations—the percentage of students attending fewer than 30 days, those students attending 30 to 59 days, those students attending 60 to 89 days, and those students attending 90 days or more. As shown in Figure 7, slightly less than one third of the students (28.4 percent) attended fewer than 30 days, a level consistent with previous years, and slightly more than one third participated for 90 days or more (38.2 percent), which is higher than what has been witnessed in prior years, which were closer to 30 percent. These thresholds are directly relevant to some of the impact data examined later in this report, given that behavior data derived from the teacher survey are reported only for students attending more than 30 days.

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 that students witnessed gains in student achievement and behavioral outcomes. We certainly have seen evidence of this fact through data collected nationally through the Profile and Performance Information Collection System (PPICS), especially for elementary students (Naftzger, Vinson, & Swanlund, 2011).

**Figure 7. Percentage of Students Served in 21st CCLC by Attendance Gradation**



Source: PARS21.

In addition to levels of program attendance during the course of the 2011–12 school year, we were interested in exploring the extent to which students participating during this period had been attending the program at a given center for more than 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 shown in Table 5, for the vast majority of students, the 2011–12 school year represented the first year they participated in 21st CCLC programming at the center in question; approximately 21 percent were in their second year of participation during the 2011–12 school year. Three or more years of continuous participation was found to be relatively rare.

**Table 5. Continuous Years of Student Participation, 2011–12**

	2011–12	
	Number of Students	Percentage
1 year	8,237	68.7%
2 years	2,546	21.2%
3 years	976	8.1%
4 years	197	1.6%
5 years	30	0.3%

Note: Prior year records were matched to 11,986 students. One year of continuous participation, for example, indicates that a given student is either in his or her first year of programming during the 2011–12 school year or that there was an interruption in participation prior to the 2011–12 school year.

Source: PARS21.

### **Student Attendance Profiles**

An effort was made to determine the extent to which students participated in different types of activities during the school year. To achieve this outcome, we again employed k-means clustering to identify the most dominant student activity profile types within the population of students served during the school year in question.

The first step in this process was to identify for each student what percentage of his or her time in 21st CCLC was spent in each of the following types of activities:

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

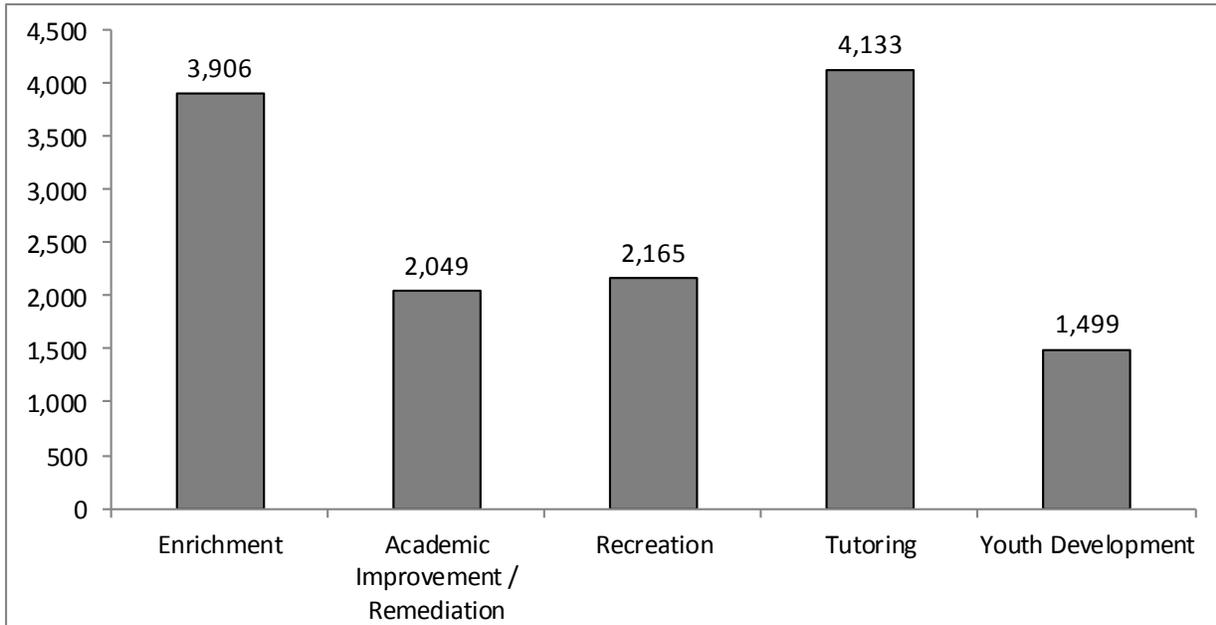
9. Supplemental educational services
10. Community service learning programs
11. Character education
12. Youth development/learning activities

Using these activities, five clusters were identified, each characterized by a dominance of one activity type:

- *Mostly Enrichment*, characterized by an average of 46 percent of time spent in enrichment activities.
- *Mostly Academic Improvement/Remediation*, characterized by an average of 68 percent of time spent in academic improvement/remediation.
- *Mostly Recreation*, characterized by an average of 62 percent of time spent in recreational activities.
- *Mostly Tutoring*, characterized by an average of 48 percent of time spent in tutoring/homework help.
- *Mostly Youth Development/Learning Activities*, characterized by an average of 55 percent of time spent on youth development/learning activities.

The number of students in each cluster is presented in Figure 8. The two largest clusters, roughly twice as large as any of the others, are *Mostly Enrichment* and *Mostly Tutoring*.

**Figure 8. Students by Student Activity Cluster**



Source: PARS21.

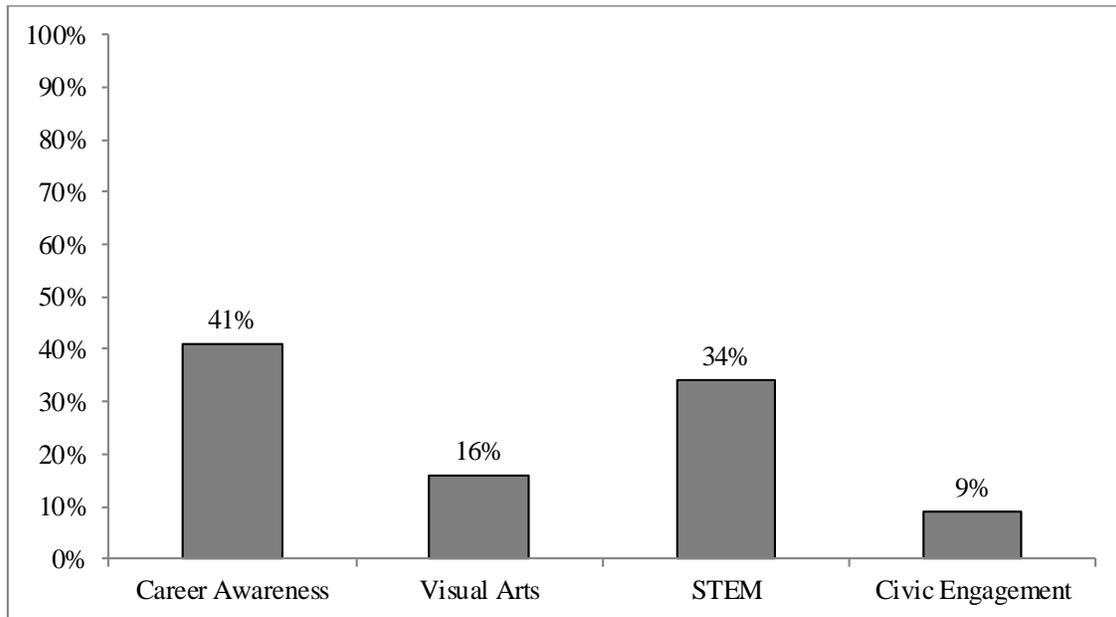
## Activity Themes

During the course of the 2011–12 school year, NJDOE also required grantees in cohort seven to adopt one or more of the following themes when providing activities, while grantees funded in previous cohorts were afforded the option of selecting a theme but were not required to do so. Themes were to be selected 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.

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

Eighty-one percent of centers active during the 2011–12 school year were found to have provided activity sessions associated with one or more of the aforementioned themes based on data reported in PARS21. As shown in Figure 9, 41 percent of centers adopted a career exploration theme, 34 percentage a STEM theme, 16 percent an arts theme, and 9 percent focused on civic engagement.

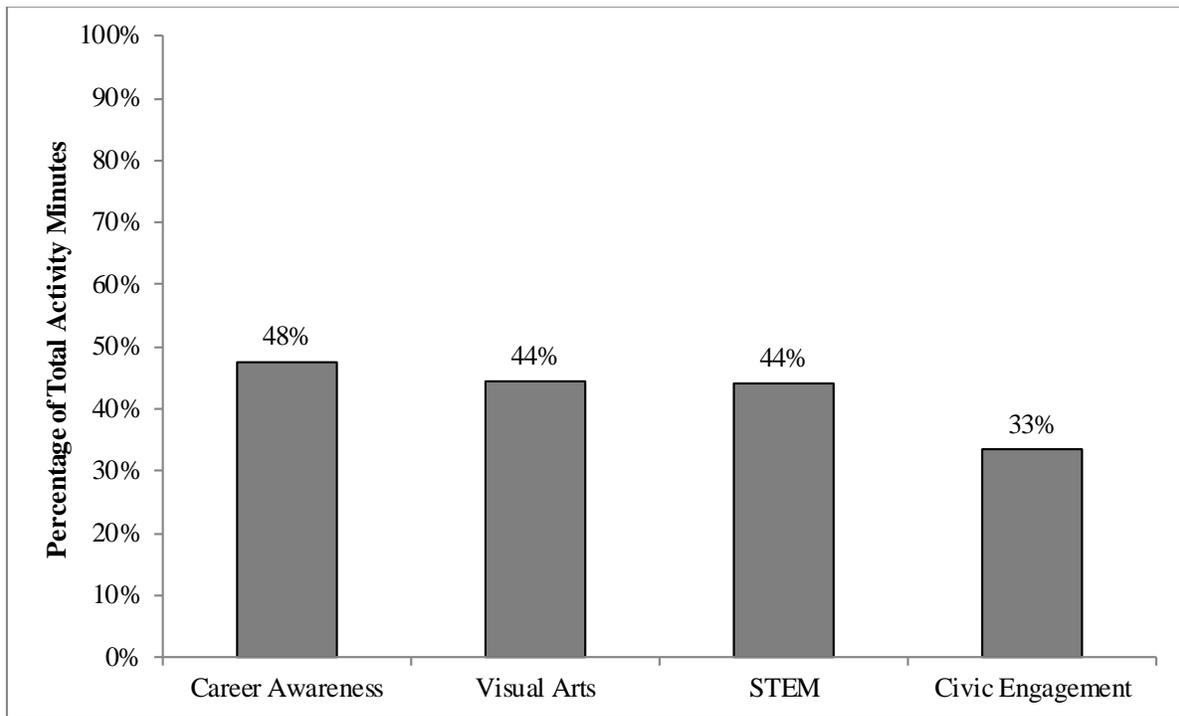
**Figure 9. Percentage of Centers by Primary Theme**



Source: PARS21.

As shown in Figure 10, centers on average spend anywhere from between 33 percent and 48 percent of their total activity minutes for the 2011–12 school year providing activities consistent with their selected theme.

**Figure 10. Percentage of Minutes Dedicated to Selected Theme by Theme Type**



Source: PARS21.

In addition, steps were taken to explore if a center's theme selection in way impact their average level of program attendance in terms of total days attended by participating youth and the responses provided on the staff survey concerning the practices adopted by staff members in the design and delivery program. A series of one-way analyses of variance (ANOVAs) were performed to explore for significant differences across themes, but no significant differences were found.

## Chapter 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/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:

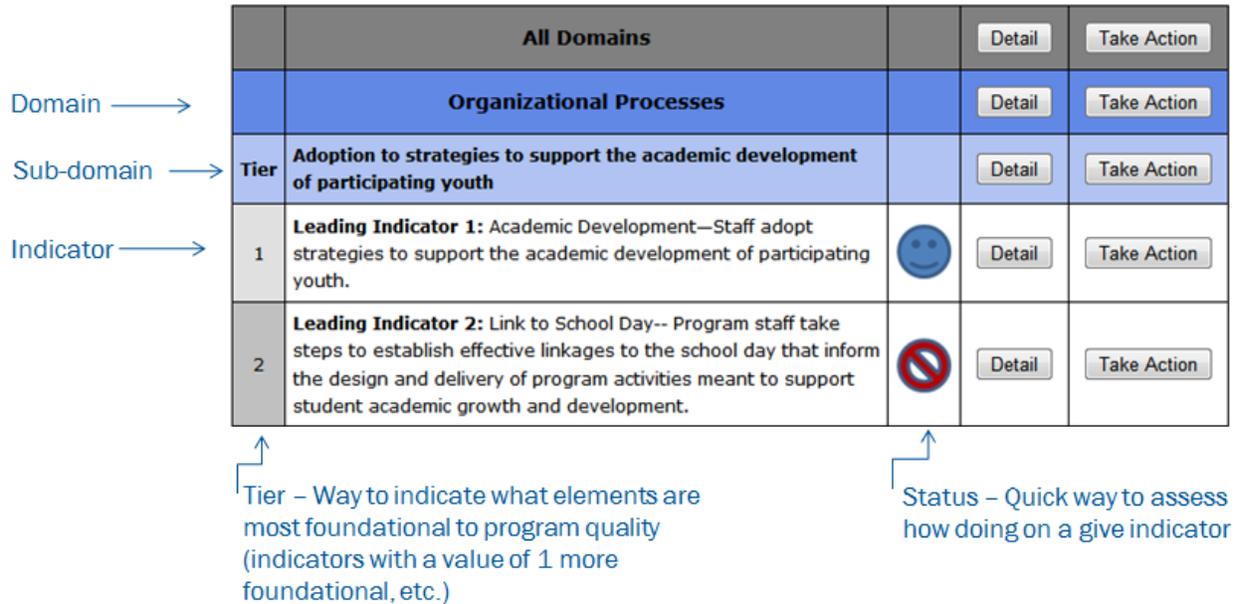
- Summarize data collected as part of the statewide evaluation in terms of how well the grantee and its respective centers are adopting research-supported best practices.
- Allow grantees to compare their level of performance on leading indicators with similar programs and statewide averages.
- Facilitate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

Predicated on data collected from the staff surveys, the ETRS midyear report, and PAR21, the leading indicator system is focused on *quality program implementation* as opposed to youth or program outcomes. It is designed to consolidate and feed back data collected as part of the basic operation of the program (like PARS21 data, for example) and program evaluation efforts to programs regarding the adoption of research-supported practices so 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 outcomes.

The leading indicator system also was meant to be useful to NJDOE staff by supporting the identification of common issues and areas that grantees statewide are struggling with and that can be targeted at statewide project director meetings and trainings to build program capacity in those areas.

Leading indicator data are provided directly to grantees and state users through reports housed in the ETRS, although the latter set of users has access to only aggregate results. An example of what these reports look like can be found in Figure 11.

**Figure 11. Example of Online Leading Indicator Reports**



Clicking on the detail button takes the grantee user to the following page:

**Intentional activity and session design/embedding content:** These words get thrown around quite a bit. What does intentionality really mean? We are talking about being purposeful in embedding (or integrating) content (in this case academic) into fun, engaging, activities that may or may not appear to be academic in nature.



Status	Tier	Indicator	Center (N=7)	Statewide (N=693)	
🚫	2	<b>Leading Indicator 18:</b> Common Core— Staff design and deliver intentional and relevant activities designed to support youth growth and development in mathematics and reading/language arts.	41.1 (Rarely)	60.81 (Frequently)	<a href="#">Take Action</a>

Indicates Scale Score and Response Category Center Classified Within

## How the Leading Indicators Were Organized

The 22 leading indicators can be organized using two different frameworks:

13. By program level
14. By domain of quality practice

The leading indicators were first organized into three overarching domains defined by program level:

1. *Organizational Processes* relate to practices that are defined for the full program and that provide an infrastructure to support implementation of effective practice in the design, delivery, and evaluation of afterschool programming. Good afterschool programs start with sound organizational processes. At the organizational level, program-wide strategies and approaches are developed and implemented to deliver program activities that promote participants' academic success and positive development. This may be represented by the adoption of a specific curriculum for 21st CCLC activities, placing an emphasis on a particular instructional strategy like project-based learning, or focusing on a given content area like STEM. In addition, ideally, steps are taken by programs to strengthen their activities and offerings by forging meaningful partnerships with the community and with families by broadening their scope of program offerings and by including important constituents in program design and delivery. Finally, programs can take steps to ensure their strategies are relevant by engaging in a process of continuous quality assessment and improvement. What characterizes each of these processes is that they are adopted at the organizational level and have ramifications and relevance for the full domain of staff members who work in the program and the students that participate.
2. *Quality at the Point-of-Service* relates to practices that occur at the point-of-service, where staff members and youth directly interact during the provision of an activity or offering. The focus at this level is on the instructional practice of individual staff members. Are steps taken to plan activities with intentionality? Do staff members have access to and make use of data on student academic performance? Are staff members adopting practices that are likely to result in the creation of a supportive, interactive, and engaging environment for participating students? Quality at the point-of-service refers to the program climate experienced by participating youth, the quality of interactions among participants and staff members, and the degree to which supports and opportunities for interaction and engagement are afforded to youth. Quality at the point-of-service is the result of these components (climate, positive interactions, and opportunities for engagement) and is promoted by intentionally designed activities offered by afterschool program staff members, which seek to cultivate these types of experiences for participating youth.
3. *Participation and Engagement* refers to the level of participation by youth and adults in activities provided by 21st CCLC programs. Participants cannot be expected to be positively impacted by the program unless they actually participate in program offerings and activities.

The leading indicators also can be organized into more specific domains of *quality practice*:

1. Strategies and practices that support the academic development of participating youth
2. Strategies and practices that support the development of participating youth from a youth development perspective
3. Strategies and practices that support the engagement and development of parents and adult family members
4. Strategies and practices that support the utilization and engagement of partners
5. Strategies and practices that support program improvement efforts

In the sections that follow, statewide levels of leading indicator performance are summarized by each of the five *quality* domains outlined previously, highlighting which indicators in that *quality* domain are aligned with different *levels* within the program. In addition, results also are provided in relation to hierarchical cluster analyses that were executed to create quality profiles using the indicators associated with a given *quality* domain. Given concerns that imperfect recall and motivation and social desirability may have influenced responses provided by program staff members when completing the ETRS reports and staff surveys in particular, the goal of these analyses was to assess the degree of continuity in leading indicator results across different measures and levels. Three types of situations are believed to be of particular interest:

- **When all indicators suggest above-average implementation in relation to a given quality domain.** These are centers that may warrant further examination to learn more about the strategies that support effective implementation of quality practices. It also would be expected that the likelihood that such centers would have a positive impact on student outcomes would be greater.
- **When all indicators suggest below-average implementation in relation to a given quality domain.** These are centers that could especially benefit from the services and supports provided by NJDOE's technical assistance efforts. Knowing how many centers fall within this category across the various quality domains could prove useful to NJDOE as it structures and prioritizes its technical assistance and training agenda.
- **Mismatches in indicators in relation to a given quality element.** These are centers in which there is divergence in the indicators of implementation within a given domain. These mismatches may suggest a lack of communication and shared vision and understanding among key actors within the program. In these centers, consideration could be given to achieving a shared vision and understanding of the goals, planning requirements, implementation characteristics (e.g., high-level planning and management and day-to-day tasks), program improvement strategies, challenges, and data/outcomes associated with effective implementation of 21st CCLC programming.

## **Strategies and Practices That Support the Academic Development of Participating Youth**

Each of the programs funded by 21st CCLC has the expressed goal of improving student achievement outcomes. Although there is a research base that suggests that this goal can be met by simply paying attention to *how* programming is delivered (Birmingham, Pechman, Russell, &

Mielke, 2005; Durlak & Weissberg, 2007), centers will be more apt to accomplish this goal if practices ensure there is an integration of school-day instructional strategies and content when planning and delivering activities that are offered afterschool; that staff members working directly with youth are intentional in applying these strategies at the point-of-service; and that students actually attend such activities on a consistent and ongoing basis. Strategies to support the embedding of academic content include the following:

- Intentional alignment of activities with curriculum and standards
- Homework assistance
- Integrated projects (project-based learning opportunities incorporated into programming)
- Tutoring
- Internet based learning programs (e.g., ASK Achiever, Study Island, Discovery, Achieve 3000)
- Regular face-to-face meetings/electronic communication with building principals/administrators, classroom teachers, and parents
- Receipt and use of data on levels of student academic performance to inform the design and delivery of programming
- Seeking and obtaining students' perspective on their academic needs

NJDOE also expects that grantees will engage in measurement and evaluation activities that will allow program staff to understand what impact it is having on academic-related outcomes and to inform what steps can be taken to improve program quality in a manner likely to facilitate attainment of such outcomes.

### **Leading Indicator Status**

As shown in Table 6, centers operating 21st CCLC programming during the course of the 2011–12 school year demonstrated the following:

- Widespread adoption of specific instructional strategies to support academic skill building among participating students (leading indicator 1)
- At least some access to school-based data on student academic functioning and needs (leading indicators 2 and 3)
- Regular lines of communication with school-day teachers (leading indicator 2)
- Frequent intentionality in the design of activity sessions in terms of the skills and knowledge the centers were trying to impart to participating youth (leading indicator 18)

Less common was the offering of academic-related sessions and participation in these activities in accordance with the performance targets specified in the indicator descriptions (leading indicators 5 and 21). Two points are important to keep in mind when interpreting these findings:

1. When calculating indicators 5 and 21, only PARS21 offering and participation data from the fall semester of 2011. The goal here was to provide leading indicator reports to grantees midyear to allow them the capacity to make adjustments to programming during

the latter part of the school year. In this sense, these indicators do not represent the full dosage of academic-related programming received by these students.

2. The performance thresholds were arbitrarily set to create a metric against to assess performance. As noted in Table 6, an average of 21 percent of activity sessions offered during the fall semester of 2011 were intentionally meant to support student growth and development in either mathematics or reading/language arts and were led by a certified teacher, while an average of 18 percent of students participating in programming during the fall semester for more than 15 days spent 50 percent or more of their time in such activities. This raises the following questions:
  - Are these average levels associated with the provision of program offering and attendance in academically oriented activities adequate to support student academic growth and development in the manner required by the program?
  - Is some higher level of offering of and attendance in activities meant to support student growth and development in either mathematics or reading/language arts called for? If so, what would these thresholds be, and how is this balanced against the domain other youth development-oriented activities delivered by a given center?

These questions warrant some careful consideration when examining the leading indicator data and in future conversation oriented at further refining and developing the leading indicators.

**Table 6. Summary of Statewide Leading Indicator Performance on Indicators Related to Strategies and Practices that Support the Academic Development of Participating Youth**

Leading Indicator	Indicator Value—2011–12
<i>Organizational Processes</i>	
Leading Indicator 1: Academic Development—Strategies are adopted to support the academic development of participating youth.	The statewide mean scale score was 70.0, which fell within the <i>Significant Strategy Usage</i> portion of the scale.
Leading Indicator 2: Link to School Day—Program staff members 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.	The statewide mean scale score was 66.8, which meant the following: <ul style="list-style-type: none"> <li>▪ Information on student academic performance was <i>somewhat accessible</i>.</li> <li>▪ Strategy use was <i>common</i> for linking with the school day.</li> <li>▪ Communication with school-day teachers occurred <i>monthly to once per grading period</i>.</li> </ul>
Leading Indicator 3: Common Core Assessment—Staff members obtain data on how well youth are functioning in core academic areas and use that information to inform program design and delivery.	86% of centers met the performance threshold associated with this indicator.
Leading Indicator 4: Within-Program Assessment—Staff members at the center implement <i>within-program</i> measures to gauge youth academic performance and growth.	18% of centers met the performance threshold associated with this indicator.

Leading Indicator	Indicator Value—2011–12
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 reading/language arts and are led by a certified teacher.	9% of centers met the performance threshold associated with this indicator. Statewide, an average of 21% of activity sessions offered during the fall semester of 2011 met these criteria.
<b><i>Point-of-Service Quality</i></b>	
Leading Indicator 18: Common Core—Staff members design and deliver intentional and relevant activities designed to support youth growth and development in mathematics and reading/language arts.	The statewide mean scale score was 60.81, which fell in the <i>Frequently</i> portion of the scale, indicating the adoption of these practices by staff members is common.
Leading Indicator 19: Collaboration with school partners—Program staff members collaborate 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 mean scale score was 64.9, which meant the following: <ul style="list-style-type: none"> <li>▪ Staff agree that linkages to the school-day exist.</li> <li>▪ Staff typically use data on students’ academic needs occasionally/often.</li> </ul>
<b><i>Participation and Engagement</i></b>	
Leading Indicator 21: Common Core Skills—Youth enrolled in the program participate in a meaningful level of activities designed to support youth growth in reading and mathematics achievement.	12% of centers met the performance threshold associated with this indicator Statewide, an average of 18% of students participating in programming during the fall semester of 2011 for more than 15 days met these criteria.

### Indicator Clusters

As mentioned previously, one of the goals of the leading indicator systems is better quantify how many programs may be struggling with a given component of 21st CCLC implementation and in what areas. In addition, given the self-report nature of most of the metrics represented in the leading indicator system, there also was perceived a need to triangulate data across indicators to get a sense of how many center consistently performed well on the indicators related to strategies and practices that support the academic development; how many had a mixed pattern of implementation; and how many were consistently low across the indicators represented in this quality domain.

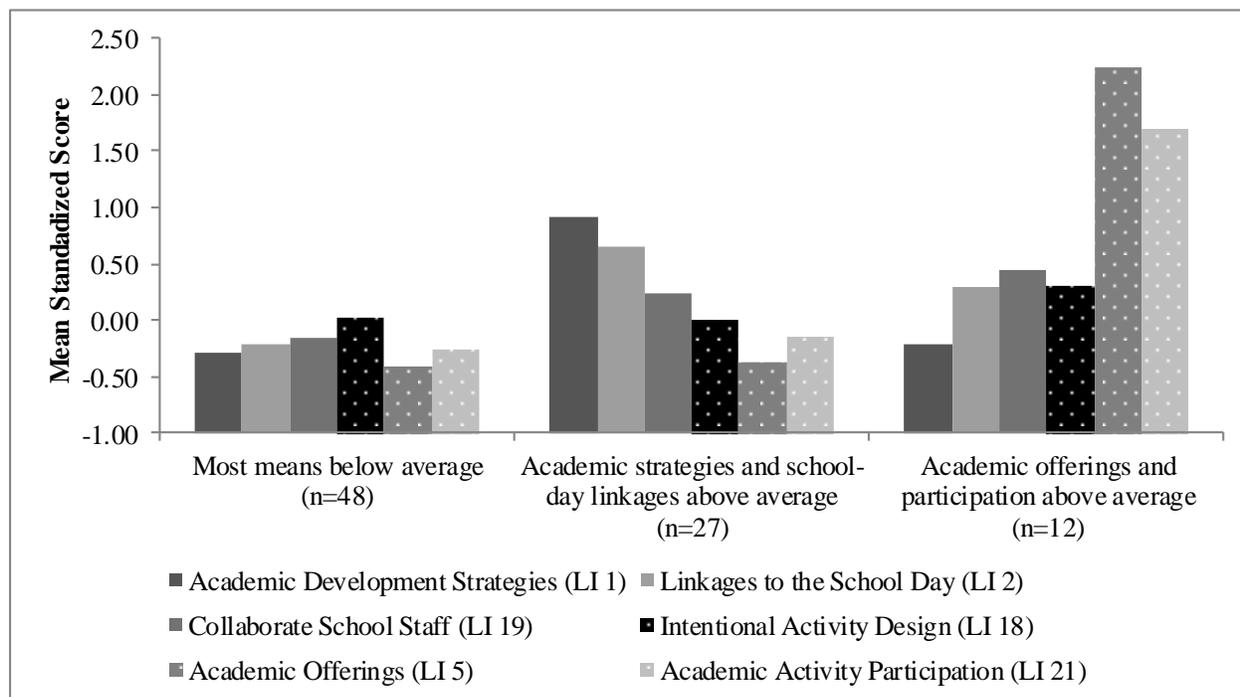
To accomplish this goal, a hierarchical cluster analysis was first conducted, using standardized scores from each of the indicators associated with academic development domain that were interval-based (meaning indicators 3 and 4 related to obtaining data midyear to assess student progress in the program were excluded from the analysis since these indicators were based on designation of *met* or *not met*) to classify centers into one of five quality profile types. This analysis was then rerun four more times, yielding results for four, three, and two quality profile types. Ultimately, the number of quality profiles selected was based on how well the categories differentiated programs into homogenous categories that made good interpretative sense. For the observation-based profiles, the three-quality profile-type solution was found to meet these criteria (see Figure 12). Because cluster analyses require complete data across all variables used

in the analysis, cluster assignments were made to 87 of the 100 centers active during 2011–12 with student attendance data reported or 87 percent. The three quality profiles were as follows:

1. *Most means below average.* Forty-eight centers were assigned to this cluster where scores on five of the six leading indicators under consideration were below average. Centers in this cluster would be considered to have a lower degree of implementation on strategies and practices that support the academic development relative to the other two cluster types.
2. *Academic strategies and linkages to school day above average.* Twenty-seven centers were assigned to this cluster where scores on two of the indicators were well above average relative to the other two clusters: (1) Academic Development Strategies (LI 1) and (2) Linkages to the School Day (LI 2). Each of these scales are predicated on data provided by project directors when completing the midyear ETRS report and relate to the processes adopted by the organization to support academic skill building and development.
3. *Academic offerings and participation above average.* Twelve centers were assigned to this cluster where scores on two of the indicators were well above average relative to the other two clusters: (1) Academic Offerings (LI 5) and (2) Academic Activity Participation (LI 21). Centers in this cluster were more likely to dedicate substantively more time to the provision of activities designed to support skill development in mathematics and reading and had participants that spent more activity time participating in these offerings.

Of some interest is that no significant subset of centers was found to be above average on the domain of indicators included in the cluster analysis.

**Figure 12. Clusters Related to Strategies and Practices That Support Academic Development**



Source: Information obtained from 87 centers with data on leading indicators related to strategies and practices that support academic development.

## Strategies and Practices That Support the Development of Participating Youth From a Youth Development Perspective

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, interactive, and provide youth with opportunities to experience engagement and ownership of the setting (Eccles & Gootman, 2002; Smith, 2007).

Social and emotional learning also is an integral component of student growth and achievement that has been shown to be impacted positively 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 these skills integrate opportunities for participants to build upon 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 upon an understanding of participants' assets and needs garnered through ongoing, formal, and informal assessment.

### Leading Indicator Status

As shown in Table 7, centers operating 21st CCLC programming during the course of the 2011–12 school year were characterized by the following levels of performance on the indicators associated with this quality domain:

- Roughly half of centers were both (a) taking steps to assess youth functioning on social and emotional competencies (leading indicators 7 and 8) and (b) meeting goals for the infusion of components meant to support youth development-related behaviors and SEL functioning of participating youth and actual youth participation targets for the fall semester of 2011. In the case of the latter set of findings, again the question should be raised around the meaningfulness of the performance thresholds associated with leading indicators 9 and 20. Nationally, little is known at this point regarding what is an appropriate dosage for youth participation in the efforts and how best to assess implementation of these efforts outside direct observation. Although many questions remain regarding how centers are infusing youth development and SEL components into programming, the leading indicators related to this quality domain seem to suggest a significant portion of the New Jersey 21st CCLC community are dedicating meaningful effort to the design and delivery of this type of programming.
- 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 (leading indicator 16) and the *Practices Supportive of Positive Youth Development and Opportunities for Youth Ownership* scales of the staff survey (leading indicator 17) suggest staff adoption of such practices are more common than not. However, for each of these indicators, 29 percent and 26 percent of centers, respectively, had an average scale score that indicated these practices were occurring only occasionally to largely not at all. It is this set programs that could likely benefit from additional support on how best to implement these types of support and opportunities for participating youth.

**Table 7. Summary of Statewide Leading Indicator Performance on Indicators Related to Strategies and Practices That Support the Development of Participating Youth From a Youth Development Perspective**

Leading Indicator	Indicator Value—2011–12
<b><i>Organizational Processes</i></b>	
Leading Indicator 6: Youth Engagement—Staff members implement strategies to support the social and emotional development of participating youth in the program.	The statewide mean scale score was 56.6, which fell within the <i>Significant Strategy Usage</i> portion of the scale.
Leading Indicator 7: Youth Assessment—Center staff members take steps to implement measures to assess social and emotional competencies and use that information to inform program design and delivery.	51% of centers met the performance threshold associated with this indicator.
Leading Indicator 8: Within-Program Assessment—Staff members at the center implement <i>within-program</i> measures to assess youth social and emotional functioning and gauge program impact.	40% of centers met the performance threshold associated with this indicator.
Leading Indicator 9: Social and Emotional Learning—Staff members infuse components that are meant to support the social and emotional development of participating youth	58% of centers met the performance threshold associated with this indicator. Statewide, an average of 46% of activity sessions offered during the fall semester of 2011 met these criteria.
<b><i>Point-of-Service Quality</i></b>	
Leading Indicator 16: Quality at Point-of-Service—Staff members are committed to creating interactive and engaging settings for youth.	The statewide mean scale score was 62.3, which fell within the <i>Agree</i> portion of the scale, indicating staff members believe their peers largely provide these opportunities to participating youth.
Leading Indicator 17: Youth Development—Staff members develop activities that are meant to support youth ownership and other opportunities for positive youth development.	The statewide mean scale score was 62.1, which meant the following: <ul style="list-style-type: none"> <li>▪ Select opportunities for youth development were made available occasionally.</li> <li>▪ Staff members largely agree that youth ownership opportunities are provided</li> </ul>
<b><i>Participation and Engagement</i></b>	
Leading Indicator 20: 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.	59% of centers met the performance threshold associated with this indicator. Statewide, an average of 58% of students participating in programming during the fall semester of 2011 for more than 15 days met these criteria.

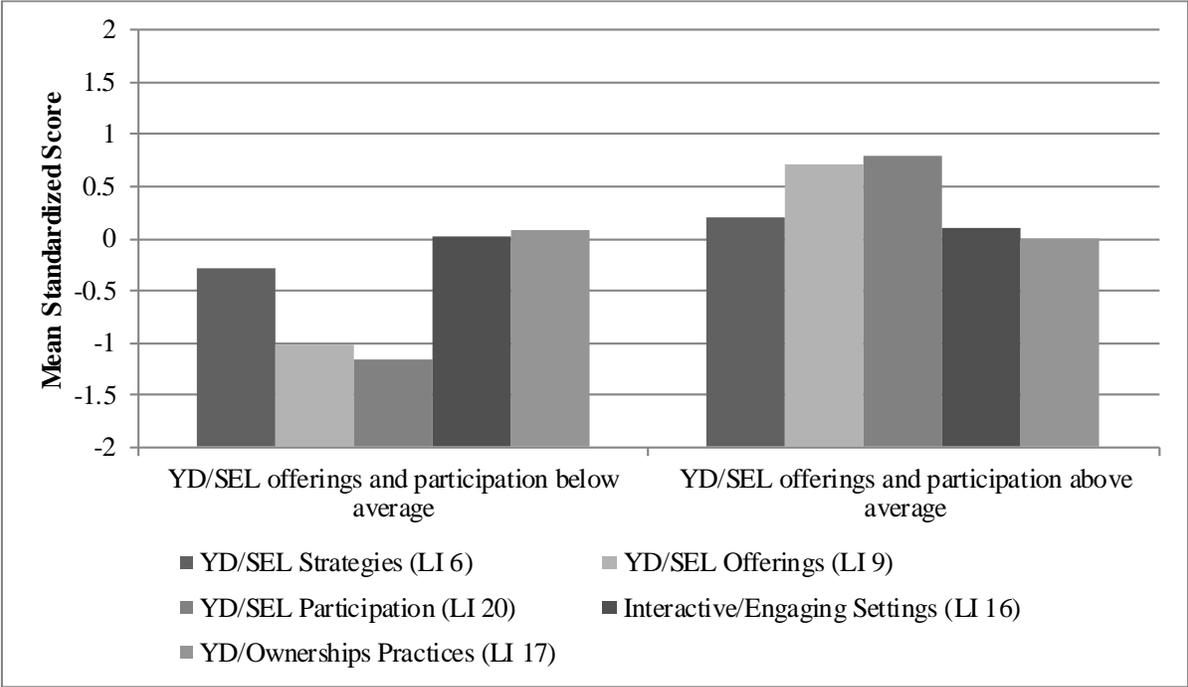
## Indicator Clusters

Employing similar methods as were employed when classifying centers based on their adoption of strategies and approaches that support academic development, scores associated with the indicators outlined in Table 7 (minus indicators 7 and 8) were standardized and entered in a hierarchical cluster analysis to classify centers into one of two clusters. Because cluster analyses require complete data across all variables used in the analysis, cluster assignments were made to 92 of the 110 centers active during 2011–12 or 84 percent. As described in greater detail later and shown in Figure 13, the major distinguishing feature between the two cluster types related to the degree to which centers offered programming with components infused to support youth development-related behaviors and SEL functioning and student participation in these offerings.

1. *Youth development (YD)/SEL offerings and participation below average.* Thirty-seven centers were assigned to this cluster, where scores on indicators related to (a) the offering of programming with components infused to support YD-related behaviors and SEL functioning (YD/SEL Offerings [LI 9]) and (b) the degree of student participation in these offerings that were found to below average (YD/SEL Participation [LI 20]). Among centers assigned to this cluster, an average of 3 percent of activity sessions included infused YD/SEL components, and 4 percent of students participating in 21st CCLC programming for more than 15 days participated in such activities for at least 20 percent of their total time in the program.
2. *YD/SEL offerings and participation above average.* Fifty-five centers were assigned to this cluster that, in contrast to the previously described cluster, was characterized by scores well above average on YD/SEL Offerings (LI 9) and YD/SEL Participation (LI 20). For centers in this cluster, an average of 76 percent of activity sessions included infused YD/SEL components, and 95 percent of students participating in 21st CCLC programming for more than 15 days participated in such activities for at least 20 percent of their total time in the program.

It is not clear what to make of the sharp contrast between centers assigned to each cluster in terms of YD/SEL activities offered and participated in by students. At some level, the difference could be driven by differences in activity reporting in PARS21, with some grantees being less attuned to reporting the steps they are taking to support youth development and the cultivation of SEL skills and capacities. It also may be the case that there truly is an intentionality gap between the centers outlined in each cluster, with centers represented in the *SEL offerings and participation above average* demonstrating a higher level of intentional program design and delivery around supporting youth development in this manner.

**Figure 13. Clusters Related to Strategies and Practices That Support the Development of Participating Youth From a Youth Development Perspective**



Source: Information obtained from 92 centers with data on leading indicators related to strategies and practices that support the development of youth from a youth development perspective.

**Strategies and Practices That Support the Engagement and Development of Parents and Adult Family Members**

Engaging families in programming and providing family learning events is an important component of the New Jersey 21st CCLC program. Programs may engage families by communicating with them about center 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 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).

**Leading Indicator Status**

As shown in Table 8, centers operating 21st CCLC programming during the course of the 2011–12 school year were characterized by the following levels of performance on the indicators associated with this quality domain:

- In terms of engaging in practices to support and cultivate parent involvement and engagement (leading indicator 14), most centers were found to do so just *sometimes* (75 percent of centers fell within this range of the scale) as opposed to *never* (7 percent of centers) or *frequently* (19 percent).

- Fifty percent of centers indicated adopting measures to assess the program’s impact on parent education and involvement (leading indicator 15).
- Only a very small percentage of programs (6 percent) were able to engage parents or other adult family members in activities for at least 15 percent of the students served in the program during the fall semester of 2011.

Many of these findings are consistent with previous leading indicator results and demonstrate the ongoing challenges of reaching out to an engaging parents and adult family members of participating 21st CCLC students.

**Table 8. Summary of Statewide Leading Indicator Performance on Indicators Related to Strategies and Practices That Support the Engagement and Development of Parents and Adult Family Members**

Leading Indicator	Indicator Value—2011–12
<i>Organizational Processes</i>	
Leading Indicator 14: Staff and Family Connections—Staff members actively engage in practices supportive of parent involvement and engagement meant to support youth growth and academic development.	The statewide mean scale score was 61.9, which fell within the <i>Did Sometimes</i> portion of the scale.
Leading Indicator 15: Family Impact Assessment—Staff members at the center implement measures to assess program impact on the parents and family members of participating students.	50% of centers met the performance threshold associated with this indicator.
<i>Participation and Engagement</i>	
Leading Indicator 22: Family Involvement—Parents and family members of enrolled youth participate in activities designed to support family engagement and skill building.	6% of centers met the performance threshold associated with this indicator.

### Indicator Clusters

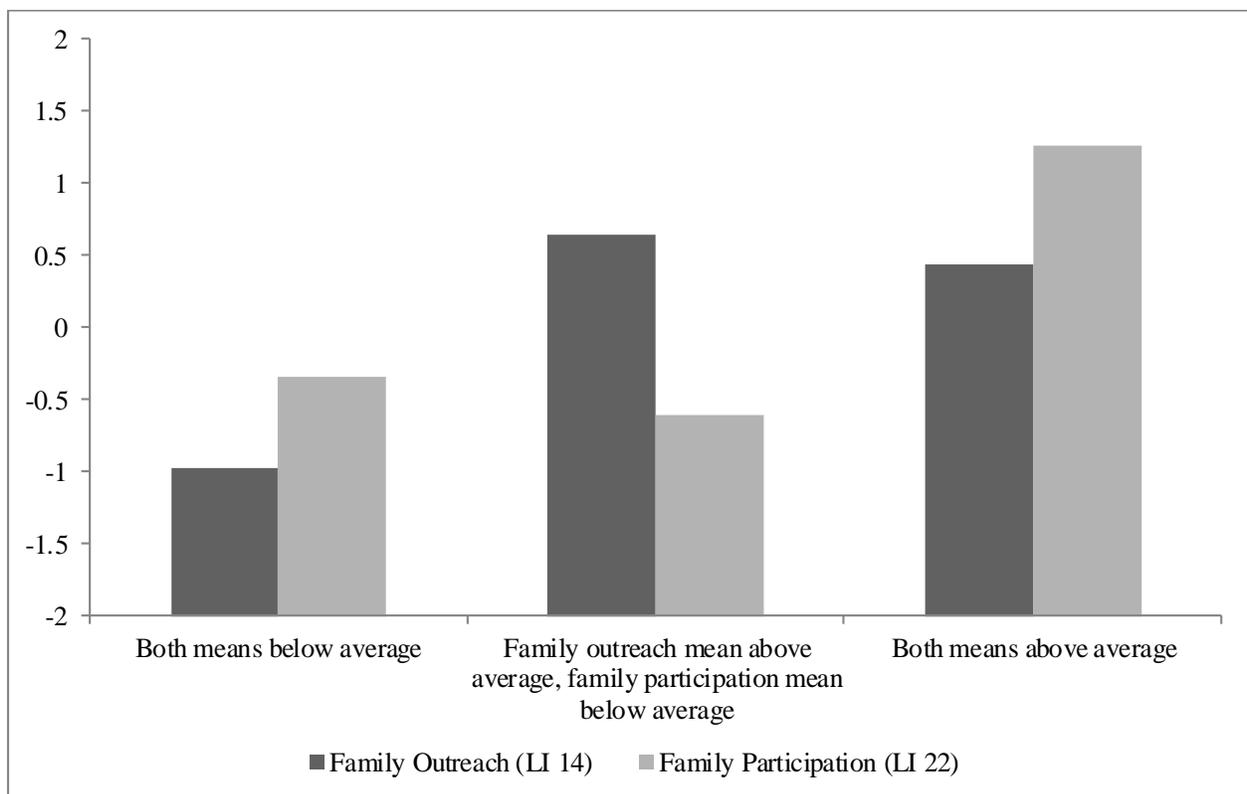
In the interest of creating more summative quality profiles based on indicator results associated with assessing implementation of strategies and practices that support the engagement and development of parents and adult family members, scores associated with the indicators outlined in Table 8 (minus indicator 15) were standardized and entered in a hierarchical cluster analysis to classify centers into one of three clusters. Because cluster analyses require complete data across all variables used in the analysis, cluster assignments were made to 95 of the 110 centers active during 2011–12, or 86 percent.

- *Both means below average.* Thirty-one centers were assigned to this cluster where scores on indicators related to (a) the extent to which center staff members engaged in practices supportive of parent involvement and engagement (Family Outreach [LI 14] and (b) the degree of parent and family member participation in center offerings were found to be below average (Family Participation [LI 22]).

- *Family outreach mean above average, and family participation mean below average.* Thirty-eight centers were assigned to this cluster where the mean score on the mean score on the Family Participation indicator remained low (LI 22) despite high average scores on the Family Outreach indicator (LI 14). It is important to note that an effort was not made to assess how the number of sessions offered to parents and adults varied across the centers represented in the cluster. Low attendance could be indicative of relatively few offerings for adults, ineffectual outreach methods, and a failure to accurately provide responses to questions related to outreach efforts.
- *Both means above average.* Twenty-six centers were assigned to this cluster where the mean score on both the Family Outreach (LI 14) and Family Participation indicators were above average.

As shown by the clusters in Figure 14, there was quite a range in the performance of centers on indicators related to supporting parent engagement and participation. Steps are taken in Chapter 5 to explore how this variation may be related to the both program attendance and student outcomes.

**Figure 14. Clusters Related to Strategies and Practices That Support the Engagement and Development of Parents and Adult Family Members**



Source: Information obtained from 95 centers with data on leading indicators related to strategies and practices that support the engagement and development of parents and adult family members.

## Strategies and Practices That Support the Utilization and Engagement of Partners

Encouraging partnerships between schools and community organizations is an important component of the national 21st CCLC programs. Partners are defined as any organization other than the grantee that actively contributes to a 21st CCLC-funded program to help programs meet their goals and objectives. Partners may play a variety of roles in supporting a 21st CCLC-funded program. For example, partners may provide programming and staff, provide physical space and facilities, and facilitate fundraising efforts. In many instances, partners can play a critical role in providing activities and services that the grantee lacks expertise or training in to enhance the variety of learning opportunities available to youth.

From a quality perspective, mutually beneficial partnerships are most effective when staff members from the partner organization work directly with youth and are involved in regular program processes related to staff orientation, training, evaluation, feedback, and professional development.

The leading indicator for community context is meant to capture the degree to which partners associated with the center are actively involved in planning, decision making, evaluating, and supporting program operations.<sup>7</sup>

### Leading Indicator Status

As shown in Table 9, centers operating 21st CCLC programming during the course of the 2011–12 school year were characterized by the following levels of performance on the indicators associated with this quality domain:

- In terms of engaging in partner in collaborative efforts to promote a shared vision and understanding of the work (leading indicator 12), most centers were found to engage in such practices *informally* as opposed to doing such things with partners on a *formal* basis or not at all. Partner staff members also were described in only be moderately involved in the provision of select activities.
- A small percentage of activity sessions delivered during the fall semester of 2011 were provided by staff members employed directly by partner (leading indicator 13). It is not clear if this low percentage is the failure of proper data entry in PARS or if partner involvement in the actual delivery of activities was truly such a small proportion of overall activity delivery.

It is our sense that a clearer articulation of what effective partnerships may look like in relation to the design and delivery of 21st CCLC programming may be warranted, particularly in terms of using partners strategically to expand the domain and diversity of activities that can be offered to participating youth.

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<sup>7</sup> NJDOE makes a distinction between program *collaborators* and *partners*. In essence, *partners* are a type of collaborator with a more intensive and supportive relationship with the grantee in question than what is true in relation to entities that receive only a *collaborator* designation.

**Table 9. Summary of Statewide Leading Indicator Performance on Indicators Related to Strategies and Practices That Support the Utilization and Engagement of Partners**

Leading Indicator	Indicator Value—2011–12
<i>Organizational Processes</i>	
Leading Indicator 12: Community Partner Engagement—Partners associated with the center are actively involved in planning, decision making, evaluating, and supporting the operations of the afterschool program. As a result, participants are provided access to a variety of opportunities.	The statewide mean scale score was 43.0, which meant the following: <ul style="list-style-type: none"> <li>▪ Grantees largely collaborated <i>informally</i> with partners.</li> <li>▪ Partners were involved to a moderate extent in supporting the typical program.</li> </ul>
Leading Indicator 13: Activity sessions delivered by staff members employed directly by partners—Staff members from partner organizations are meaningfully involved in the provision of activities at the center.	.32% of activity sessions provided in the fall of 2011 were delivered by partner staff members.

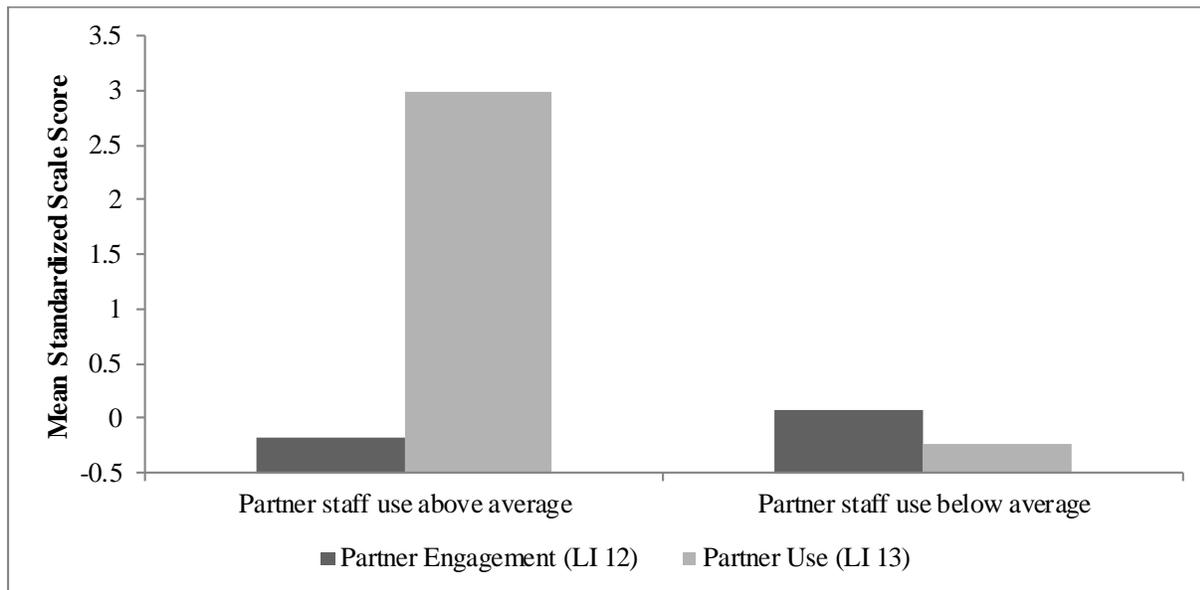
### Indicator Clusters

In the interest of creating more summative quality profiles based on indicator results associated with assessing strategies and practices that support the utilization and engagement of partners, scores associated with the indicators outlined in Table 9 were standardized and entered in a hierarchical cluster analysis to classify centers into one of two clusters. Because cluster analyses require complete data across all variables used in the analysis, cluster assignments were made to 94 of the 110 centers active during 2011–12, or 85 percent. As described in greater detail later and shown in Figure 15, the major distinguishing feature between the two cluster types related to the degree to which centers employed partner staff members to support the delivery of programming.

- *Partner staff members use above average.* Seven centers were assigned to this cluster, where scores on the indicator related to using partner staff members to deliver activities (Partner Use [LI 13]) was well above average, although only an average of 4 percent of the activity sessions in such centers were staffed by partner staff members.
- *Partner staff members use below average.* Eighty-seven centers were assigned to this cluster that, in contrast to the previously described cluster, was characterized by scores below average on Partner Staff Use (LI 13). For centers in this cluster, nearly 0 percent of the activity sessions were staffed by staff members employed by partner agencies.

Ultimately, there is little distinction between the two cluster types in real terms. Generally, there appeared limited involvement in partner staff members in the design and delivery of 21st CCLC programming.

**Figure 15. Clusters Related to Strategies and Practices That Support the Utilization and Engagement of Partners**



Source: Information obtained from 94 centers with data on leading indicators related to strategies and practices that support the engagement and development of parents and adult family members.

## Strategies and Practices That Support Program Improvement Efforts

Leading indicators within this domain examine both self-assessment strategies and internal communication and collaboration among program staff members. As noted by Smith (2007), Glisson (2007), and Birmingham et al. (2005), an organizational climate that supports staff members in reflecting on and continually improving program quality is a key aspect of effective youth development programs. Programs characterized by a supportive and collaborative climate permit staff members to engage in self-reflective practice to improve overall program quality. Self-reflective practice is more likely to lead to high-quality program sessions that provide youth with positive and meaningful experiences.

### Leading Indicator Status

As shown in Table 10, centers operating 21st CCLC programming during the course of the 2011–12 school year were characterized by the following levels of performance on the indicators associated with this quality domain:

- Eighty-two percent of centers reported engaging in some form of self-assessment process employing a specific tool or instrument during the 2011–12 school year. Slightly more than half of centers conducting a self-assessment reporting using the NJDOE Monitoring Tool to support the self-assessment, while other commonly used tools included the Assessing Afterschool Program Practices Tool developed by the National Institute on Out-of-School Time (used by 22 percent of centers) and the Program Quality Self-Assessment Tool developed by the New York State Afterschool Network (used by 18 percent of centers).

- The average statewide scale score for internal communication fell within the response category *a couple of times per year/once a month* (scale response options included *never*, *a couple of times per year*, *about once a month*, and *nearly every week*), suggesting the assessed collaborative efforts were somewhat frequently implemented during the 2011–12 programming period.

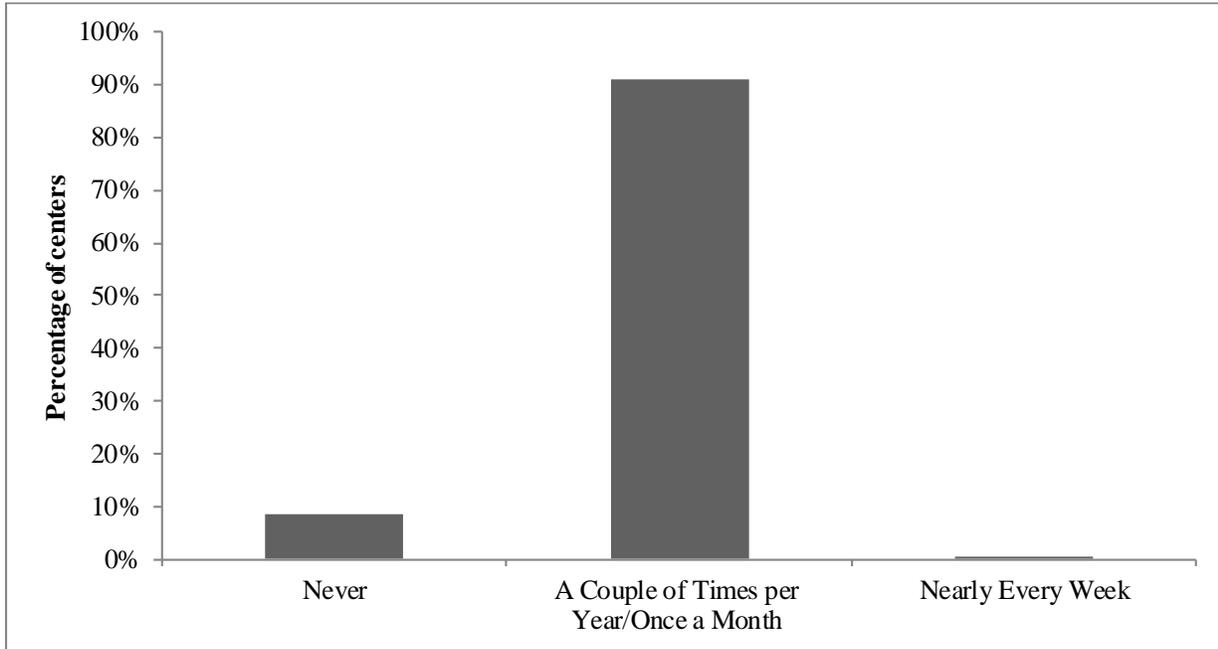
Within the afterschool field, self-assessment processes have begun one of the primary mechanisms of supporting quality improvement efforts. There are new opportunities to capitalize on this approach in New Jersey as well with the development of a self-assessment tool by the New Jersey School-Age Care Coalition (NJSACC) aligned with the state’s newly adopted state afterschool standards. Finding ways to make use of this tool to support 21st CCLC implementation efforts will be an important task to undertake in the future.

**Table 10. Summary of Statewide Leading Indicator Performance on Indicators Related to Strategies and Practices That Support Program Improvement Efforts**

Leading Indicator	Indicator Value—2011–12
<i>Organizational Processes</i>	
Leading Indicator 10: Program Self-Assessment—Program staff members periodically reflect on program practices through one or more self-assessments to inform program improvement.	82% of centers met the performance threshold associated with this indicator.
Leading Indicator 11: Internal Communication—Staff members communicate with other program staff members to enhance internal collaboration toward continuous program improvement.	The statewide mean scale score was 55.5, which fell within the <i>Communicate a couple of times per year/Once a month</i> portion of the scale.

No cluster analyses were run with the indicators represented in the *Strategies and Practices That Support Program Improvement Efforts* quality domain, given that leading indicator 10 related to the adoption of self-assessment processes was based on either a *met* or *not met* classification. However, scale scores associated with the internal communication and collaboration scale were included in the correlational, multilevel models described in Chapter 5 to explore the relationship between program characteristics and youth outcomes. As shown in Figure 16, more than 90 percent of programs were found to fall within the *a couple of times per year/Once a month* portion of the scale.

**Figure 16. Distribution of Centers by Response Category on the Internal Communication Scale**



Source: Information shown from 693 staff survey responses from 106 centers on the internal communication and collaboration scale of the staff survey.

## Determining Program Improvement Priorities From the Leading Indicators

One of the goals 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. For each indicator represented in the leading indicator system, there is a level of performance that a quality approach or practice is largely *not* being adopted by the center in question. In Table 11, each of the indicators and related scales are listed along with the level of performance that indicates that a given practice is largely absent from the center in question and the number and percentage of centers that fall within these ranges.

As shown in Table 11, there are two general types of indicators where 50 percent or more of centers fell within a range indicating that the quality practice was largely absent:

1. Indicators related to assessment practices oriented as assessing youth functioning in a given area and how youth have improved in that area since the onset of participation in the program (leading indicators 4, 8, and 15).
2. Indicators related to offering certain types of activities and participant attendance levels in these activities based on PARS21 data (leading indicators 5, 21, and 22).

In terms of assessing youth functioning on key outcomes, it is recommended that NJDOE work with AIR evaluation staff members, staff members from NJSACC, and grantee representatives to develop a more formal set of guidelines and expectations for the implementation and use of measures meant to assess student functioning on key outcomes. The goal should be find the least burdensome approaches that still yield useful information and capitalize effectively on measures

used during the school day. In terms of assessing student growth on youth development and SEL-related outcomes, NJDOE may want to consider statewide adoption of measures at some point in the future. There is significant effort at present being dedicated to developing measures related to youth functioning on noncognitive and related outcomes. NJDOE may want to explore how it can best capitalize of these efforts to best support the adoption of valid and reliable measures aligned with the domain of noncognitive outcomes that 21st CCLC are especially likely to impact given the ages of the youth served and their approach to service and activity design and delivery.

As noted earlier, there also is a need for clarity on what constitutes an acceptable level of offering provision and participation to support academic and SEL development of participating youth. Indicators related to these areas should likely to be revised based on consensus from key program stakeholders on what these levels should be. It also may be appropriate to abandon concrete thresholds in this regard and simply monitor how offering and participation levels change over time in response to different types of NJDOE-supported efforts related to evaluation and technical assistance.

Finally, as shown in Table 11, it also should be noted that there were a number of instances where the percentage of centers where quality practices were *not* being adopted in a given domain was relatively small. This was particularly the cases in the following:

- The adoption of strategies to support the academic development of participating youth (leading indicator 1) and the social and emotional development of participating youth in the program (leading indicator 6)
- Establishing linkages to the school day (leading indicator 2)
- Collaborating and engaging in cooperative activities with partners (leading indicator 12)
- Designing and delivering intentional and relevant activities designed to support youth growth and development in mathematics and reading/language art (leading indicator 18).
- Engaging in practices supportive of parent involvement and engagement (leading indicator 14).

**Table 11. Leading Indicator Scales by Number and Percentage of Centers Where Quality Practices Were Largely Absent**

Domain/Indicator	Rating Options Indicating Practice Not Present	N Centers	% Centers*
<i>Strategies and Practices That Support the Academic Development of Participating Youth</i>			
<b>Leading Indicator 1: Academic Development</b> —Strategies are adopted to support the academic development of participating youth.	No strategy used	1	1%
<b>Leading Indicator 2: Link to School Day</b> —Program staff members 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.	Do not receive data from schools; limited strategies for linking with school day and communicating with teachers	3	3%
<b>Leading Indicator 3: Common Core Assessment</b> —Staff members obtain data on how well youth are functioning in core academic areas and use that information to inform program design and delivery.	Did not obtain	14	13%
<b>Leading Indicator 4: Within-Program Assessment</b> —Staff members at the center implement <i>within-program</i> measures to gauge youth academic performance and growth.	Did not implement	88	82%
<b>Leading Indicator 5: 21st Century Skills</b> —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 reading/language arts and are led by a certified teacher.	Did not meet	88	91%
<b>Leading Indicator 18: Common Core</b> —Staff members design and deliver intentional and relevant activities designed to support youth growth and development in mathematics and reading/language arts.	Rarely	5	5%
<b>Leading Indicator 19: Collaboration With School Partners</b> —Program staff members collaborate 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.	Disagree, Strongly disagree, Do not receive data	27	27%

\*The number of centers serving as the denominator in a given percentage calculation varies from indicator to indicator given missing data for some centers.

**Table 11. Leading Indicator Scales by Number and Percentage of Centers Where Quality Practices Were Largely Absent (continued)**

Domain/Indicator	Rating Options Indicating Practice Not Present	N Centers	% Centers*
<i>Strategies and Practices That Support the Development of Participating Youth From a Youth Development Perspective</i>			
<b>Leading Indicator 21: Common Core Skills</b> —Youth enrolled in the program participate in a meaningful level of activities designed to support youth growth in reading and mathematics achievement.	Did not meet	85	88%
<b>Leading Indicator 6: Youth Engagement</b> —Staff members implement strategies to support the social and emotional development of participating youth in the program.	No strategy used	2	2%
<b>Leading Indicator 7: Youth Assessment</b> —Center staff members take steps to implement measures to assess social and emotional competencies and use that information to inform program design and delivery.	Did not implement	52	49%
<b>Leading Indicator 8: Within-Program Assessment</b> —Staff members at the center implement <i>within-program</i> measures to assess youth social and emotional functioning and gauge program impact.	Did not implement	64	60%
<b>Leading Indicator 9: Social and Emotional Learning</b> —Staff members infuse components that are meant to support the social and emotional development of participating youth	Did not meet	88	42%
<b>Leading Indicator 16: Quality at the Point-of-Service</b> —Staff members are committed to creating interactive and engaging settings for youth.	Disagree, Strongly Disagree	31	28%
<b>Leading Indicator 17: Youth Development</b> —Staff members develop activities that are meant to support youth ownership and other opportunities for positive youth development.	Disagree, Strongly disagree, Available occasionally	28	26%

\*The number of centers serving as the denominator in a given percentage calculation varies from indicator to indicator given missing data for some centers.

**Table 11. Leading Indicator Scales by Number and Percentage of Centers Where Quality Practices Were Largely Absent (continued)**

Domain/Indicator	Rating Options Indicating Practice Not Present	N Centers	% Centers*
<i>Strategies and Practices That Support the Engagement and Development of Parents and Adult Family Members</i>			
<b>Leading Indicator 20: 21st Century Skills</b> —Youth enrolled in the program participate in a meaningful level of activities designed to support youth development and social and emotional competencies.	Did not meet	27	41%
<b>Leading Indicator 14: Staff and Family Connections</b> —Staff members actively engage in practices supportive of parent involvement and engagement meant to support youth growth and academic development.	Never	7	6%
<b>Leading Indicator 15: Family Impact Assessment</b> —Staff members at the center implement measures to assess program impact on the parents and family members of participating students.	Did not implement	53	50%
<b>Leading Indicator 22: Family Involvement</b> —Parents and family members of enrolled youth participate in activities designed to support family engagement and skill building.	Did not meet	91	94%
<i>Strategies and Practices that Support the Utilization and Engagement of Partner</i>			
<b>Leading Indicator 12: Community Partner Engagement</b> —Partners associated with the center are actively involved in planning, decision making, evaluating, and supporting the operations of the afterschool program. As a result, participants are provided access to a variety of opportunities.	Do not do, Not at all	0	0%
<b>Leading Indicator 13: Activity sessions delivered by staff members employed directly by partners</b> —Staff members from partner organizations are meaningfully involved in the provision of activities at the center.	0%	68	70%

\*The number of centers serving as the denominator in a given percentage calculation varies from indicator to indicator given missing data for some centers.

**Table 11. Leading Indicator Scales by Number and Percentage of Centers Where Quality Practices Were Largely Absent (continued)**

<b>Domain/Indicator</b>	<b>Rating Options Indicating Practice Not Present</b>	<b>N Centers</b>	<b>% Centers*</b>
<i>Strategies and Practices That Support Program Improvement Efforts</i>	No strategy used	2	2%
<b>Leading Indicator 10: Program Self-Assessment</b> — Program staff members periodically reflect on program practices through one or more self-assessments to inform program improvement.	Did not meet	89	17%
<i>Strategies and Practices That Support the Engagement and Development of Parents and Adult Family Members</i>			
<b>Leading Indicator 11: Internal Communication</b> — Staff members communicate with other program staff members to enhance internal collaboration toward continuous program improvement.	Never	9	8%

\*The number of centers serving as the denominator in a given percentage calculation varies from indicator to indicator given missing data for some centers.

## Chapter 5. Assessing 21st CCLC Program Outcomes

Another primary objective of the statewide evaluation was to understand the relationship between participation in 21st CCLC–funded programs and student academic behaviors and outcomes. Employing program participation and outcome data associated with the 2011–12 programming period, two analytic approaches were used:

- Within-program analyses. The within-program analyses examined the relationship between student outcomes and several student and program characteristics. The analyses are correlational in nature, meaning that inferences about causation or directionality cannot be made. Other factors that were not included in the analyses may play a role in the reported findings.
- Impact analyses. The impact analyses were based on a rigorous quasi-experimental design that compared academic outcomes of 21st CCLC program participants with matched nonparticipating students using a propensity score matching approach. Meaningful conclusions may be drawn from the impact analysis regarding the impact of New Jersey 21st CCLC program participation on student outcomes.

To determine student- and center-level characteristics related to the student outcomes under consideration, the evaluation team employed a series of hierarchical linear models (HLMs) to test for statistically significant relationships between student and center characteristics and student state assessment results in mathematics and reading and teacher survey-based outcomes. Findings from these analyses are described in the following sections.

### Within-Program Analyses

Three types of data were employed to assess how well students participating in 21st CCLC programming during the course of the 2011–12 school year improved in student achievement and behavioral change outcomes:

1. School-day teacher-reported changes in individual student behaviors collected from a teacher survey administered by center staff members in spring 2012 and reported in PARS21.
2. State assessment scores in reading and mathematics taken during the 2010–11 and 2011–12 school years and recorded in the NJ SMART data warehouse.
3. As an intermediate outcome, school-year 21st CCLC attendance also was assessed as an outcome measure.

### Teacher Survey Data

The teacher survey is a federally developed instrument associated with the annual performance reporting process in PPICS. Administered near the end of the school year, the instrument is made up of 10 questions. Each question appearing on the survey asks the school-day teacher about a youth participating in the program 30 days or more during the school year. The survey inquires (a) whether the student needed to improve on a given academic-related behavior, such as turning in homework on time at the beginning of the school year and (b) if so, whether the student in

question actually improved in terms of this behavior during the course of the school year. It is important to note that the survey is specific to a given youth, and school-day teachers may complete a number of these surveys near the end of the school year for students who have participated in 21st CCLC programming during the year. Staff members at a given center are responsible for administering the surveys to teachers, collecting completed surveys, and entering student-level results into PARS21. During the course of the 2011–12 school year, 8,810 students were found to have teacher survey data summarizing changes in behavior over the course of the school year entered into PARS21.

Rasch analyses were undertaken to develop scale scores for four constructs supported by the teacher survey, each of which is supported by two items appearing on the survey. This approach mirrors the approach members of the research team have taken when analyzing the same data collected at the national level through PPICS. The stem for all items is the following: To what extent has your student changed their behavior in terms of the following:

1. Homework
  - a. Turning in his/her homework on time
  - b. Completing homework to your satisfaction
2. Motivation and Attentiveness
  - a. Being attentive in class
  - b. Coming to school motivated to learn
3. Prosocial Behaviors
  - a. Behaving well in class
  - b. Getting along with other students
4. Participation and Volunteering
  - a. Participating in class
  - b. Volunteering (e.g., for extra credit or more responsibilities)

For all items, the following seven-point scale was employed: Significant Improvement, Moderate Improvement, Slight Improvement, No Change, Slight Decline, Moderate Decline, and Significant Decline.

In addition, the teacher survey dataset was limited to those students who were identified as needing to improve on a given behavior at the start of the school year, bringing the number of students identified in the analysis down to 2,976. Although focusing on this subpopulation served to significantly reduce the number of students included in teacher survey-related, within-program analyses, it was the sense of the evaluation team that improving the performance of such students if a particular focus of the program, and therefore this step was warranted.

### **State Assessment Data**

Steps were taken to identify (a) students participating in 21st CCLC programming during the course of the 2011–12 school year, based on information supplied in PARS21, and (b) the public

schools attended by these students during the span of the school year in question. This information was provided to the NJ SMART data warehouse team at NJDOE that matched this information against the data warehouse to provide assessment scores in reading and mathematics for the full domain of students enrolled in the schools in question, while preserving the information needed to determine if a given student participated in 21st CCLC programming during the school year. A total of 10,810 students who participated in 21st CCLC programming during the course of the 2011–12 school year were matched with NJ SMART data, with 6,853 having the state assessment data needed in either reading or mathematics to be included in this set of analyses. Given that the 21st CCLC program is primarily oriented at helping students scoring below proficiency make progress toward proficiency, the state assessment dataset was further culled to the 3,504 students scoring below proficiency during the 2010–11 school year.

The types of test scores available in the data vary, including the following:

1. High School Proficiency Assessment (HSPA), Grade 11
2. New Jersey Assessment of Skills and Knowledge (NJ ASK), Grades 4–8

Because the assessments employed and the grade levels of the students vary, assessment scores were standardized within sample (i.e., converted to  $z$ -scores) using the following approach:

$$z\text{-score}_{it} = (\text{score}_{it} - \text{mean}_t) / \text{standard deviation}_t$$

Any individual student  $i$ 's standardized score is simply the difference between his or her score and the mean performance (within the sample) on test  $t$  divided by the standard deviation of test  $t$ . Once standardized, the  $z$ -scores are comparable across assessments and grade levels given the conversion of all scores into standard deviation units.

### **Student School Year 21st CCLC Attendance**

Student participation in 21st CCLC activities, in addition to being considered as a possible predictor of academic and behavioral outcomes, also can be analyzed as an intermediate outcome. Student school-year participation data, taken from PARS21 and measured in days, was used as an outcome measure to determine whether student- and center-level variables are significantly correlated with student participation in 21st CCLC.

### **Program Dosage**

Some of the models of program impact discussed in detail in the Analytic Approach subsection that follows include measures of program dosage. In addition to assessing the relationships among various individual and center characteristics with the outcomes of interest, the intensity of program participation also was explored as a potential predictor of youth outcomes. The individual student-level measures of the extent of program participation, included in the models, were as follows:

1. Days of 21st CCLC program attendance (for teacher survey results and assessment outcomes)
2. Hours in activities designated as mathematics-focused

3. Hours in activities designated as reading-focused
4. Continuous years of 21st CCLC program participation

Another measure that may capture intensity of program participation is the staff-to-student ratio in a given center. The average ratio, across activity offerings in a center, is included in some of the model specifications as a center-level characteristic.

### Analytic Approach

To explore the impact of the 21st CCLC program on the student outcomes of interest, within-participant comparisons were made in multilevel models. A two-level model, with students at Level 1 and centers at Level 2, accounted for the nested structure of the data and allowed for exploration of relationships among center-level characteristics, student-level characteristics, and student-level outcomes. In particular, the outcomes employed in these analyses included teacher survey reports, student assessment results, and school year 21st CCLC attendance.

Table 12 provides summary statistics to describe the students for whom outcome measures were available and included in the analyses that follow. Note that, with respect to state assessments, only students scoring below proficient in either mathematics or reading in 2010–11 (i.e., who needed to improve) are included in the analysis; the state assessment figures shown in Table 12 reflect only those students needing to improve in 2010–11. In similar fashion, teacher survey results were only considered if the student was identified as needing to improve in one or more area by the classroom teacher at the start of the school year.

**Table 12. Summary Statistics: Student Outcomes**

	<b>Mean for 2011–12 21st CCLC Participants</b>
<b>Teacher Surveys (<i>n</i> = 2,976)</b>	
Improving homework completion and quality	56.6464 (26.23683)
Being attentive in class and coming to class motivated to learn	46.1370 (27.7095)
Behaving well in class and getting along with others	53.3298 (25.83287)
Participating in class and volunteering	50.5833 (25.54719)
<b>State Assessments (<i>n</i> = 3,504)</b>	
Mathematics standardized score	.3778 (.75458)
Reading standardized score	.6902 (.68778)

Note: Standard deviations are reported in parentheses.  
Source: PARS21 and NJ SMART.

The primary approach to modeling student outcomes data was an HLM framework nesting individual students within their 21st CCLC program center of attendance. This approach allows for exploration of center effects, while essentially modeling, or controlling for, the effects of other student-level characteristics on the outcomes of interest. The general two-level HLM is conceived as follows:

$$\text{Student Level } Y_{ij} = \pi_{0j} + \pi_{1j} \text{attendance}_{ij} + \sum \pi_{pj} X_{pij} + e_{ij} \quad (1)$$

$$\text{Center Level } \pi_{pj} = \beta_{p0} + \beta_{p1} \text{scalescore}_j + \sum \beta_{pq} Z_{qj} + u_{pj} \quad (2)$$

where  $Y_{ij}$  is the outcome measure for student  $i$  in center  $j$ ,  $\text{attendance}_{ij}$  is the student's days attended at center  $j$ , and  $X_{pij}$  are all other student-level covariates to be included in the model, including demographics such as race/ethnicity, gender, and grade level. At Level 2,  $\text{scalescore}_j$  is a continuous variable measuring a construct of assessing center-level quality, such as implementation of practices supportive of youth development, for center  $j$ .  $Z_{qj}$  are other center-level covariates, which may include other scale scores as well as center-level characteristics from the program profile.

To place the analyses that follow in context, Table 13 presents the characteristics of the 2011–12 participant sample, modeled at Level 1 in the HLMs. As displayed in Table 15, most students in the sample were in Grades 4, 5, 6, 7, and 8 (91.8 percent); the majority were indicated as either minorities or ethnicity as “yes” (together accounting for 88.4 percent of all students), there were slightly more males than females (54 versus 46 percent, respectively), about four fifths (82 percent) qualified for free or reduced-price lunch, and only 8 percent were designated as having limited proficiency in English.

**Table 13. Summary Statistics: Student Characteristics**

<b>Proportion of 2011–12 21st CCLC Participants</b>	
<b>Grade Level (<math>n = 5,640</math>)</b>	
4th	0.171
5th	0.179
6th	0.235
7th	0.185
8th	0.147
9th	0.028
10th	0.021
11th	0.019
12th	0.014
<b>Minority Status (<math>n = 5,734</math>)</b>	
Minority	0.379
Nonminority	0.621

<b>Proportion of 2011–12 21st CCLC Participants</b>	
<b>Ethnicity Status (n = 5,734)</b>	
Yes	0.508
No	0.492
<b>Gender (n = 5,734)</b>	
Male	0.537
Female	0.463
<b>Free or Reduced-Price Lunch Status (n = 5,111)</b>	
Eligible	0.820
Not eligible	0.180
<b>Limited English Proficiency Designation (n = 4,925)</b>	
Yes	0.079
No	0.921

Source: PARS21 and NJ SMART.

Not all students represented in the summary statistics were included in the analyses of program impact. For any specific model, students and centers with complete (i.e., nonmissing) data on the included covariates and outcome measure contributed to the estimation of effects, whereas those records with missing data were subject to listwise deletion.

Similarly, Table 14 provides descriptive data on the 2011–12 21st CCLC centers included in the analyses. Centers predominantly were school based (75 percent) and were likely to use a variety of staff members beyond teachers to staff their program (61 percent). Table 14 also displays descriptive statistics on leading indicator cluster membership.

**Table 14. Summary Statistics: Center Characteristics**

	<b>Proportion of 2011–12 21st CCLC Centers</b>
<b>Grantee Type (n = 90)</b>	
School-based	0.753
Non-school-based	0.247
<b>Staffing Cluster (n = 90)</b>	
Mostly teachers	0.389
All other staffing clusters	0.611
<b>Leading Indicator Cluster: Academics (n = 77)</b>	
Academic LI—Most means below average	0.584
Academic LI—Academic strategies and linkages to school day above average	0.312
Academic LI —Academic offerings and participation above average	0.104
<b>Leading Indicator Cluster: Social Emotional Learning (n = 81)</b>	
YD/SEL LI—Offerings and participation below average	0.407
YD/SEL LI—Offerings and participation above average	0.593
<b>Leading Indicator Cluster: Parent Involvement (n = 84)</b>	
Parent LI—Both means below average	0.357
Parent LI—Family outreach mean above average, family participation mean below average	0.417
Parent LI—Both means above average	0.226
<b>Leading Indicator Cluster: Partner Engagement (n = 82)</b>	
Partner LI—Partner staff use below average	0.926
Partner LI—Partner staff use above average	0.074
<b>Average Staff-to-Student Ratio (n = 84)</b>	
Average Staff-to-Student Ratio	0.211
<b>Leading Indicator Variable: Internal Staff Communication (n = 84)</b>	
Average Internal Staff Communication Score (100 = high)	55.9

Source: PARS21, Leading Indicator Dataset.

### Teacher Survey Outcomes

In the analyses that follow, we explored the relationships between student- and center-level characteristics and the teacher survey scales: *being attentive*, *behaving well*, *improving homework*, and *participating*. A series of two-level models were employed to include student- and center-level predictors.

Models included center-level profile variables, student demographics, and a dosage measure to assess the importance of program participation intensity. Of particular interest were the variables included in the models related to a center's status on the leading indicators. The inclusion of these variables allowed for an exploration of whether leading indicator status related to teacher-reported improvements in behavior. This was of particular interest since the leading indicators were meant to be measures of program quality.

As shown in Table 15, several student-level predictors were positively correlated with the four teacher survey reports. The following student-level predictors were positively associated with each of the four teacher survey reports:

- **21st CCLC Participation (Positive Correlation).** For each of the teacher survey scale scores included as outcomes, the number of school-year days a student attended 21st CCLC programming was significantly positively correlated with higher teacher survey scale scores. This indicates a positive relationship between number of days attending 21st CCLC programming and improved student behaviors in *homework, motivation and attentiveness, prosocial behaviors, and participation* as measured by the teacher survey.
- **Limited English Proficiency (LEP) Designation (Positive Correlation).** Again, for each of the teacher survey scale scores included as outcomes, a student's status as an LEP was significantly positively correlated with higher teacher survey scale scores on each of the scales under consideration. On average, students attending centers falling in this cluster scored 3.85 to 6.83 points higher on this teacher survey subscale.

In addition, minority status was negatively correlated with teacher perceived improvement in *participation, attentiveness, and prosocial behaviors*.

At the center level, the following predictors were either positively or negatively associated with each of the four teacher survey reports:

- **Staff-to-Student Ratio (Negative Correlation).** For each of the teacher survey scale scores included as outcomes, the lower the average staff-to-student ratio at a given center, the lower the level of teacher-reported change in student behavior.
- **Internal Staff Communication (Positive Correlation).** For each of the teacher survey scale scores included as outcomes, the higher the center's average internal communication and collaboration scale score was, the higher the level of teacher-reported change in student behavior.

Also at the center level, the following significant associations with individual teacher survey outcomes were identified and consistent with the evaluation hypotheses regarding the nature of the relationship:

- **Academic LI—Most Means Below Average (Negative Correlation).** Center membership in this cluster characterized by below-average performance on most leading indicators associated with the adoption of practices and strategies to support academic development was negatively associated with *Participating in Class* scale scores. On average, students attending centers falling in this cluster scored 5.35 points lower on this teacher survey subscale.

- ***Academic LI—Academic Offerings and Participation Above Average (Positive Correlation).*** Center membership in this cluster characterized by above-average performance on leading indicators associated in terms of offering academic-related programming and student participation in these activities was positively associated with *Prosocial Behaviors* scale scores. On average, students attending centers falling in this cluster scored 7.64 points higher on this teacher survey subscale.
- ***YD/SEL LI—Offerings and Participation Below Average (Negative Correlation).*** Center membership in this cluster characterized by below-average performance on most leading indicators associated with the adoption of practices and strategies to support youth development and SEL was negatively associated with both *Participating in Class* scale scores and the *Prosocial Behaviors* scale scores. On average, students attending centers falling in this cluster scored 4.71 and 4.65 points lower on these teacher survey subscales, respectively.
- ***Parent LI—Both Means Below Average (Negative Correlation).*** A negative correlation was found to exist between a center’s membership in the parent-related cluster characterized by below-average engagement and participation by parents and adult family members in programming and *Participating in Class* scale scores and the *Prosocial Behaviors* scale scores. On average, students attending centers falling in this cluster scored 6.92 and 4.69 points lower on these teacher survey subscales, respectively.
- ***Mostly Teachers (Positive Correlation).*** Center membership in this cluster characterized by program activities largely being delivered by school-day teachers was positively associated with *Prosocial Behaviors* scale scores. On average, students attending centers falling in this cluster scored 7.82 points lower on this teacher survey subscale.

Findings that were not necessarily anticipated included the following:

- ***Parent LI—Both Means Above Average (Negative Correlation).*** A negative correlation was found to exist between a center’s membership in the parent-related cluster characterized by above-average engagement and participation by parents and adult family members in programming and *Prosocial Behaviors* scale scores. On average, students attending centers falling in this cluster scored 10.76 points lower on this teacher survey subscale.

**Table 15. Model Results: Teacher Survey Outcomes With Leading Indicator Predictors**

<b>Predictors</b>	<b>Being Attentive</b>	<b>Prosocial Behaviors</b>	<b>Improving Homework</b>	<b>Participating in Class</b>
Intercept	52.754*** (1.426)	48.996*** (1.327)	55.960*** (1.591)	44.727*** (1.535)
Internal Staff Communication	0.611*** (0.204)	0.0673*** (0.189)	0.741*** (0.229)	0.689*** (0.200)
Grant School-Based	-2.510 (2.641)	-1.706 (2.059)	-5.159 (3.183)	-0.204 (2.525)
Staff-to-Student Ratio	-22.655*** (5.177)	-18.415*** (3.681)	-10.521* (5.921)	-15.118*** (5.215)
Mostly Teachers	3.668 (2.308)	7.815*** (2.220)	4.025 (2.774)	3.330 (2.750)
Academic LI—Most means below average	0.284 (2.730)	-2.023 (2.644)	-1.733 (3.134)	-5.353** (2.642)
Academic LI—Academic offerings and participation above average	3.599 (4.055)	7.642** (3.080)	2.756 (4.215)	-1.996 (4.827)
YD/SEL LI—Offerings and participation below average	-2.824 (2.591)	-4.706** (2.297)	-3.524 (3.220)	-4.654* (2.505)
Parent LI—Both means below average	-4.791 (2.971)	-4.688* (2.791)	-3.544 (3.357)	-6.922** (3.186)
Parent LI—Both means above average	-4.934 (4.255)	-10.763*** (3.551)	-2.335 (4.114)	-5.122 (3.806)
Partner LI—Partner staff use below average	-3.246 (2.747)	0.398 (2.470)	0.472 (2.960)	-3.486 (3.171)
<b>Slopes</b>				
School-Year Days	0.071*** (0.019)	0.060*** (0.019)	0.078*** (0.019)	0.060*** (0.020)
Hours Mathematics	-0.011 (0.019)	0.003 (0.027)	0.010 (0.028)	-0.008 (0.029)
Hours Reading	-0.001 (0.017)	0.020 (0.020)	0.001 (0.016)	-0.013 (0.016)
Continuous Years	0.523 (1.162)	-0.303 (0.950)	0.433 (1.149)	-0.013 (1.032)
Middle School Student	-0.882 (2.348)	0.524 (2.331)	-0.943 (2.247)	-3.576 (2.882)
High School Student	1.340 (2.909)	-2.523 (3.095)	0.372 (3.152)	-2.043 (3.407)

Predictors	Being Attentive	Prosocial Behaviors	Improving Homework	Participating in Class
FRPL	-0.409 (0.952)	-1.243 (1.160)	-1.997* (1.072)	-0.870 (1.495)
Special Education	0.602 (1.906)	1.783 (1.892)	1.256 (1.734)	2.181 (2.111)
LEP Status	5.567** (2.406)	3.845* (2.041)	6.833*** (2.457)	5.227** (2.417)
Gender (Male)	-1.719 (1.075)	-0.952 (1.315)	-1.677 (1.119)	-2.153 (1.334)
Hispanic Ethnicity	-0.730 (1.686)	-2.898 (2.035)	0.188 (1.672)	-1.899 (1.874)
Minority	-2.804* (1.471)	-4.786*** (1.718)	-1.914 (1.399)	-3.142* (1.727)

Notes: Robust standard errors are reported in parentheses; \*\*\*significant at 0.01; \*\*significant at 0.05; \*significant at 0.10.

### State Assessment Outcomes

The same domain of analyses was carried out with state assessment outcomes in reading and mathematics as the dependent variables. The outcome measures employed in undertaking these analyses were standardized scores. Note that scores were standardized using all student scores available, but only students with both 2010–11 and 2011–12 scores in either mathematics or reading were retained. In addition, only students whose 2010–11 mathematics or reading score was below proficient were considered in the analysis (in order to assess impact on students who needed to improve).

The models that follow, displayed in Table 16, include center-level characteristics and individual student measures.

At the student level, the following predictors were significantly associated with state assessment outcomes:

- ***Special Education Status (Positive Correlation)***. For both reading and mathematics outcomes, a significant, positive relationship was found to exist between a student’s status as being in receipt of special education services and their assessment scores in 2011–12.
- ***LEP Status (Positive Correlation)***. A positive relationship was found to exist between a student’s status as being an LEP student and their reading assessment scores in 2011–12.
- ***Hours of Mathematics Participation (Negative Correlation)***. A negative relationship was found to exist between the number of hours student attended mathematics programming and mathematics assessment scores in 2011–12.

- ***Free or Reduced-Price Lunch Eligibility (Negative Correlation)***. A negative relationship was found to exist between a student’s eligibility for free or reduced-price lunches and mathematics assessment scores in 2011–12.

At the center level, the following predictors were associated with state assessment outcomes in the manner hypothesized:

- ***Academic LI—Most Means Below-Average Cluster (Negative Correlation)***. Centers in this cluster scored below average on most of the leading indicators related to the adoption of strategies and approaches to support academic development. There was found to be a significant negative relationship between enrollment in centers assigned to this cluster and student performance on mathematics state assessments.
- ***YD/SEL LI—Offerings and Participation Below Average (Negative Correlation)***. Centers in this cluster scored below average on most of the leading indicators related to the adoption of strategies and approaches to support youth development and the social emotional development of participating students. There was found to be a significant negative relationship between enrollment in centers assigned to this cluster and student performance on mathematics state assessments.

In contrast, the following center-level predictors were associated with state assessment outcomes *not* in the manner hypothesized:

- ***Internal Staff Communication (Negative Correlation)***. A negative relationship was found to exist between a center’s average scale score on the *internal staff communication* scale of the staff survey and students’ mathematics performance.
- ***Center Associated With a School-Based Grantee (Negative Correlation)***. A negative relationship was found to exist between a center’s association with a school-based grantee and students’ mathematics performance.
- ***Parent LI—Both Means Below Average (Positive Correlation)***. A positive correlation was found to exist between a center’s membership in the parent-related cluster characterized by low engagement and participation by parents and adult family members in programming and students’ reading performance.
- ***Partner LI—Partner Staff Use Below Average (Positive Correlation)***. A positive correlation was found to exist between a center’s membership in the partner-related cluster characterized by low utilization of staff members from partner agencies to staff programming and students’ mathematics performance.

**Table 16. Model Results: State Assessment Outcomes With Leading Indicator Predictors**

<b>Predictors</b>	<b>Mathematics</b>	<b>Reading/Language Arts</b>
Intercept	0.667*** (0.023)	0.374*** (0.017)
Internal Staff Communication	-0.005* (0.003)	-0.002 (0.002)
Grant School-Based	-0.083** (0.035)	-0.036 (0.024)
Staff-to-Student Ratio	0.050 (0.131)	0.045 (0.156)
Mostly Teachers	-0.029 (0.036)	0.029 (0.026)
Academic LI—Most means below average	-0.130*** (0.042)	-0.026 (0.030)
Academic LI—Academic offerings and participation above average	-0.084 (0.070)	-0.039 (0.041)
YD/SEL LI—Offerings and participation below average	-0.071* (0.037)	0.008 (0.029)
Parent LI—Both means below average	0.009 (0.052)	0.081** (0.035)
Parent LI—Both means above average	0.019 (0.054)	0.034 (0.036)
Partner LI—Partner staff use below average	0.111*** (0.038)	0.037 (0.027)
<b>Slopes</b>		
School-Year Days	-0.000 (0.000)	0.000 (0.000)
Hours Math/Reading	-0.002** (0.001)	0.000 (0.000)
Continuous Years	-0.005 (0.018)	-0.036 (0.024)
Middle School Student	0.060* (0.036)	-0.005 (0.033)
2010–11 Score	0.606*** (0.031)	0.504*** (0.037)
FRPL	0.101* (0.056)	-0.038 (0.035)
Special Education	0.275*** (0.046)	0.385*** (0.054)

Predictors	Mathematics	Reading/Language Arts
LEP Status	0.019 (0.052)	0.090** (0.042)
Gender (1 = Male)	-0.042 (0.037)	0.009 (0.029)
Ethnic	-0.038 (0.072)	-0.028 (0.054)
Minority	0.025 (0.062)	0.015 (0.056)

Notes: Robust standard errors are reported in parentheses; \*\*\*significant at 0.01; \*\*significant at 0.05; \*significant at 0.10.

### Attendance Outcomes

Using students and centers represented in the dataset associated with the state assessment models highlighted in the previous section, a similar set of analyses was carried out with school year center attendance in 21st CCLC programming as an outcome measure. Our primary goal in undertaking these analyses was to explore the relationship between centers' status on the leading indicators and student attendance in 21st CCLC programming. The results that follow, displayed in Table 17, include center-level characteristics and variables associated with individual student-level demographics.

At the student level, the following predictors were significantly associated with a student's level of attendance in 21st CCL programming:

- ***Middle School Student Status (Negative Association)***. A student's status as a middle school student was negatively related to the number of days they attended 21st CCLC programming during the school year, with middle school students attending on average of 11 days less than elementary students. This result was not a surprising one.
- ***Standardized 2010–11 Reading Assessment Score (Negative Association)***. Students scoring lower on their state assessment in 2010–11 were less likely to attend 21st CCLC programming during the 2011–12 school year.
- ***Male Students (Negative Association)***. Male students were less likely to attend 21st CCLC programming during the 2011–12 school year (an average of four days less).

At the center level, the following predictors were associated with state assessment outcomes in the manner hypothesized:

- ***Parent LI—Both Means Below Average (Negative Correlation)***. A negative correlation was found to exist between a center's membership in the parent-related cluster characterized by low engagement and participation by parents and adult family members in programming and students' attendance in 21st CCLC (students in this cluster attended 28 days less of 21st CCLC programming on average).

- ***Center Associated With a School-Based Grantee (Positive Correlation)***. A positive relationship was found to exist between a center’s association with a school-based grantee and students’ 21st CCLC attendance (students associated with these grantees attended 22 days more of 21st CCLC programming on average).

In contrast, the following center-level predictors were associated with attendance outcomes *not* in the manner hypothesized:

- ***Internal Staff Communication (Negative Correlation)***. A negative relationship was found to exist between a center’s average scale score on the *internal staff communication* scale of the staff survey and students’ 21st CCLC attendance. (students attended almost one less of 21st CCLC programming per one-point increase in the internal communication scale score).
- ***Mostly Staffed by Teachers (Negative Correlation)***. A negative relationship was found to exist between a center’s staffed mostly by school-day teachers and students’ 21st CCLC attendance (students associated with these grantees attended 10 days less of 21st CCLC programming on average).

**Table 17. Model Results: School-Year Attendance Outcome With Leading Indicator Predictors**

Predictors	Attendance
Intercept	84.554*** (2.926)
Staff Communication	-0.892** (0.367)
Grant School-Based	21.624*** (6.576)
Staff-to-Student Ratio	-4.456 (22.209)
Mostly Teachers	-10.377* (5.630)
Academic LI—Most means below average	-0.627 (7.325)
Academic LI—Academic offerings and participation above average	11.567 (9.334)
YD/SEL LI—Offerings and participation below average	5.889 (6.233)
Parent LI—Both means below average	-28.514*** (7.152)
Parent LI—Both means above average	-3.937 (7.161)
Partner LI—Partner staff use below average	-4.198 (6.156)

Predictors	Attendance
<i>Slopes</i>	
Continuous Years	2.643 (1.864)
Middle School Student	-11.055*** (3.128)
2010–11 Reading Score	-2.440* (1.407)
2010–11 Mathematics Score	0.007 (2.407)
FRPL	5.469 (4.602)
Special Education	1.626 (3.025)
LEP Status	0.902 (2.884)
Gender	-3.952* (2.336)
Ethnicity	6.634 (4.841)
Minority	5.504 (5.062)

Notes: Robust standard errors are reported in parentheses; \*\*\*significant at 0.01; \*\*significant at 0.05; \*significant at 0.10.

## Findings From the Within-Program Analyses

The analyses of program impact explored individual and center characteristics, as well as measures of program dosage, as potential predictors of the outcomes of interest, including: teacher survey reports of being attentive, behaving well, improving homework, and participation in class; performance on state mathematics and reading assessments; and school-year attendance in 21st CCLC programming. More specifically, the domain of HLM analyses undertaken in this section of the report is based on the following questions related to the impact of 21st CCLC on desired program outcomes:

- To what extent is there evidence of a relationship between select program and student characteristics and the likelihood that students demonstrated:
  1. Higher levels of attendance in 21st CCLC
  2. An improvement in behaviors likely to be supportive of better academic achievement
  3. Higher academic achievement in reading/language arts and mathematics

## Relationship Between Program Attendance and Outcomes

**Days of 21st CCLC Attendance.** In answering these questions, it was hypothesized that higher levels of attendance in 21st CCLC programming (as measured by the number of days of attendance in the 21st CCLC program at a given center during the 2011–12 school year) would be associated with greater student performance on the student achievement and behavioral outcomes of interest. This hypothesis was supported by results obtained from the aforementioned models in which teacher survey-based outcomes were of interest. The number of days of 21st CCLC attendance during the school year was significantly and positively associated with teacher-reported improvements in *homework completion and quality* ( $p < .01$ ), *motivation and attentiveness* ( $p < .01$ ), *prosocial behaviors* ( $p < .01$ ), and *participation in class* ( $p < .01$ ). These significant findings in relation to teacher survey results are consistent with similar findings obtained when these same analyses were done with 2008–09 and 2009–10 data, documented in the Year 2 impact report. These results suggest that higher levels of attendance in 21st CCLC programming were associated with a greater degree of improvement in teacher-report behaviors. Curiously, similar positive relationships were not found to exist in relation to reading or mathematics state assessment results. These results were slightly different from those observed in the 2008–09 and 2009–10 data: Although the Year 1 and Year 2 results showed no significant connection between attendance and reading assessment results, they did show a significant, positive relationship between attendance and mathematics state assessment results.

**Years of Continuous Enrollment.** The potential benefits associated with participation in 21st CCLC programming can be examined from the perspective of continuous enrollment in 21st CCLC programming across multiple years. Our hypothesis was that multiple years of participation in 21st CCLC programming would be associated with a greater degree of student performance on academic and behavioral outcomes. Although this hypothesis has in prior years been supported, at least with respect to positive outcomes in terms of state assessment results, the 2011–12 data present no evidence of this relationship in relation to either teacher survey outcomes or state assessment results.

***Hours in Reading and Mathematics Programming.*** In addition to examining the connection between overall levels of 21st CCLC program attendance and participation and academic and behavioral outcomes, an effort was made to explore how certain types of program attendance may be related to desired program outcomes. During this process, we considered whether the number of hours students spent in reading and mathematics programming during the 2011–12 school year would be associated with student performance on academic and behavioral outcomes. This assumption was predicated on the hypothesis that greater participation in subject-specific activities would be associated with a greater likelihood of improvement and performance on the outcomes of interest, especially on the subject in question when examining state assessment results. Interestingly, the existence of a significant relationship in this regard was not found to exist for reading/language arts, and the relationship between mathematics-specific activity hours and mathematics state assessment results was actually significant and slightly negative, which may be an indication that the neediest students were being served most intensively. Note, however, that prior years’ results have shown no significant relationship between hours of reading/language arts– or mathematics-specific activities and state assessment outcomes. Of some interest was that a positive and significant relationship was found to exist between hours spent in reading/language arts programming and teacher-reported improvement in behaving well ( $p < .10$ ). This finding also was observed in the 2009–10 data, though not in the 2008–09 data.

### **Relationship Between Program Characteristics and Outcomes**

***Performance on the Leading Indicators.*** The present analysis attempts to discern whether the leading indicators are in fact significantly associated with student outcomes. For purposes of this report, and as noted earlier, the leading indicators were therefore divided into five different sets according to their content:

1. Strategies and practices that support the academic development of participating youth
2. Strategies and practices that support the development of participating youth from a youth development perspective
3. Strategies and practices that support the engagement and development of parents and adult family members
4. Strategies and practices that support the utilization and engagement of partners
5. Strategies and practices that support program improvement efforts

Using hierarchical cluster modeling (Ward’s method), centers were classified into low-performance to high-performance clusters for the first four dimensions, while the fifth dimension, Internal Staff Communication, comprised a single Leading Indicator and was considered as a separate scale variable. In this way, it was possible to formulate groups of centers sorted by quality and to assess how predictive group membership was of youth outcomes. This process is described in detail in Chapter 4.

***Academic Development.*** Center membership in the cluster characterized by below-average performance on most of the academic development related leading indicators was negatively associated with mathematics assessment results ( $p < .01$ ). A similar relationship was not found in relation to reading assessment results. In addition, center membership in the below-average

cluster also was negatively associated with teacher assessment of student behavior change in terms of *Participating in Class* ( $p < .05$ ), while membership in a cluster characterized by above-average levels of academic offerings and participation in these offerings was positively associated with teacher survey-based *Prosocial Behaviors* score. These findings were consistent with the types of hypothesized relationships that were expected to be observed in relation to these clusters.

**Youth Development.** Center membership in the cluster characterized by below-average performance on most of the leading indicators related to the adoption of strategies and approaches to support youth development and the social emotional development of participating students was found to be negatively related to teacher assessment of student behavior change in terms of *Participating in Class* ( $p < .1$ ) and *Behaving Well in Class* ( $p < .1$ ). In terms of state assessment outcomes, membership in this cluster also was negatively associated with mathematics state assessment results ( $p < .1$ ). These findings were consistent with the types of hypothesized relationships that were expected to be observed in relation to this cluster.

**Parent and Adult Family Engagement and Development.** For this quality domain, both low- and high-performing clusters were included in the predictive analysis. Identification with the parent-related cluster characterized by low engagement and participation by parents and adult family members in programming was significantly and negatively associated with teacher assessment of student behavior change in terms of *Participating in Class* ( $p < .05$ ) and *Behaving Well in Class* ( $p < .1$ ), and was significantly and negatively associated with school-year 21st CCLC attendance ( $p < .01$ ). These findings were consistent with what was hypothesized. Less intuitively, however, there was a significant, positive association between the memberships in this cluster and reading assessment results ( $p < .05$ ). In addition, the parent-related cluster characterized by high engagement and participation by parents and adult family members in programming only displayed one significant association, a negative association with teacher assessment of student behavior change in terms of *Behaving Well in Class* ( $p < .1$ ). These findings present a picture that is less clear than that presented for the Academic or Social Emotional Learning clusters in terms of the relationship between leading indicator performance and outcomes.

**Other Quality Domains.** Membership in the cluster characterized by low utilization of partner staff was positively and significantly associated with mathematics assessments ( $p < .01$ ), with no other significant effects. Internal Staff Communication scale score was significantly and negatively associated with both mathematics assessment results ( $p < .1$ ) and school-year 21st CCLC attendance ( $p < .05$ ) but positively and significantly associated with all teacher assessment of student behavior areas (all at the  $p < .01$  level of significance). Generally, these findings do not support any conclusive statements between the relationship of leading indicator performance and outcomes.

**Summary.** It was expected that cluster membership indicating a high level of performance would be positively associated with the outcomes examined as part of the within-program analyses and cluster membership indicating a low level of performance would be negatively associated with this set of outcomes. The latter hypothesis was more likely to be supported by the results yielded from these models, particularly in the following instances:

- *Academic Development—Most means below average.* Center membership in this cluster was negatively associated with mathematics assessment results ( $p < .01$ ) and teacher assessment of student behavior improvement in terms of *Participating in Class* ( $p < .05$ ).
- *Youth Development—YD/SEL offerings and participation below average.* Center membership in this cluster was found to be negatively related to teacher assessment of student behavior improvement in terms of *Participating in Class* ( $p < .10$ ) and *Behaving Well in Class* ( $p < .10$ ). In terms of state assessment outcomes, membership in this cluster also was negatively associated with mathematics state assessment results ( $p < .10$ ).
- *Parent Involvement—Both means below average.* Center membership in this cluster was found to be negatively associated with teacher assessment of student behavior improvement in terms of *Participating in Class* ( $p < .05$ ) and *Behaving Well in Class* ( $p < .10$ ) and school-year 21st CCLC attendance ( $p < .01$ ).

Although these results are encouraging, not all hypothesized relationships were found to exist between cluster membership and the student outcomes examined. It is our sense that the leading indicators may be more useful in attempting to identify centers scoring on the lower of the spectrum in terms of implementation of quality practices, which may be prove useful to the NJDOE as it works to develop and prioritize training and technical assistance efforts.

### **Other Program Characteristics**

In addition to testing program characteristics associated with the leading indicators, the models included grant school-based status, staff-to-student ratios, and membership or lack thereof in the *Mostly Teachers* staffing cluster. The effects associated with these predictors were generally less clear than those identified above, with the exception of the staff-to-student ratio, which was significantly and negatively associated with all areas of teacher survey assessment of student behavior change (all at the  $p < .01$  significance threshold, with the exception of *Completing Homework*, which was significant at the .1 level). This result is surprising and could be potentially related to a service delivery approach, where the neediest students are served in activities with very low staff-to-student ratios. It may be more difficult to show improvement for such students.

In addition, grant school-based status was negatively and significantly associated with mathematics assessment outcomes ( $p < .05$ ) but significantly and positively associated with school-year 21st CCLC attendance ( $p < .01$ ); center identification in the *Mostly Teachers* cluster was significantly and negatively associated with school-year 21st CCLC attendance ( $p < .1$ ) but significantly and positively associated with teacher survey reported changes in terms of *Behaving Well in Class* ( $p < .01$ ). Again, the lack of consistent findings in relation to these characteristics make it difficult to say anything definitive about the relationship of these characteristics to outcomes.

### **Relationship Between Student Characteristics and Outcomes**

Generally, we had no formally defined hypotheses regarding how student characteristics may be associated with the achievement of desired academic and behavioral outcomes. In reviewing the results obtained from the domain of HLM analyses described earlier, it is striking how the

importance of student characteristics as predictors of student improvement and performance vary by the outcome under consideration. For improvement in terms of teacher survey reported changes in student behavior, days of school-year 21st CCLC attendance and LEP status seem especially predictive. Higher attendance in 21st CCLC is positively and significantly associated with all four areas of teacher-reported changes in student behavior (*Attentiveness in Class* at  $p < .01$ , *Behaving Well in Class* at  $p < .01$ , *Homework Completion* at  $p < .01$ , and *Participating in Class* at  $p < .01$ ); likewise for student identification as LEP (*Attentiveness in Class* at  $p < .05$ , *Behaving Well in Class* at  $p < .1$ , *Homework Completion* at  $p < .01$ , and *Participating in Class* at  $p < .05$ ). In terms of state assessment results, prior year assessment scores were highly predictive at the  $p < .01$  level (perhaps unsurprisingly), as was participation in special education (also at the  $p < .01$  level). LEP status was a significant, positive predictor of reading assessment outcomes ( $p < .05$ ).

### **Note on Within-Program Analyses**

The previous analyses explored associations between domains of student and center characteristics and a variety of academically oriented achievement and behavioral outcomes. Predictors in each model (both center and student characteristics) were included based on hypotheses that the identified characteristics relate to a number of student academic and behavioral outcomes. All of the findings resulting from the within-program analyses are correlational and descriptive in nature and do not permit causal inferences. For example, the within-program findings cannot answer the question on whether more days of program participation caused students to score higher on achievement tests. A correlational finding between more days of program attendance and higher student achievement may instead explain the characteristics of participating students. A correlation may exist because students who enjoy school may be more likely to achieve higher assessment scores, and students who enjoy school may be more likely to participate in programming that is similar to their school-day activities—that is, they may have higher levels of attendance in the 21st CCLC programs.

Taken together, the findings for within-program analyses are useful in exploring particular student or center characteristics associated with lower (or higher) levels of student academic and behavioral outcomes. The reader should keep in mind that these findings are purely descriptive in nature and do not in any way imply a causal relationship between center characteristics and outcomes.

### **Impact of 21st CCLC Participation on Student Achievement**

The evaluation team employed a quasi-experimental research design to examine the effect of participating in 21st CCLC programming on students' reading and mathematics achievement measured by NJ ASK for students in Grades 4–8 and the HSPA for students in Grade 11. The analysis was conducted for two sets of students: students across all proficiency levels in the two subjects and students classified as “below proficient,” although the latter analysis was only performed in relation to students in Grades 4–8 given the relatively small of students enrolled in Grade 11 represented in the dataset. The goal of this analysis was to answer the following evaluation questions:

For students across all proficiency levels in reading and mathematics and below-proficient students in reading and mathematics, the following question can be posed:

- To what extent is there evidence that students participating in services and activities funded by 21st CCLC demonstrated better performance on reading and mathematics assessments as compared with similar students not participating in the program?

Specifically, the study compared the performance of students who participated in 21st CCLC to similar students who did not participate using a propensity score stratification approach. Participation was defined two different ways for the purpose of the analysis. First, students who attended at least 30 days were compared with students who attended 0 days. Second, students who attended at least 70 days were compared with students who attended 0 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.

### **Accounting for Selection Bias**

In any evaluation of a program where participants are not randomly assigned to participate in the program or not, 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 pre-existing differences between students who attended the program and those who did not from the effect of attending the program. In general, we found that students who attended the program tended to be higher achieving students than those who did not prior to the start of the current academic year. The quasi-experimental approach outlined here, propensity score matching (PSM), 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).

PSM 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. 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 New Jersey. In the second stage, the predicted probability of participation was used to model student outcomes while accounting for selection bias. We balanced pretreatment group differences in observed covariates using a propensity score stratification and marginal mean weighting approach (Hong & Hong, 2009).

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

- Prior achievement in reading and mathematics
- Student demographic information, including the following:
  - Gender

- Racial status
- Language of origin
- Socioeconomic status
- Special education status
- Migrant status
- Immigrant status
- School type

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). A total of 87 variables were considered for the propensity score model. Data were not available for each of these covariates for all students. To account for this, indicator variables were used to model the relationship between the pattern of missing data and propensity to participate in the program (Rosenbaum & Rubin, 1984). The propensity score model was fit separately for each grade (Grades 4–8 and 11), and separately for each definition of treatment (30+ day; 70+ day). The final propensity score models for each grade were checked to ensure that the analysis sample was balanced across relevant covariates. The propensity score models all produced control samples, which were balanced with the treatment across the 87 variables examined for balance. This result indicates that the treatment and control groups had no significant differences from one another (prior to treatment) as measured by these 87 variables.

## **Results**

The evaluation team followed the same procedure to examine the effect of participating in 21st CCLC programming on reading and mathematics achievement for (a) students across all proficiency levels and (b) below-proficient students. The results are presented in the next section, respectively.

### **Impact for Students Across All Proficiency Levels**

Table 18 shows the effect of 21st CCLC programming on student reading and mathematics achievement and retention, pooled across grade levels (for both the 30+ day and 70+ day treatment definitions) for students with across proficiency levels in Grades 4–8. It is important to note that the control group for the 30+ day and 70+ day treatment definitions will differ. Separate propensity score models were fit for each, and it is reasonable to think that students who attend 70 or more days are different from those who only attend 30 or more days. No significant effect of 21st CCLC was found for reading achievement at the 0.10 significance level for either the 30+ day or the 70+ day treatment. Reading achievement in the treatment group was lower for the 30+ day treatment and higher for the 70+ day treatment than that in the control group, but not significantly so. The results are different for mathematics. For the 70+ day treatment, there was a statistically significant, positive impact of 21st CCLC programming on mathematics achievement, with students achieving 0.049 standardized deviation units higher than the control group. For the 30+ day treatment, mathematics achievement in the treatment group was higher than that in the control group though not significantly so. The effect sizes for reading and mathematics achievement are all small (Cohen, 1988), with the significant positive result for

mathematics representing about 1/20th of a standard deviation difference in test performance between the treatment and control groups.

**Table 18. Impact of 21st CCLC on Achievement Pooled Across Grades 4–8**

Subject	Treatment	Effect Size	SE of Effect Size	<i>p</i>
Reading	30+ day	-0.019	0.014	.173
	70+ day	0.018	0.016	.292
Math	30+ day	0.021	0.014	.139
	70+ day	0.049	0.016	.002**

Notes: *SE* = standard error; \*\*\*significant at 0.01; \*\*significant at 0.05; \*significant at 0.10.

Table 19 shows the impact on achievement broken down by grade for the 30+ day treatment definition. There was a statistically significant, negative impact of treatment on reading achievement for Grade 4 and no significant impact for all other grades. Table 19 shows that there was no significant impact of treatment on mathematics achievement at a single grade. Regardless of statistical significance, all effect sizes are small, ranging from 0.02 to 0.07 standard deviations.

**Table 19. Impact of 21st CCLC on Achievement—30+ Day Treatment, Grades 4–8**

Grade	Reading				Mathematics			
	Effect	SE	<i>p</i>	Effect Size	Effect	SE	<i>p</i>	Effect Size
4	-1.982	0.862	.022**	-0.065	-0.379	1.307	.772	-0.009
5	-0.590	0.951	.535	-0.020	0.783	1.230	.524	0.019
6	0.646	0.908	.477	0.022	1.733	1.249	.165	0.041
7	0.789	1.084	.467	0.023	1.670	1.255	.183	0.042
8	-1.914	1.246	.125	-0.057	0.382	1.582	.809	0.008

Notes: *SE* = standard error; \*\*\*significant at 0.01; \*\*significant at 0.05; \*significant at 0.10.

Table 20 is similar to Table 19 but shows the results for the 70+ day treatment. We see a significant positive impact of treatment on reading achievement for Grades 6 and 7. In addition, there is a significant positive impact on mathematics achievement for Grade 7. All effect sizes are small, however.

**Table 20 Impact of 21st CCLC on Achievement—70+ Day Treatment, Grades 4–8**

Grade	Reading				Mathematics			
	Effect	SE	<i>p</i>	Effect Size	Effect	SE	<i>p</i>	Effect Size
4	-1.061	0.968	.273	-0.034	0.437	1.421	.758	0.011
5	-0.802	1.041	.441	-0.027	0.626	1.373	.648	0.016
6	2.254	1.145	.049**	0.075	2.395	1.491	.108	0.048
7	3.776	1.343	.005***	0.116	5.257	1.537	.001***	0.095
8	0.061	1.628	.970	0.002	2.945	2.008	.143	0.042

Notes: *SE* = standard error; \*\*\*significant at 0.01; \*\*significant at 0.05; \*significant at 0.10.

## Impact for Students in Grade 11

Similar models were run for students in Grade 11 who took the HSPA assessment in spring 2012. As shown in Tables 21 and 22 for 30 days and 70 days of treatment, respectively, no significant program impact was found in relation to either reading or mathematics for students in Grade 11.

**Table 21. Impact of 21st CCLC on Achievement—30+ Day Treatment, Grades 11**

Grade	Reading				Mathematics			
	Effect	SE	<i>p</i>	Effect Size	Effect	SE	<i>p</i>	Effect Size
11	1.273	2.742	.643	0.041	2.060	2.640	.435	0.047

Note: *SE* = standard error.

**Table 22. Impact of 21st CCLC on Achievement—70+ Day Treatment, Grade 11**

Grade	Reading				Mathematics			
	Effect	SE	<i>p</i>	Effect Size	Effect	SE	<i>p</i>	Effect Size
11	3.719	3.997	.352	0.121	2.632	3.653	.471	0.060

Note: *SE* = standard error.

## Students Classified as Below Proficient

Table 23 shows the effect of 21st CCLC programming on student reading and mathematics achievement pooled across grade levels (for both the 30+ day and 70+ day treatment definitions) for students who are below proficient. Both the treatment and control groups in the two subjects will be different from the previous analysis as this analysis focuses on a subset of students from the overall sample. Again, separate propensity score models were fit by treatment definition and by subject. No significant effect of 21st CCLC was found for reading achievement at the 0.10 significance level for either the 30+ day or the 70+ day treatment. Reading achievement in the treatment group was higher than that in the control group for the two treatment definitions but not significantly so. The results are different for mathematics. There was a statistically significant, positive impact of 21st CCLC programming on mathematics achievement for both 30+ day and 70+ day treatment. Students in the treatment group achieved 0.061 standardized deviation units higher for the 30+ day treatment and 0.054 units higher for the 70+ day treatment than did students in the control group. All effect sizes are small in terms of educational significance.

**Table 23. Impact of 21st CCLC on Achievement Pooled Across Grades (Below-Proficient Students)**

Subject	Treatment	Effect Size	SE of Effect Size	p
Reading	30+ days	0.001	0.022	.953
	70+ days	0.021	0.027	.403
Math	30+ days	0.061	0.026	.021**
	70+ days	0.054	0.025	.033**

Notes: *SE* = standard error; \*\*\*significant at 0.01; \*\*significant at 0.05; \*significant at 0.10.

Table 24 shows the impact on achievement broken down by grade for the 30+ day treatment definition. Table 24 shows that there is no significant impact of treatment on reading achievement at any single grade. The models found a statistically significant, positive impact of treatment on mathematics achievement for Grade 6, moderately significant impact for Grade 7, and no significant impact for all other grades. Regardless of statistical significance, all effect sizes are small.

**Table 24. Impact of 21st CCLC on Achievement—30+ Day Treatment (Below-Proficient Students)**

Grade	Reading				Mathematics			
	Effect	SE	p	Effect Size	Effect	SE	p	Effect Size
4	0.094	0.630	.881	0.007	0.861	1.158	.457	0.044
5	-0.825	0.683	.228	-0.058	1.002	1.056	.343	0.066
6	0.549	0.593	.354	0.040	1.925	0.956	.044**	0.112
7	0.000	0.796	1.000	0.000	1.544	0.931	.098*	0.086
8	0.164	0.776	.833	0.015	-0.556	1.253	.657	-0.028

Notes: *SE* = standard error; \*\*\* significant at 0.01; \*\* significant at 0.05; \* significant at 0.10.

Table 25 is similar to Table 24 but shows the results for 70+ day treatment. Table 25 demonstrates a significant positive impact of treatment on mathematics achievement for Grade 7. No other significant impacts have been detected. All effect sizes are small.

**Table 25. Impact of 21st CCLC on Achievement—70+ Day Treatment (Below-Proficient Students)**

Grade	Reading				Mathematics			
	Effect	SE	p	Effect Size	Effect	SE	p	Effect Size
4	0.926	0.707	.191	0.066	0.541	1.317	.681	0.047
5	-0.750	0.768	.329	-0.052	1.349	1.168	.248	0.089
6	0.079	0.717	.912	0.006	0.655	1.144	.567	0.038
7	1.330	1.014	.190	0.076	2.561	1.184	.031**	0.144
8	0.012	0.992	.990	0.001	-1.266	1.666	.448	-0.064

Notes: *SE* = standard error; \*\*\* significant at 0.01; \*\* significant at 0.05; \* significant at 0.10.

## **Limitations of Results**

These results indicate that there is a positive impact of 21st CCLC programming on mathematics achievement for 70+ day treatment for students with all proficiency levels and a positive impact on mathematics achievement for both 30+ day and 70+ day treatment for students who were classified as below proficient. The propensity score stratification approach employed here seeks to minimize the impact of selection bias on the estimates of program impact. However, it is 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 also are related to student achievement, these analyses may be limited. To that end, these analyses provide initial evidence about the impact of 21st CCLC on academic achievement but should not necessarily be considered equivalent to experimental studies, which have strong internal validity.

## Chapter 6. Conclusions and Recommendations

The information collected and analyzed in relation to the 2011–12 school year was meant to answer four primary evaluation questions related to implementation of the New Jersey 21st CCLC program and the impact of the program on desired student outcomes:

1. What were the primary characteristics of programs funded by 21st CCLC and the students served?
2. How did centers perform on the leading indicators defined for the program, and how is this level of performance relevant to thinking about what additional supports, training, and professional development NJDOE should potentially invest in?
3. To what extent is there evidence of a relationship between select program and student characteristics and the likelihood that students demonstrated the following:
  - a. Higher levels of attendance in 21st CCLC
  - b. An improvement in behaviors likely to be supportive of better academic achievement
  - c. Higher academic achievement in reading/language arts and mathematics
4. To what extent is there evidence that students participating in services and activities funded by 21st CCLC demonstrated better performance on state assessments in reading and mathematics compared with similar students not participating in the program?

Starting with the last question first, 21st CCLC–funded program operating during the course of the 2011–12 school were found to have a small, but statistically significant, positive impact on mathematics achievement for students in Grades 4–8 that attended the program for 70 days or more (effect size of 0.049) relative to similar students not participating in the program. For students scoring below proficiency in mathematics during the preceding school year, the program also was found to have a significant, positive impact on mathematics achievement for students attending both 30 days or more (effect size of 0.061) and 70 days or more (effect size of 0.054) relative to similar students not participating in the program. These results were based on the application of a quasi-experimental design called propensity score matching, which allows these results to be interpreted as the 21st CCLC causing these outcomes. These results are consistent with previous impact analyses conducted in relation to student participation during the 2008–09 and 2009–10 school years.

Correlational analyses also demonstrated that higher levels of 21st CCLC program attendance in the program was related to teacher-reported changes in student behaviors in terms of (a) the completion and quality of homework, (b) volunteering and participating in class, (c) coming to class motivated to learn and remaining attentive in class, and (d) behaving in class and getting along with others. However, similar types of analyses did not demonstrate such a relationship between program attendance and student performance on NJ ASK reading and mathematics assessments. Unlike the previously described impact analyses, which involved a comparison group made up of nonparticipating students, these analyses are not causal in nature. In this sense, it is possible to say there is a relationship between program attendance and teacher-reported

improvement in behavior, but it is not possible to say that the program caused these outcomes. These findings are largely consistent with previous correlational analyses conducted during the 2008–09 and 2009–10 school years.

For the first time, an effort also was made to classify centers based on their level of performance on the leading indicators developed for the program over the span of the past two years. The leading indicator system was designed to summarize data collected as part of the statewide evaluation in terms of how well grantees and their respective centers are adopting research-supported best practices. The leading indicators associated with the 2011–12 school year can be classified as following in the following five quality domains:

1. Strategies and practices that support the academic development of participating youth
2. Strategies and practices that support the development of participating youth from a youth development perspective
3. Strategies and practices that support the engagement and development of parents and adult family members
4. Strategies and practices that support the utilization and engagement of partners
5. Strategies and practices that support program improvement efforts

Indicators associated with each of the five quality domains were analyzed using hierarchical cluster analysis to create quality profiles which triangulated data from the multiple indicators to sort centers into a given quality type. Three types of situations are believed to be of particular interest:

- **When all indicators suggest above-average implementation in relation to a given quality domain.** These are centers that may warrant further examination to learn more about the strategies that support effective implementation of quality practices. It also would be expected that the likelihood that such centers would have a positive impact on student outcomes would be greater.
- **When all indicators suggest below-average implementation in relation to a given quality domain.** These are centers that could especially benefit from the services and supports provided by NJDOE’s technical assistance efforts. Knowing how many centers fall within this category across the various quality domains could prove useful to NJDOE as it structures and prioritizes its technical assistance and training agenda.
- **Mismatches in indicators in relation to a given quality element.** These are centers in which there is divergence in the indicators of implementation within a given domain. These mismatches may suggest a lack of communication and shared vision and understanding among key actors within the program. In these centers, consideration could be given to achieving a shared vision and understanding of the goals, planning requirements, implementation characteristics (e.g., high-level planning and management and day-to-day tasks), program improvement strategies, challenges, and data/outcomes associated with effective implementation of 21st CCLC programming.

Variables summarizing a center’s status relative to quality cluster were then included in a series of correlational, multilevel models to explore if cluster membership was associated with teacher-

reported improvement in student behaviors, NJ ASK reading and mathematics results, and attendance in the 21st CCLC program. It was expected that cluster membership indicating a high level of performance would be positively associated with outcomes and cluster membership indicating a low level of performance would be negatively associated with outcomes. The latter hypothesis was more likely to be supported by the results yielded from these models, particularly in the following instances:

- *Academic Development—Most means below average.* Forty-eight centers were assigned to this cluster where scores on five of the six leading indicators under consideration were below average. Centers in this cluster would be considered to have a lower degree of implementation on strategies and practices that support the academic development relative to the other two cluster types. Center membership in this cluster was negatively associated with mathematics assessment results ( $p < .01$ ) and teacher assessment of student behavior improvement in terms of *Participating in Class* ( $p < .05$ ).
- *Youth Development—YD/SEL offerings and participation below average.* Thirty-seven centers were assigned to this cluster where scores on indicators related to (a) the offering of programming with components infused to support youth development-related behaviors and SEL functioning and (b) the degree of student participation in these offerings were found to be below average. Center membership in this cluster was found to be negatively related to teacher assessment of student behavior improvement in terms of *Participating in Class* ( $p < .10$ ) and *Behaving Well in Class* ( $p < .10$ ). In terms of state assessment outcomes, membership in this cluster also was negatively associated with mathematics state assessment results ( $p < .10$ ).
- *Parent Involvement—Both means below average.* Thirty-one centers were assigned to this cluster where scores on indicators related to (a) the extent to which center staff engaged in practices supportive of parent involvement and engagement and (b) the degree of parent and family member participation in center offerings, which were both found to be below average. Center membership in this cluster was found to be negatively associated with teacher assessment of student behavior improvement in terms of *Participating in Class* ( $p < .05$ ) and *Behaving Well in Class* ( $p < .10$ ) and school-year 21st CCLC attendance ( $p < .01$ ).

Although these results are encouraging, not all hypothesized relationships were found to exist between cluster membership and the student outcomes examined. It is our sense that the leading indicators may be more useful in attempting to identify centers scoring on the lower of the spectrum in terms of implementation of quality practices, which may be prove useful to the NJDOE as it works to develop and prioritize training and technical assistance efforts. Working the leading indicator in this manner also demonstrated that some of the indicators require revisiting, particularly in relation to the timing of when leading indicator data are collected and analyzed and how best to make use of data related to the provision of certain types of offerings like those targeting reading and mathematics and student participation in them. Because there is some indication that the three clusters outlined earlier are related to student outcomes, it may make sense to further dive into the practices articulated in these quality domains; refine measurement approaches; work through a process of defining what constitutes proficient levels of practices in each; and collaborate with the state's technical assistance provider to find ways to build capacity in these areas.

## Next Steps

Moving ahead, the goal of the statewide evaluation will be to further ensure that data collected as part of the statewide evaluation could be used to serve multiple purposes, including the provision of data (a) to grantees to support program assessment and decision making oriented at improving program quality, (b) to support efforts by state program staff members to understand the quality of program implementation, and (c) to assess program impact on youth outcomes. In terms of further supporting grantee use of reports to support decision making related to quality improvement efforts, the evaluation team will be making the following enhancements to the leading indicators reports during the new contract:

- a. *Expand the content and functionality of the leading indicator reports housed in the ETRS.* These modifications will include the creation of *grantee-level* reports summarizing leading indicator data across multiple centers and the addition of new indicators predicated on new measures meant to assess the level of youth engagement from a cognitive perspective. The goal is to think about student engagement in a way that goes beyond mere attendance in program activities.
- b. *Embed a series of self-assessment rubrics in the leading indicator reports.* As highlighted in this report, one of the goals of the leading indicator reports is to raise grantee awareness around what constitutes high-quality practice in the design and delivery of afterschool programming. Our sense is that the likelihood of achieving this objective will be enhanced if steps are taken to add a series of self-assessment rubrics to the leading indicator reports, which connect a center's score to a series of descriptors around what constitutes basic, emerging, proficient, and exemplary practice. In this sense, grantees would be able to compare their score on the indicator with more robust descriptions of effective practice, providing grantee users with additional information about how to chart a course forward to achieve a higher level of functioning in the terms of the delivery of quality programming.
- c. *Provide a planning with data training where leading indicator data can be used to inform the development of a quality improvement plan.* What we have learned in designing leading indicator systems in three states, including New Jersey, is that grantees' capacity to make effective use of the leading indicator reports to support quality improvement efforts can be greatly enhanced if they participate in a structured planning with a data session. During such a session, teams from a given grant comprising the project director, center coordinators, and the local evaluator will wrestle with the meaning of the leading indicators, discuss areas of strength and weakness, and begin the process of developing action plans to support improvement in areas where a higher level of performance is desired.
- d. *Ongoing support provided by NJSACC for quality improvement plan implementation.* Even after a planning with data training, we anticipate that some grantees either will be motivated to get additional support to develop and implement their action plan or will be a place where quality is a substantive issue that will require ongoing support and assistance. To meet these needs, NJSACC, the state's 21st CCLC technical assistance provider, will be responsible for overseeing coaches-provided, customized, center-level support to grantees around action development and implementation based on site performance on the leading indicators.

- e. *Move to criterion-based metrics of performance as opposed to those predicated on a normative approach to performance.* At present, many of the leading indicators have scores that are based on a normative approach to score development, meaning that a given score represents an estimate of the ranking of an individual center relative to all centers statewide on the dimension being measured. Although this norm-based approach is useful, it does not answer the fundamental question around what score a center should achieve to have reached an acceptable level of quality. This would be a standards-based score, and getting to this type of approach would require a standards setting process, where a group of 21st CCLC stakeholders and afterschool subject matter experts work throughout a period of sessions to define what constitutes proficient practice in afterschool. To some extent, this work has already been done through the afterschool standards development in New Jersey with support from the Charles Stewart Mott Foundation. One of the critical tasks to be undertaken during the new contract period is to use the existing afterschool standards as a platform for establishing proficiency targets in the leading indicators.

*Supporting state capacity to monitor program implementation and target capacity-building activities.* The second major pillar supporting the statewide evaluation of the 21st CCLC program is maximizing the information state program staff members have to monitor program implementation and target capacity-building activities. Toward this end, AIR has launched a series of online reports that summarize statewide performance on the leading and summative indicators; demonstrate the extent to which centers fall within a given category of performance ranging from low to high; and outline the number of centers that warrant improvement on a given indicator. This information also has been tracked longitudinally since 2009, providing staff members with the capacity to track changes in statewide performance over time in each of these areas.

Enhancing this component of the statewide evaluation during the new contract period is a particularly a priority. The goal for future development is to create a comprehensive *goals/objectives progress report* that summarizes performance at both the grantee and center-level across each of the following areas:

- a. *Fidelity of implementation.* To what extent has 21st CCLC programming been delivered in a manner consistent with the program's original application for funding?
- b. *Compliance.* To what extent is 21st CCLC programming being delivered in a manner consistent with federal and state guidelines for program operation? The goal here is to incorporate data from monitoring visits performed by state staff members into this report.
- c. *Quality of implementation.* In this instance, leading indicator data would be summarized to create an early warning system for grantees particularly at risk from a quality perspective. The goal here is to identify grantees that could benefit from targeted support to get their program back on track from a quality perspective.
- d. *Program impact.* This will include a summary of data collected from the end-year-reports housed in the ETRS on grantee-reported impacts on student outcomes, as well as data obtained from state data warehouses to support statewide impact estimates,

including school attendance levels, grade promotion, state assessment performance in reading and mathematics, and school dropout.

The goal of this report is to provide state program staff members with a comprehensive view of grantee and center performance across several facets of program design and delivery to facilitate decision making around what grantees may need targeted technical assistance and support to achieve a more optimal level of functioning.

*Assessing the impact of the 21st CCLC program on youth outcomes.* Finally, the last major component of the statewide evaluation is assessing the impact of the program on youth outcomes. In terms of new development in this area, our goal is to enhance grantees access to student performance data to support program assessment and evaluation efforts and to assess how programs are impacting student skills and beliefs in ways that are likely to transfer to enhance academic outcomes during the school day. In this regard, steps will be taken during the new contract period (a) to incorporate outcome data into the leading indicator reports as a way to enhance program access to student performance data maintained in the state's data warehouses and (b) to assess how student skills and beliefs are being impacted by participation in the 21st CCLC program.

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## Appendix A. Staff Survey

Afterschool Program  
NJ 21st CCLC Evaluation Staff Survey

Program Goals and Vision

What, in your view, are the goals of the afterschool program:	Not a goal	Secondary goal	Primary goal
a. Enable the <i>lowest-performing</i> students to achieve grade-level proficiency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Raise the academic performance levels of <i>any</i> students who have an interest in participating.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Provide supervised space for students to complete homework.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Provide opportunities for students to participate in activities not offered during the school day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Provide students with access to academic enrichment opportunities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Enhance the social or civic development of students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Enhance the artistic development of students (e.g., visual and performing arts, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Provide students with the opportunity to participate in sports and recreation activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Other. Please specify: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Afterschool Program  
 NJ 21st CCLC Evaluation Staff Survey

Collective Staff Efficacy

<b>Please rate the extent to which you agree or disagree with the following statements regarding all staff that work with students in this program:</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Not Sure</b>
a. Program staff listen to youth more than talk at them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Program staff actively and continuously consult and involve youth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Program staff provide structured and planned activities explicitly designed to help youth to get to know one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Program staff provide opportunities for youth to lead activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Program staff provide opportunities for youth to help or mentor other youth in completing a project or task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Program staff provide opportunities for the work, achievements, or accomplishments of youth to be publicly recognized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<b>Please rate the extent to which you agree or disagree with the following statements regarding all staff that work with students in this program:</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Not Sure</b>
a. Program staff provide ongoing opportunities for youth to reflect on their experiences (e.g., formal journal writing, informal conversational feedback).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Program staff are effective at finding ways to provide youth with meaningful choices when delivering activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Program staff are effective at providing youth with opportunities to set goals and make plans within the confines of the program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Program staff ask for and listen to student opinions about the way things should work in the program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Afterschool Program  
 NJ 21st CCLC Evaluation Staff Survey

Program Design

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?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Well planned in advance?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Tied to specific learning goals?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Meant to build upon skills cultivated in a prior activity or session?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Explicitly meant to promote skill building and mastery in relation to one or more state standard?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Explicitly meant to address a specific developmental domain (e.g., cognitive, social, emotional, civic, physical, etc.)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Structured to respond to youth feedback on what the content or format of the activity should be?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Informed by the expressed interests, preferences, and/or satisfaction of participating youth?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Afterschool Program  
 NJ 21st CCLC Evaluation Staff Survey

Communication and Linkages to the School Day

Please rate the extent to which you agree or disagree with the following statements regarding linkages to the school day:	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Relevant to My Role in the Program	Not Sure
a. On a week-to-week basis, I know what academic content will be covered during the school day with the students I work with in the afterschool program.	○	○	○	○	○	○
b. I coordinate the content of the afterschool activities I provide with my students' school-day homework.	○	○	○	○	○	○
c. I know whom to contact at my students' day school if I have a question about their progress or status.	○	○	○	○	○	○
d. The activities I provide in the afterschool program are tied to specific learning goals that are related to the school-day curriculum.	○	○	○	○	○	○
e. I use student assessment data to provide different types of instruction to students attending my afterschool activities based on their ability level.	○	○	○	○	○	○
f. I help manage a formal 3-way communication system that links parents, program, and day-school information.	○	○	○	○	○	○
g. I participate in regular, joint staff meetings for afterschool and regular school day staff where steps to further establish linkages between the school day and afterschool are discussed.	○	○	○	○	○	○
h. I meet regularly with school day staff not working in the afterschool program to review the academic progress of individual students.	○	○	○	○	○	○
i. I participate in parent-teacher conferences to provide information about how individual students are faring in the afterschool program. (NOTE: If you are a school-day teacher, please respond to this question in relation to students you do not have in your school-day classroom).	○	○	○	○	○	○

Please indicate whether you receive each of the following, and to what extent you use it in planning for the activities you provide:	Do not Receive	Occasionally Use	Often Use	Not Relevant to My Role in the Program
a. Individual student academic plans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Students' standardized test scores.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Students' grades.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Input from students' day school teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Other. Specify _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Afterschool Program  
 NJ 21st CCLC Evaluation Staff Survey

Service Delivery Practices

How often are students participating in the activities <i>you</i> provide in the program afforded the following types of opportunities:	Never Available	Available Occasionally in Some Classes or Activities	Available Regularly in Most Classes or Activities	Always Available
a. Work collaboratively with other students in small groups.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Have the freedom to choose what activities or projects they are going to work on or participate in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Work on group projects that take more than one day to complete.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Lead group activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Provide feedback on the activities they are participating in during time set aside explicitly for this purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Participate in activities that are specifically designed to help students get to know one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Make formal presentations to the larger group of students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Afterschool Program  
 NJ 21st CCLC Evaluation Staff Survey

Youth Ownership

Please indicate your level of agreement with the following statements about how your students build ownership of the program:	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Sure
a. Youth are afforded opportunities to take responsibility for their own program.	<input type="radio"/>				
b. Youth have the opportunity to set goals for what they want to accomplish in the program.	<input type="radio"/>				
c. Youth help make plans for what activities are offered at the program.	<input type="radio"/>				
d. Youth make choices about <i>what</i> content is covered in program offerings.	<input type="radio"/>				
e. Youth make choices about <i>how</i> content is covered in program offerings.	<input type="radio"/>				
f. Youth help create rules and guidelines for the program.	<input type="radio"/>				

Afterschool Program  
 NJ 21st CCLC Evaluation Staff Survey

Internal Communication

<b>How frequently do you engage in the following tasks with other staff working in the afterschool program:</b>	<b>Never</b>	<b>A Couple of Times Per Year</b>	<b>About Once a Month</b>	<b>Nearly Every Week</b>
a. Conduct program planning based on a review of program data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Use evaluation data to set program improvement goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Discuss progress on meeting program improvement goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Observe other afterschool staff delivering programming in order to provide feedback on their practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Conduct program planning in order to meet specific learning goals in coordinated ways across multiple activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Share ideas on how to make programming more engaging for participating students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Share experiences and follow up about individual youth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Receive feedback from school-day teachers and/or administrators on how the program could better support student learning needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Participate in training and professional development on how to better serve youth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Discuss current research-based instructional practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Afterschool Program  
 NJ 21st CCLC Evaluation Staff Survey

Parent Communication

How often do you or other center staff:	Never	Sometime	Frequently
a. Send materials about program offerings home to parents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Send information home about how the student is progressing in the program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Hold events or meetings to which parents are invited.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Have conversations with parents over the phone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Meet with one or more parents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Ask for input from parents on what and how activities should be provided.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Encourage parents to participate in center-provided programming meant to support their acquisition of knowledge or skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Encourage parents to participate in center-provided programming with their children.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**On average, how many hours per week do you work in this program?**

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**On average, how many students do you work with on a daily basis in the program?**

---

**What is your highest level of education?**

- Less than high school
- High school or GED
- Some college, other classes/training not related to a degree
- Completed two year college degree
- Completed four year college degree
- Some graduate work
- Master's degree or higher

**Do you hold a teaching credential or certification?**

- Yes
- No

**Which of the following best describes your primary role in the program?**

- I teach or lead regular program activities (e.g., group leader).
- I assist in activities (e.g., assistant group leader).
- I am a master teacher or educational specialist (e.g., supervise or train other program staff).
- I am an activity specialist (e.g., dance instructor, music instructor, martial arts instructor).
- I am the parent liaison.
- I perform administrative duties.

## Appendix B. Leading Indicator Descriptions

Strategies and Practices That Support the Academic Development of Participating Youth		
Leading Indicator	Description and Calculation	Source
<i>Organizational Processes</i>		
Leading Indicator 1: Academic Development—Strategies are adopted to support the academic development of participating youth.	Each center received a scale score on a 0 to 100 scale, based on responses provided to questions related to the degree to which strategies were adopted to support the academic development of participating youth who appeared on the midyear version of the evaluation template.	Responses to the following question, which appeared in the <i>Improve Student Academic Achievement</i> section of the evaluation template: <ul style="list-style-type: none"> <li>Which strategies were used to improve achievement in reading/English and mathematics? (Check all that apply.)</li> </ul>
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 center received a scale score on a 0 to 100 scale, based on responses provided to questions related to the degree to which strategies were adopted to support the academic development of participating youth who appeared on the midyear version of the evaluation template.	Responses to the following questions, which appeared in the <i>Improve Student Academic Achievement</i> section of the evaluation template: <ul style="list-style-type: none"> <li>How did the program obtain student information? How accessible was this information, and how often was it used?</li> <li>What strategies did you use to link the program to the regular school day?</li> <li>What strategies were your staff members using to communicate with classroom teachers, and how frequently were they being used?</li> </ul>
Leading Indicator 3: Common Core Assessment—Staff obtain data on how well youth are functioning in core academic areas and use that information to inform program design and delivery.	Each center received a designation of <i>having met</i> or <i>did not meet</i> the indicator in question, depending upon whether or not they reported obtaining data on youth academic functioning at some point during the school year when completing the midyear evaluation template. The data yielded from these measures should ultimately be used to (1) inform how programming meant to support student academic growth and development is developed and implemented and (2) serve as a baseline against which to measure student growth across the school year in question.	Responses to the following question, which appeared in the <i>Improve Student Academic Achievement</i> section of the evaluation template: <ul style="list-style-type: none"> <li>Please indicate if you have been able to measure the academic functioning of participating youth using one or more of the following data sources.</li> </ul>

<b>Strategies and Practices That Support the Academic Development of Participating Youth</b>		
<b>Leading Indicator</b>	<b>Description and Calculation</b>	<b>Source</b>
Leading Indicator 4: Within-Program Assessment—Staff at the center implement <i>within-program</i> measures to gauge youth academic performance and growth.	Each center received a designation of <i>having met</i> or <i>did not meet</i> the indicator in question, depending upon whether or not they reported implementing within-program measures when completing the midyear evaluation template related to program impact on improving student academic achievement.	Responses to the following questions, which appear in the <i>Goal A: Improve student academic achievement</i> section of the evaluation template, respectively. <ul style="list-style-type: none"> <li>▪ Please indicate if you have been able to measure the academic functioning of participating youth using one or more of the following data sources: <ul style="list-style-type: none"> <li>• Improve student assessment scores—program-level pretests or posttests.</li> <li>• Improve student homework completion.</li> </ul> </li> </ul>
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 reading/language arts 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/language arts focus, 50% of activity sessions delivered during the first semester of the school year were intentionally meant to support student growth and development in either mathematics or reading/language arts and are led by a certified teacher.	Activity detail and attendance pages in PARS21
<b><i>Point-of-Service Quality</i></b>		
Leading Indicator 18: Common Core—Staff design and deliver intentional and relevant activities designed to support youth growth and development in mathematics and reading/language arts.	Each center received a scale score on a 0 to 100 scale, based on mean responses provided to questions related to the degree of intentionality in activity and session design appearing on the staff survey.	Responses to questions, which appeared in the <i>Intentionality in Activity and Session Design</i> scale of the staff survey.
Leading Indicator 19: Collaboration with school partners—Program staff collaborate with school	Each center will received a scale score on a 0 to 100 scale, based on mean responses provided to questions related to linkages to the school day and using data on student academic achievement to	Responses to questions, which appear in the <i>Linkages to the School Day</i> and <i>Using Data on Student Academic Achievement</i> to inform programming scales of the staff

<b>Strategies and Practices That Support the Academic Development of Participating Youth</b>		
<b>Leading Indicator</b>	<b>Description and Calculation</b>	<b>Source</b>
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.	inform programming appearing on the staff survey.	survey.
<b><i>Participation and Engagement</i></b>		
Leading Indicator 21: Common Core Skills—Youth enrolled in the program participate in a meaningful level of activities designed to support youth growth in reading and mathematics achievement.	Using data collected in PARS21 in relation to student attendance in activities with either a mathematics or reading/language arts focus, 75% of students participating in 21st CCLC programming for more than 15 days during the first semester of the school year will have participated in activities that were intentionally meant to support student growth and development in mathematics and reading/language arts for at least 50% of their total time in the program.	Activity detail and attendance pages in PARS21

Strategies and Practices That Support the Development of Participating Youth From a Youth Development Perspective		
Leading Indicator	Description and Calculation	Source
<i>Organizational Processes</i>		
Leading Indicator 6: Youth Engagement—Staff implement strategies to support the social and emotional development of participating youth in the program.	Each center received a scale score on a 0 to 100 scale, based on responses provided to questions related to the degree to which strategies are adopted to support the social emotional development of participating youth who appear on the midyear version of the evaluation template.	Responses to the following question, which appeared in the <i>Improve Student Behavior and Attitudes</i> section of the evaluation template. <ul style="list-style-type: none"> <li>▪ What strategies were used to support the social emotional development of participating youth? (Check all that apply.)</li> </ul>
Leading Indicator 7: Youth Assessment—Center staff take steps to implement measures to assess social and emotional competencies and use that information to inform program design and delivery.	Each center received a designation of <i>having met</i> or <i>did not meet</i> the indicator in question, depending upon whether or not they reported implementing one or more measures at some point during the school year to assess youth functioning on one or more youth development-related behavior or socioemotional construct. The data yielded from these measures should have been used to (1) inform how programming meant to support youth development and socioemotional constructs is developed and implemented and (2) serve as a baseline against which to measure student growth across the school year.	Responses to the following question, which appeared in the <i>Improve Student Behaviors and Attitudes</i> section of the evaluation template. <ul style="list-style-type: none"> <li>▪ Please indicate if you have been able to measure youth development-related behaviors and socioemotional functioning of participating youth in each of the following areas.</li> </ul>
Leading Indicator 8: Within-Program Assessment—Staff at the center implement <i>within-program</i> measures to assess youth social and emotional functioning and gauge program impact.	Each center received a designation of <i>having met</i> or <i>did not meet</i> the indicator in question, depending upon whether or not they reported implementing within-program measures when completing the midyear evaluation template related to program impact on improving student behavior and attitudes.	Responses to the following questions, which appeared in the <i>Goal B: Improve student behavior and attitudes</i> section of the evaluation template, respectively. <ul style="list-style-type: none"> <li>▪ Please indicate if you have been able to measure youth development-related behaviors and socioemotional functioning of participating youth in each of the following areas: <ul style="list-style-type: none"> <li>• Improve youth development-related behaviors and socioemotional functioning of participating youth.</li> </ul> </li> </ul>

<b>Strategies and Practices That Support the Development of Participating Youth From a Youth Development Perspective</b>		
<b>Leading Indicator</b>	<b>Description and Calculation</b>	<b>Source</b>
Leading Indicator 9: Social and Emotional Learning—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 if 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 and development and SEL functioning are being targeted, if any. The goal is to have 20% of activity sessions delivered during the first semester of 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: <ul style="list-style-type: none"> <li>Is this activity intentionally designed to support the improvement of youth development-related behaviors and socioemotional functioning in any of the following areas? (Check all that apply.)</li> </ul>
<b><i>Point-of-Service Quality</i></b>		
Leading Indicator 16: Quality at Point-of-Service—Staff are committed to creating interactive and engaging settings for youth.	Each center received a scale score on a 0 to 100 scale, based on responses provided to questions related to the degree of <i>Staff Capacity to Create Interactive and Engaging</i> settings for youth.	Responses to questions, which appear in the <i>Staff Capacity to Create Interactive and Engaging Environment</i> scale of the staff survey.
Leading Indicator 17: Youth Development—Staff develop activities that are meant to support youth ownership and other opportunities for positive youth development.	Each center received a scale score on a 0 to 100 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 <i>Practices Supportive of Positive Youth Development</i> and <i>Opportunities for Youth Ownership</i> scales of the staff survey.
<b><i>Participation and Engagement</i></b>		
Leading Indicator 20: 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 which infused youth development–related and socioemotional components, 50% of students participating in 21st CCLC programming for more than 15 days will have participated in activities infused with components that are meant to support youth development–related behaviors and socioemotional functioning for at least 20% of their	Responses to the following fields in PARS21: <ul style="list-style-type: none"> <li>Is this activity intentionally designed to support the improvement of youth development-related behaviors and socio-emotional functioning in any of the following areas? (Check all that apply.)</li> </ul>

<b>Strategies and Practices That Support the Development of Participating Youth From a Youth Development Perspective</b>		
<b>Leading Indicator</b>	<b>Description and Calculation</b>	<b>Source</b>
	total time in the program.	
<b>Strategies and Practices That Support Engagement and Development of Parents and Adult Family Members</b>		
<b>Leading Indicator</b>	<b>Description and Calculation</b>	<b>Source</b>
<b><i>Organizational Processes</i></b>		
Leading Indicator 14: Staff and Family Connections—Staff actively engage in practices supportive of parent involvement and engagement meant to support youth growth and academic development.	Each center received a scale score on a 0 to 100 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 <i>Practices Supportive of Parent Involvement and Engagement</i> scale of the staff survey.
Leading Indicator 15: Family Impact Assessment—Staff at the center implement measures to assess program impact on the parents and family members of participating students.	Each center received a designation of having met or did not meet the indicator in question depending upon whether they reported implementing within-program measures in the Goal C: Improve parent education and involvement section of the midyear evaluation template.	Responses to the following question, which appears in the Goal C: Improve parent education and involvement section of the evaluation template: <ul style="list-style-type: none"> <li>▪ Please indicate if you have been able to measure progress on the objectives you specified and what types of measures were used. <ul style="list-style-type: none"> <li>• Parent surveys</li> <li>• Student surveys</li> <li>• Teacher surveys</li> </ul> </li> </ul>
<b><i>Participation and Engagement</i></b>		
Leading Indicator 22: 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/adult family member involvement or skill building.	Activity detail and attendance pages in PARS21

Strategies and Practices That Support Program Improvement Efforts		
Leading Indicator	Description and Calculation	Source
<i>Organizational Processes</i>		
Leading Indicator 12: Community Partner Engagement—Partners associated with the center are actively involved in planning, decision making, evaluating, and supporting the operations of the afterschool program. As a result, participants are provided access to a variety of opportunities.	Each center received a scale score on a 0 to 100 scale, based on responses provided to questions related to the degree of partner engagement that appear on the midyear version of the evaluation template.	Responses to the following questions, which appear in the <i>Improve Community Partnerships</i> section of the evaluation template: <ul style="list-style-type: none"> <li>▪ To what extent do you and those among your partners who were involved in programming, work together to do the following?</li> <li>▪ Indicate whether staff members from partner agencies were involved in the following types of activities or events.</li> </ul>
Leading Indicator 13: Activity sessions delivered by staff employed directly by partners—Staff from partner organizations are meaningfully involved in the provision of activities at the center.	The indicator is predicated on the proportion of total activity sessions delivered during the first semester of the school year by staff employed directly by a partner or collaborating agency.	Use staff information page in PARS21 to determine connection to a partner agency.



## Appendix C. Propensity Score Matching Methods

Propensity score matching is a two-stage process. In the first stage, the probability that each student participates in the 21st CCLC program was modeled on available observable characteristics. By modeling selection into the program, this approach allowed us to compare participating and nonparticipating students who would have a similar propensity to select into the program based on observables. In the second stage, the predicted probability of participation was used to model student outcomes.

**Stage 1: Creation of the Comparison Group.** The outcome of interest in modeling propensity scores was treatment status (1 for students participating in the 21st CCLC 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. Because characteristics of students and the campuses they attended would have influenced whether they attended the 21st CCLC program or participate at higher levels, data on all of these pretreatment characteristics were acquired from NJDOE. Student-level variables that were used to fit the propensity score models include, but are not limited to, the following:

- Age
- Gender
- Race/ethnicity
- Special education
- LEP status
- Previous retention
- NJ ASK scores from the previous year
- Free/reduced-price lunch eligibility

School characteristics used to fit the single-level propensity score model included, but were not limited to, the following:

- Enrollment
- Teacher education
- Percentage race/ethnicity
- Percentage LEP
- Percentage special education
- Accountability status
- Number of full-time teachers
- Teacher's average years of experience
- Percentage economically disadvantaged
- Percent home language

Data were not available for each of these covariates for all students. To account for this, indicator variables were used to model the relationship between the pattern of missing data and propensity to participate in the program (Rosenbaum & Rubin, 1984).

All pretreatment covariates were initially considered as candidates for inclusion in the propensity score model. To select an initial propensity score model, we began by regressing each of the covariates on 21st CCLC program participation. All covariates with a  $p$  value of less than .05 were then included in a forward stepwise regression function to produce an initial propensity score model. This approach was used to limit collinearity and include only those variables that were related to program participation. Propensity scores and propensity score logits were then estimated using this model. We examined overlap in the treatment and comparison groups and deleted nonoverlapping cases. We then looked at balance across the two groups on all covariates. Balance statistics (standardized mean differences and variance ratios) were used to guide model selection. The final models included a significant number of covariates, and the adjusted standardized mean differences between the treatment and comparison groups were below 0.2 on all pretreatment covariates, consistent with current best practice in the propensity score literature (Ho, Imai, King, & Stuart, 2007).

**Stage 2: Statistical Modeling of Student Outcomes.** Outcomes of students in the 21st CCLC program were then compared with the outcomes of students who did not participate (the comparison group). We balanced pretreatment group differences in observed covariates using a propensity score stratification and marginal mean weighting approach (Hong & Hong, 2009). Various strata were used based on the spread and overlap of the data. The propensity score logit along with the pretreatment measure of the outcome also were included in the outcome model to control for within-strata differences and residual bias (Schafer & Kang, 2008). Student outcomes were modeled using two-level hierarchical linear models to account for the nested nature of the data (students within schools) as follows:

Level 1—Students

$$y_{ij} = \beta_{0j} + \beta_{1j}21CCLC\ Participation_{ij} + \sum_{s=2}^{15} \beta_s L_{sij} + \beta_{16j}LP_{ij} + \beta_{17j}Pretest_{ij} + r_{ij}$$

Where  $y_{ij}$  are the student-level outcomes (NJ ASK or HSPA scores),  $21CCLC\ Participation_{ij}$  is an indicator of whether the student participated in the 21st CCLC program,  $L_{sij}$  is an indicator variable for the logit propensity score stratum,  $LP_{ij}$  is the logit propensity score, and  $Pretest_{ij}$  is the pretreatment measure of the outcome. Subscripts  $i$ ,  $j$ , and  $s$  correspond to student, school, and strata, respectively.

Level 2—School

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

The Level 2 equation includes only  $\beta_{0j}$  because the above HLM is a random intercept model; all other coefficients (i.e., participation indicator, logit propensity score stratum, logit propensity score, and pretreatment indicator) at Level 1 are fixed, and therefore not listed at Level 2.

Because the treatment and comparison groups were matched using all of the covariates described earlier, it is not necessary to include these variables in the final outcome model.

### **Weighted Averages of Impact Estimates**

Analyses were run separately by grade and then pooled together to develop overall estimates of program effect. NJ ASK and HSPA results were standardized before pooling to account for scale differences between grades (effect sizes and standard errors were divided by within-grade standard deviation). To calculate pooled estimates, the following weighted average equations were used:

Weights for each grade level were calculated by using the inverse variance (1 divided by the squared standard error of the effect). The following equation shows how a weight is calculated for each grade level  $g$ . The weights are calculated such that the sum of  $w_g$  across all grades equals 1.

$$w_g = \frac{\sigma_g^{-2}}{\sum_g \sigma_g^{-2}}$$

In the equation,  $\sigma_g^{-2}$  is the inverse variance association with the effect for grade  $g$ . Using these weights, the pooled effect  $\delta_p$  is then calculated as follows:

$$\delta_p = \sum_g w_g \delta_g$$

The pooled standard error is calculated as follows:

$$\sigma_p = \sqrt{\sum_g w_g^2 \sigma_g^2}$$



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